

TOWN AND COUNTRYSIDE
IN THE AGE OF
THE BLACK DEATH

THE MEDIEVAL COUNTRYSIDE

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TOWN AND COUNTRYSIDE
IN THE AGE OF
THE BLACK DEATH

Essays in Honour of John Hatcher

Edited by

Mark Bailey and Stephen Rigby



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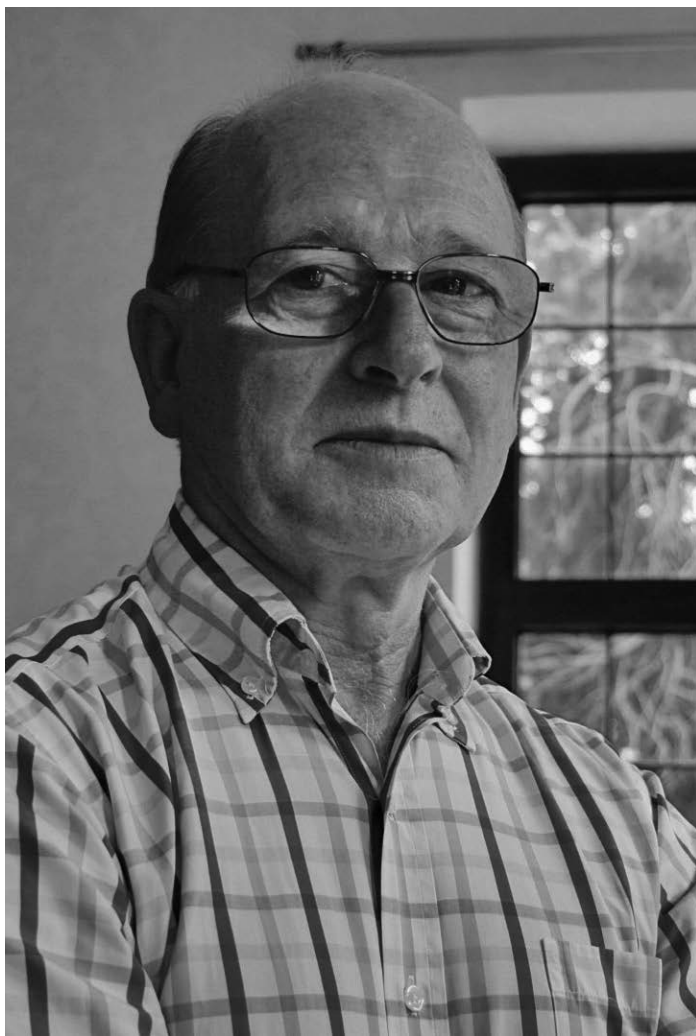
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John Hatcher

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INTRODUCTION: ENGLAND IN THE AGE OF THE BLACK DEATH

Mark Bailey

During the course of the last forty years, John Hatcher has established himself as one of the leading figures in the economic and social history of medieval England. His interests and publications have been unusually eclectic, which has extended his influence across a wide field of scholarship. This scholarly influence was further extended, and his reputation enhanced, by a five-year stint as the editor of the *Economic History Review* between 1996 and 2001. After early posts at the Institute of Historical Research, London University (1966–67), and the University of Kent (1967–75), Hatcher was appointed to a lectureship in History at the University of Cambridge (1977) and was elevated to a personal chair in 1995. His academic career has also included Visiting Fellowships at the University of Colorado, Boulder (1976–77); at the Huntington Library, San Marino, California (1986–87); and as a Senior International Fellow at Stanford University’s Humanities Research Center (2008–09). He has been a shrewd and highly effective administrator, notably as Vice-Master of Corpus Christi College (2000–07) and as Chairman of the History Faculty at Cambridge (2005–08). Yet, beyond all this, John has always proved convivial company; an inspiration to his students and colleagues; a passionate supporter of his beloved Arsenal; and devoted to Janice, Zara, and Melissa.

This collection of essays is based upon contributions to a conference on ‘England in the Age of the Black Death’ held in Cambridge in August 2009 to celebrate his career and to mark his impending retirement as Professor of Economic and Social History at the University of Cambridge. The Black Death, which swept across Europe between 1346 and 1353, and devastated England between the summers of 1348 and 1349, features prominently in Hatcher’s published work, and so it is entirely fitting that it forms the central and unifying

subject of this *Festschrift*. This epidemic stands unchallenged as the greatest disaster in documented human history, claiming the lives of up to one half of the population of Europe during that short period. Our understanding of its impact on all aspects of medieval life has improved markedly during the last fifty years, yet much remains controversial, unclear or unknown.

One of the most enduring puzzles has been the medium- to long-term impact of the Black Death upon the demographic structure of late medieval Europe, which is somewhat ironic for a demographic event of such magnitude. There is no dispute that the population of Europe increased during the course of the twelfth and thirteenth centuries, or that the gains were first checked sharply by the Great Famine (1315–22) then savagely curtailed by the Black Death. Thus the population of England swelled from perhaps two million people in 1100 to anything between 4.5 and 6.5 million in the early fourteenth century, but then fell to around 2.8 million by 1377 and to around 2.2 million by 1524.¹ The trend after 1348 raises two questions: why did the population fail to exhibit any signs of recovery for almost two centuries after the arrival of the Black Death, and how did the demographic structure of late-medieval England differ from that of the early modern period?

The failure of population to recover is puzzling. After the initial onslaught of the Black Death, and the second and third outbreaks of pestilence in 1361 and 1369, the relative abundance of land and the rising living standards of the survivors should have stimulated birth rates, which in turn should have kick started demographic recovery during the last quarter of the fourteenth century, yet there are no signs that it did so.² One explanation is that repeated outbreaks of epidemic disease kept death rates at punishingly high levels, thus stifling the effect of buoyant birth rates and preventing population recovery. Another, and by no means contradictory, explanation is that labour shortages enticed a higher proportion of young women into the labour market, thus raising the average age at first marriage and reducing birth rates. Ole Benedictow explores both hypotheses in his survey of late medieval demography.

Benedictow also considers the second major question about the population history of this period, namely the differences between the later Middle Ages and the early modern period. The early modern demographic system has tended to serve as the benchmark for the reconstruction of the medieval system, for the simple and compelling reason that we know much more about it. Certainly, the

¹ Hatcher, *Plague, Population, and the English Economy*.

² See below, pp. 23–26.

source material from the sixteenth century onwards, particularly parish registers, yields more reliable information than the patchy and inscrutable medieval sources. Thus it is widely accepted that the early modern system was characterized by a life expectancy at birth of around thirty to thirty-five years; a mortality rate of about three per cent *per annum*; and an age of first marriage for women of around twenty-five years with between ten per cent and twenty per cent of women never marrying. As a result, changes in fertility rates drove long-term trends in population. How different was the medieval system? John Hatcher has argued consistently that, in England at least, the medieval demographic system was distinct from that found in the sixteenth and seventeenth centuries, a stance supported by the research of Zvi Razi.³ In reviewing the evidentiary base, and in charting the development of this line of argument, Benedictow supports this conclusion. He argues that mortality, not fertility, was the primary influence upon population trends; medieval life expectancy at birth was around twenty to twenty-five years; annual mortality rates were closer to five per cent; women married younger, at between fifteen and twenty years of age, and fewer women never married than in the early modern regime. He also considers the recent work of osteologists across Europe, and in the Nordic countries especially, to strengthen the argument for a high mortality regime in the fifteenth century.

Most historical demographers now accept the existence of a 'high pressure' medieval demographic system, and a 'low pressure' early modern regime. The main problem with this schema, as Hatcher has pointed out, is that it requires a plausible chronology and explanation for the transition from one regime to the other.⁴ Benedictow contends that a distinctive medieval system survived until the early sixteenth century, and dates the transition to the second quarter of the sixteenth century, when a gradual but sustained reduction in the high mortality rates of the 'high pressure' system must also have triggered adjustments to fertility rates. He ascribes the downward trend in mortality to

the great change in the understanding of infectious diseases which began at the end of the fifteenth century. Now, instead of simply being fatalistically comprehended as a divine punishment for human sin, communicable disease began to be seen as a natural phenomenon, one that could be prevented, limited, or halted by human countermeasures, even though the transmission of disease was understood in terms of the classical notion of miasma.

³ Hatcher, 'Mortality in the Fifteenth Century'; Hatcher, Piper, and Stone, 'Monastic Mortality'; Razi, *Life, Marriage and Death in a Medieval Parish*.

⁴ Hatcher, 'Understanding the Population History'.

In a tightly argued and sophisticated paper, Richard Smith constructs a wider context for John Hatcher's work on mortality and life expectancy within late medieval monastic communities, while covering some of the ground covered by Benedictow. Smith's review of the state of research confirms that population in England, and its near neighbours, was either stationary or declining throughout much of the fifteenth century, although this experience contrasts with that of Mediterranean Europe where population began to rise after the mid-century. In seeking explanations for this trend, he agrees with Benedictow that from around 1450 England suffered an upswing in mortality rates that caused life expectancy to fall for about three generations before they eventually fell. However, Smith is more circumspect about causation, admitting that the explanation for both the start and end of this cycle 'remains a conundrum that is still far from being resolved'. The resolution might lay in closer consideration of 'what factors could be adduced to account for either an increase in realized exposure to disease or reduced resistance over the period from *c.* 1460–1510, and either reduced exposure or increased resistance in the period thereafter'.

One innovative aspect of Smith's essay is his reworking of the demographic data derived from the inquisitions post mortem (IPMs) and originally published in 1948 by Josiah Russell. Russell's methodology was flawed, yet the IPMs remain a potentially fruitful but under-utilized source for medieval demographers. Smith adjusts Russell's figures for life expectancy, using a more sophisticated method of modelling these data, and suggests that the demographic regime that prevailed before 1450 had more in common with the early modern regime than the one dominated by volatile mortality between *c.* 1450 and *c.* 1530. The reworking of the IPM data is speculative, but the findings are intriguing and suggestive of the way ahead: they strengthen Smith's sense that 'there are enough data at our disposal now to doubt the claim that there was one late medieval mortality regime that was transformed into one early modern regime after 1541 [...] if this finding does emerge more firmly from further research, we may have discovered a demographic development that would suggest more circumspect characterisation of the fifteenth century; to paraphrase John Hatcher, we may be advised to regard that century as "a succession of sub-periods each with its own distinctive characteristics"'.

Ultimately, our attempts to understand the causes of observed fluctuations in mortality will always be frustrated by our ignorance of the precise identity, and the historically-specific behaviour, of the offending pathogen. Climate is clearly one of the factors that determine the behaviour of micro-organisms, although attempts to establish any connections between observed fluctuations in the historical climate and known outbreaks of epidemic disease have been hampered

by the absence of reliable data about such fluctuations. However, recent scientific studies of dendrochronology, ice core formation and other indicators have greatly advanced our understanding of the environment of northwest Europe in the Middle Ages, which has resulted in a more secure understanding of the transition from the warm and relatively stable conditions of the Medieval Warm Period to the colder and stormier weather of the Little Ice Age in the sixteenth and seventeenth centuries. Global temperatures cooled between the 1250s and the 1350s, recovered during the second half of the fourteenth century, and then cooled again during first half of the fifteenth century.

Bruce Campbell summarizes these scientific advances in our understanding of the medieval environment, and adds to the state of knowledge by offering an assessment of the evidence of annual grain yields taken from English demesne accounts, which provide around thirty thousand observations for the period *c.* 1250–*c.* 1480. These constitute an exceptional source, and Campbell's research into them is monumental. The long-term movement of English grain yields across the later Middle Ages correlates well to the known shifts in the average annual temperature in northwest Europe. Of particular interest is the evidence for a sustained decline in both yields and environmental conditions in the third quarter of the fourteenth century, which Campbell argues is sufficiently strong to conclude that the high grain prices in this period were more a consequence of inclement weather than of 'an inflationary mortality-induced increase in coin supply per capita'. He also ascribes the sudden improvement in yields after 1376 to transformed environmental conditions: 'judged by yields alone, the thirty years from 1376 constituted a quite exceptionally successful agricultural episode, but these high yields, at a time of dwindling and weakening demand, created a crisis of over-production for large-scale arable producers which is why this period is usually regarded as a period of agricultural difficulty and depression'. The benign weather did not last, as the climate deteriorated during the first half of the fifteenth century, which meant that grain output remained low and unpredictable, even in the land-rich and well-stocked conditions of that period.

As a commentary on the movements of agricultural prices and their causes in the century after the Black Death, Campbell's essay provides a number of evidentiary and interpretive contrasts with that of John Munro.⁵ It also adds another dimension to the debate about late medieval demography. First, the progress of the Black Death throughout Europe between 1346 and 1353 coincided with one of the most extreme weather events in the whole of the Middle Ages, a coincidence so remarkable that it raises the likelihood of a casual

⁵ See below, pp. 147–53, 303–08.

link. There is also the possibility that the fundamental transformation of the climate of northwest Europe in the first half of the fifteenth century was linked to the subsequent emergence of a sustained period of the heightened mortality from the middle of the century. From this date the climatic and demographic experience of the North Sea world appears to differ markedly from that of the Mediterranean countries, which provides an intriguing context for the recent hypothesis that the Italian Renaissance sprang in part from a different experience of disease in southern Europe.⁶ Second, Campbell notes that both economic and environmental conditions in the last quarter of the fourteenth century were 'ideal for a full-scale Malthusian recovery of population', but observes that 'all the available demographic indicators imply that the population continued to contract'. If this is the case, then either those indicators are imprecise and incorrect, or it is time to articulate more carefully why Malthusian principles do not apply to this period. The inscrutable nature of the medieval source material makes this paradox very difficult to resolve, but, in the spirit of Smith's conclusion, it may be that the 'late medieval demographic regime' can be divided into four discernible sub-systems, each representing subtly different variations of a high pressure regime: the first in the period *c.* 1250 to *c.* 1340, when prudential checks were being applied to a swollen population; the second in the period 1348 to *c.* 1375, when the first four major outbreaks of pestilence occurred; the third between *c.* 1375 and *c.* 1450, when our understanding of the basic trends in mortality and fertility rates is especially limited; and the fourth, from *c.* 1450, when mortality rates rose.

The remarkable success of historians in addressing the big demographic questions about early modern England has largely been the result of their development of a methodology to exploit parochial sources, and then aggregating these local findings to create a credible national picture. It is harder to replicate this approach for the Middle Ages, because of the paucity of extant sources, but the underlying principle still holds as Maryanne Kowaleski demonstrates admirably in her essay. She attempts to discover whether the distinctive demographic regime among maritime communities, clearly identified by early modern historians, is also discernible during the later Middle Ages. In order to do so, she skilfully squeezes information and inferences about key demographic characteristics from a wide range of unpromising medieval sources. She also draws upon an impressively large number of sources from both rural and urban maritime communities

⁶ See Cohn, *The Black Death Transformed*, pp. 244–45.

scattered widely around England. Kowaleski's conclusion is that the demographic regime of medieval maritime communities did share a number of common features with that of early modern ones: a relative absence of men, and thus a greater agency to women in economic affairs; the tendency for marriages to be early and endogamous; and for family size to be small. The only characteristics of early modern communities that she was unable to test reliably for the medieval period were the higher levels of male mortality, and the impact of the routine of local fisheries on the seasonality of births and marriages: couples tended to marry and conceive during the winter, when fishing and voyages were quietest. However, the fragmentary medieval evidence that does exist is suggestive that both these characteristics were present. As an interesting aside, she also confirms the sense that most of the documented foreigners in medieval England resided in maritime communities. Kowaleski's work is significant in providing another example of elements of continuity in the demographic structures of both late medieval and early modern communities, while emphasizing that distinctive work patterns could create distinctive and varied demographic structures in the localities.

Whatever the long-term demographic impact of the Black Death, its arrival in 1348 had an immediate and catastrophic impact on medieval life.⁷ Unfortunately, the absence of relevant sources means that we will never really know how ordinary people prepared for, then coped with, the onslaught, although Hatcher recently deployed his informed imagination to fill the considerable holes in the documentary record to write a creative and partly fictionalized account of the arrival of the disease in Walsham-le-Willows (Suffolk).⁸ His account was founded upon a particularly good series of court rolls from Walsham, and the general suitability of court rolls as a source for reconstructing social and economic change in village communities is considered by Erin McGibbon Smith, whose case-study of fourteenth-century Sutton (Cambridgeshire) perceptively exposes their potential and pitfalls. Her analysis of the types of offence reported in the manorial court between 1335–45 and 1356–61 indicates a fall in the number and proportion of those categorized as 'crime and misbehaviour'. This finding contrasts with the view held by the Toronto School of historians that crime and violence rose in the aftermath of the Black Death, as family and community bonds strained to breaking point under the pressure of demographic churn and heightened mobility.

⁷ Hatcher, 'England in the Aftermath of the Black Death'; Hatcher, 'Women's Work, Wages, and Productivity'.

⁸ Hatcher, *The Black Death*.

McGibbon Smith uses the example of crime and misbehaviour to demonstrate that the difference between her findings at Sutton and those of the Toronto school drawn from the manors of Ramsey abbey cannot be simply ascribed to random local variation. Instead, she demonstrates how the degree of completeness of the sample of court rolls, and the precise period from which the most complete series survive, can have a significant effect upon the picture they convey about life on the manor. 'A major shortcoming in many cross-sectional studies is that they focus on finding multiple series of good court rolls, but do not ensure that they are examining records from the same time frame. So whilst considerable attention is paid to change over time, it is not always clear where those changes were taking place and whether the conclusions take account of short-term fluctuations in individual courts'. Her criticisms of the methodology deployed by a number of the Toronto historians are powerful, although they do not invalidate the use of court rolls to understand changes in rural society during the later Middle Ages: McGibbon Smith simply promotes more careful methodologies, and the clear presentation and quantification of information derived from them.

For all the problems associated with manorial accounts and court rolls, there is still sufficient material contained within them to construct a worthwhile, if partial, picture of how landlords and their tenants fared during the Black Death, and how they handled their affairs in its immediate aftermath. Yet, curiously, since the mid-twentieth century there have been few such academic studies. David Stone seeks to address this omission through his study of three fenland manors of the bishop of Ely between 1346 and 1353. His careful and skilful reading of manorial accounts (*compoti*), especially the original accounts of the reeve rather than the heavily edited copies that some estates subsequently made and kept centrally, reveals some telling insights about the experience of communities in the teeth of the pestilence. The residents of these fenland manors were clearly aware of the imminence of the epidemic, judging by the precautionary purchase of locks to secure key manorial buildings, and the marked reduction in the movement of livestock around the estate, in the weeks before its arrival. *Compoti* also contain information that allows the local arrival and duration of the Black Death to be accurately dated, and the immediate impact upon landholdings and agriculture to be charted. The epidemic caused chaos in the summer and autumn of 1349 on all three manors, and significant disruption for a further three years. In particular, food shortages are strongly evident in every summer between 1349 and 1352, which Stone attributes mainly to labour shortages and inadequate preparation of the arable land, rather than to the environmental factors identified by Campbell: indeed, it is indisputable that the former factors contributed to the decline in yields recorded in the years immediately following the Black Death, which raises

the possibility that the yield data from that short period may exaggerate the influence of climatic factors.

Previous studies of rural communities during the Black Death had tended to extend their analysis to the early 1360s, but this choice of time-frame allows for a degree of economic and administrative recovery from the catastrophe of 1348–49 to become apparent: not surprisingly, the authors of those studies therefore tended to be struck by the semblance of continuity and of limited disruption. Stone's tight focus on the short period immediately before and after the Black Death reveals a different picture, one characterized by a high degree of dislocation that constituted 'a severe economic crisis'. The subsequent actions taken during the course of the 1350s, most notably a flexible approach to landholders and concessions on tenures, were successful in securing some economic recovery on many estates by *c.* 1360, but thereafter they proved difficult, if not impossible, to reverse, and their long-term consequences were profound. Stone's conclusion, that 'Pandora's box had effectively been opened', echoes Larson's recent work on county Durham.⁹

The appalling loss of life in 1348–49, whose effects were exacerbated by further epidemics in the third quarter of the fourteenth century, threw up significant economic challenges that persisted into the medium- and long-term. For most of the thirteenth and early fourteenth century land values had been buoyant and agricultural prices were high relative to costs. This resulted in the vast extension and intensification of cultivation, the swelling of the coffers of landholders, and the growing poverty and vulnerability of the mass of the populace.¹⁰ In contrast, for most of the later fourteenth and fifteenth centuries the level of commodity prices was low relative to costs, which caused land values to fall, cultivation to shrink, the yields from seigneurial assets to diminish, and the relative wealth of the lower orders to increase. Thus the Black Death stands astride the economic watershed of the later Middle Ages. The scale and pace at which it altered the relative value of land and labour, and delivered such a dramatic demand-side shock to the economy, conditioned the direction of economic change after 1348. These changes were felt acutely on the estates of landlords, which before 1348 had depended heavily upon high land values, buoyant grain prices and low costs to sustain their profitability. The new economic circumstances challenged the managerial effectiveness, resilience, and flexibility of landlords, as well as threatening the security of the incomes required to sustain the levels of consumption

⁹ Larson, *Conflict and Compromise in the Late Medieval Countryside*.

¹⁰ These developments are extensively documented in Miller and Hatcher, *Medieval England: Rural Society and Economic Change*.

befitting their status and their lifestyles. The responses of landlords in different circumstances and areas attract the attention of four contributors to this volume: Martin Stephenson, John Munro, Phillipp Schofield, and Richard Britnell.

Martin Stephenson takes a fresh look at changes in the level of capital formation on seigneurial estates, a subject which had first attracted Hatcher's attention as part of the famous Brenner Debate in the 1970s and 1980s.¹¹ This was one of the few issues to attract a strong consensus among the various participants in the debate, who all accepted that capital investment in medieval agriculture was pitifully low, not exceeding five per cent of income even on the estates of the great landlords. This viewpoint had been formulated in an era when most historians assumed that technical improvement in agriculture was largely absent, but since the 1980s the orthodoxy has shifted to one which now accepts that rising scarcity and the growth of the market did stimulate some agrarian innovation and increased land productivity. Stephenson revisits the issue of capital investment within the context of the new orthodoxy, re-evaluating the original assumptions and arguments through the use of three case-studies (the manors of Sevenhampton and Downton, and the livestock operations of Crowland abbey), and re-examining the three great agricultural treatises written in the thirteenth century (Walter of Henley, the *Senechaucy*, and the *Rules of Robert Grosseteste*). He also attempts to identify any changes after the Black Death. Capital is defined as total annual investment in agricultural tools, equipment and buildings, including ditching, dykeing, hedging and walls, and also in livestock to expand existing stock levels, expressed as a percentage of production income. Stephenson's case-studies indicate much higher levels of capital investment, around seventeen per cent *per annum*, which is double the level attained by 'improving' landlords of the eighteenth and nineteenth centuries. His analysis of capital investment is developed further by assessing attitudes to risk, an approach which is now commonplace in the social sciences, but which historians have not systematically applied to decision-making in pre-industrial agriculture.

Stephenson identifies four main categories of risk facing medieval landlords — production, market, institutional, and human — and then considers the extent to which they assessed those risks, and the degree to which they displayed a desire to seek higher returns in the future by foregoing significant conspicuous consumption in the present. He re-evaluates the content of the agricultural treatises from this perspective, showing that they served as management manuals for mitigating risks in general, and for those posed by human agency in particular.

¹¹ Postan and Hatcher, 'Population and Class Relations'; Hatcher and Bailey, *Modelling the Middle Ages*.

The evidence from the manuals, and the levels of capital investment, encourage the conclusion that medieval landlords were both investment orientated and aware of the associated risks: however, 'the amount they invested in the development of their estates must be considered both in a historical perspective and in relation to the technical opportunities open to them.'

Stephenson's single post-Black Death case-study (Downton) suggests that capital investment did not fall from its earlier high level, despite the unfavourable economic conditions and shortages of ready cash. Indeed, he detects a surge in expenditure on manorial buildings, mills and sheep flocks as landlords raised their levels of 'defensive' investment in order to avoid greater loss and to attract high quality lessees. Such behaviour was not economically rational, given the precipitous fall in agrarian profits after 1376, but Stephenson notes that several modern studies of risk have demonstrated a pronounced asymmetry in financial decision making, whereby a fear of loss can sometimes be associated with an increase in risk-taking.

John Munro also focuses upon the management of seigneurial estates after the Black Death, although his interests are wider than those of Stephenson and extend as far as the exploitation of demesnes and the survival of serfdom.¹² In particular, he focuses upon the period *c.* 1370 to *c.* 1430, when the contrast between falling agricultural prices (down twenty-five per cent) and resilient wages was most striking. He contends that this profound change squeezed profits in agriculture and increased the enforcement costs of serfdom, thus forcing landlords on a vast scale to abandon the direct exploitation of their manorial demesnes and to bolt for the security of leasing them to tenants for a fixed rental income. He also contends that this widespread and fundamental shift in the management of English demesnes from direct (*Gutsherrschaft*) to leasing (*Grundherrschaft*) largely explains the decline in English serfdom, because what remained of peasant labour services was jettisoned as part of the general movement to rentier farming.

Munro places these profound social and economic changes squarely within the context of fluctuations in the prices of basic agricultural commodities and the costs of their production. The main thrust of his argument is that the underlying movement in wages and prices between 1370 and 1430 was primarily the consequence of an acute bullion famine, itself caused by a fall in the velocity of money in circulation, which reinforced the effect of underlying demographic factors: in this respect, he moves beyond a narrow focus upon demography as the main cause of social and economic change in the century after the Black Death. This interpretation rests upon the evidence of the separate indices of

¹² For a discussion of serfdom, see Hatcher, 'English Serfdom and Villeinage'.

livestock and wool prices, which fell on a scale very similar to the index of grain prices during this period. To Munro, this fact indicates the primacy of monetary factors: if 'real' and demographic factors were the primary influence upon prices, then the prices of livestock and wool would have risen relative to grain prices, due to changing patterns of consumption. The problems for landlords created by this severe deflation were exacerbated by the stickiness of wages, and by various fiscal and economic difficulties that resulted in a sixty-one per cent fall in the volume of wool exported from England. In sketching the broad contours of price and wage movements in the post-Black Death world, Munro's study provides a clear and accessible introduction to a complex subject. There is little dispute that after 1375 monetary factors increased the downward pressure on grain prices: a trend reinforced by the influence of environmental factors. Similarly, the general correlation between depressed prices and the move to rentier policies on the estates of the great landlords is beyond dispute. Yet, whatever the underlying causes of price and wage movements, the managerial response to them at estate level in different regions was complex and varied.

The complexity and variety of late medieval estate management provides the backdrop to Phillip Schofield's assessment of agrarian conditions during the fifteenth century on the Cornish lands of the earls of Arundell. In doing so, he revisits John Hatcher's doctoral dissertation and early work on the substantial archive of the estate of the Duchy of Cornwall.¹³ Hatcher's choice of Cornwall had proved serendipitous, partly because of the distinctive and unusual nature of the county's social and economic structures, but also because it opened the way to his later, influential, work on tin and pewter production.¹⁴ Hatcher had argued that in the first quarter of the fifteenth century rents remained buoyant on the Duchy estate, which contrasted with the decline in rental incomes during this period in most other areas of England.¹⁵ Thereafter, manors located in western Cornwall exhibited clear signs of economic downturn, linked to declining output from the local stannaries, in contrast to those in the south east of the county where fertile land, booming textile manufacture and fishing underpinned economic resilience at a time of recession in most other areas of the country.¹⁶

¹³ Hatcher, 'A Diversified Economy'; Hatcher, 'Non-Manorialism in Medieval Cornwall'; Hatcher, 'Myths, Miners, and Agricultural Communities'.

¹⁴ Hatcher, *English Tin Production and Trade*; Barker and Hatcher, *A History of British Pewter*.

¹⁵ Hatcher, *Rural Economy and Society*.

¹⁶ For the general context to these developments, see John Hatcher's contributions on 'New Settlement', 'Farming Techniques', and 'Social Structure' in southwest England, in *The Agrarian*

The recent publication of a series of fifteenth-century rentals for the Arundell estates enables Schofield to establish the underlying economic trends, which broadly support Hatcher's conclusion that local economic diversity was an important element in preserving income levels. His analysis is further developed through research into manorial court rolls and accounts from a sample of Arundell manors, which yield information about the existence of wider economic activities. This indicates that beneficial combinations of economic factors within the locality, rather than distinctive sub-regional patterns such as Hatcher found for southeast Cornwall, provide a better explanation for success on the Arundell estates in the challenging conditions of the fifteenth century.

The fortunes of another landlord, the bishopric of Durham, are considered in Richard Britnell's essay, which focuses upon its management of coal mines in County Durham. The subject matter is especially apt, given Hatcher's interests in mineral-based industries and his definitive work on early English coal mining.¹⁷ Britnell pays particular attention to the social backgrounds of those men who took charge of the industry, a subject that greatly interested an earlier generation of economic historians who argued that the experience and know-how of mining entrepreneurs was highly influential during the first stages of British industrialization. Coal receipts fluctuated widely each year, but comprised around seven per cent of the bishopric's annual income. Income collapsed after the Black Death, and never regained the levels received in the 1340s, as demand for coal in distant locations dropped and then remained low. Consumers in southeast England turned to local sources of fuel in preference to northeastern coal, mainly due to the costs associated with transporting the latter in a period of wage inflation. The sustained slump in output was felt particularly among mines located around the river Tyne, which were the most commercially orientated. The inland pits fared better, partly because they supplied localized markets for fuel and partly because the bishopric adopted monopolistic practices to protect the demand for its coal. The social background of the people leading the industry remained broadly based: local merchants, estate administrators and gentry, with pit managers drawn from the local peasantry. In this respect, the organization of, and the entrepreneurial spirit within, the Durham coal industry changed little as a consequence of the Black Death.

History of England and Wales, ed. by Finberg and Thirsk, II: 1042–1350, ed. by Hallam, pp. 234–45, 383–99, 675–85 respectively.

¹⁷ Hatcher, *The History of the British Coal Industry*; Hatcher, 'The Emergence of a Mineral-Based Energy Economy'.

The demographic and economic expansion of the twelfth and thirteenth centuries had inevitably been accompanied by a growth in commercial activity. The volume and range of transacted goods increased; the number and size of towns, and the proportion of people living within an urban setting, grew; thousands of weekly markets and seasonal fairs were founded throughout rural areas; the labour market became more specialized and diversified; the amount of coin in circulation expanded, and denominations of coin became smaller to facilitate low level exchange; and the reach and sophistication of the institutions of trade were extended.¹⁸ The wide and regular movement of goods and people involved in commerce must have facilitated the spread of the Black Death, but the Black Death in turn threatened commercial activity through the short-term disruption it caused to factor and product markets, and its medium- to long-term economic consequences. Given the squeezing of profitability, especially in agriculture, it is possible to envisage a scenario in which the rural countryside retreated into comfortable subsistence after the Black Death and where many of the commercial developments of the previous two centuries were undermined by deficient demand and disrupted supply. Certainly, central authorities were concerned enough about the retail trade in basic foodstuffs after 1348–49 to pass regulatory legislation, and the volume of this trade suffered long-term decline. Many rural markets and fairs lost business and some ceased to trade, while contemporary complaints of urban distress were widespread. Yet, in general, commercial activity and its supporting institutions proved remarkably resilient during the later fourteenth and fifteenth centuries. There was a significant realignment in the type and volume of commodities produced for the market, and the location of those markets shifted, creating new opportunities for those willing to innovate in, and adapt to, the new conditions. These changes resulted in the rationalization and refinement of those trading structures that had been initially laid down over the course of the twelfth and thirteenth centuries.

James Davis explores the changes triggered by the Black Death in day-to-day commercial activity in local marketplaces.¹⁹ His study of contemporary literature identifies a volley of complaint, moralizing and anxiety about the marketplace, the prevalence of petty retailers and their values, in the aftermath of the pestilence. Such concerns were reflected in a flurry of royal and urban legislation relating to marketing in the second half of the fourteenth century, as successive statutes targeted the prices of foodstuffs and the activities of victuallers

¹⁸ Summarized in Miller and Hatcher, *Medieval England: Towns, Commerce and Crafts*.

¹⁹ Hatcher, 'England in the Aftermath of the Black Death'.

and hostellers. Against this general background of anxiety about, and economic regulation of, petty traders, Davis explores the reality in the small market town of Clare (Suffolk). He detects some laxity in the enforcement of the assizes of various foodstuffs there after the Black Death, which might appear to vindicate the complaints of poets and moralizers, but this did not mean that the assizes had no regulatory effect. The assizes were implemented at every leet court,

reminding brewers and bakers of their social duty to supply good and wholesome food and drink, while occasional indictments of flagrant offenders ensured that the law was not a dead letter and market users recognized the margins of acceptable behaviour.

So, although the market for food and drink was duly regulated within the broad statutory framework laid down by central government, its local implementation became increasingly flexible and simplified, reflecting the underlying economic pressure to lower transaction and operational costs in the new commercial environment: 'in these conditions, moral concerns could be stretched a little further and the law too'. Interestingly, Davis argues that after the Black Death market forces were more influential than regulatory action in maintaining the quality of retailed foodstuffs, as consumers became fussier about their food and as the buoyant number of active retailers and producers ensured lively competition.

The experience of local and weekly markets after the Black Death has attracted a good deal of scholarly attention, but, in contrast, the role, fortunes and operation of seasonal fairs have attracted little research, mainly because the evidence for them is so scant. We know a reasonable amount about the elite fairs in England, which had enjoyed an international standing in the thirteenth century but then suffered rapid decline at the beginning of the fourteenth: in contrast, we know far less about the fortunes or function of hundreds of regional and local fairs. Hence John Lee's important survey of late medieval fairs makes good a large gap in our knowledge.

Lee shows that fairs were more resilient than weekly rural markets in the later Middle Ages, in the sense that the Crown granted more fair than market franchises, and more fairs appear to have survived the difficult economic conditions of the fifteenth century. The latter was especially true of urban and regional fairs, which comprise the main focus of his essay. He argues that regional fairs offered a more flexible medium of exchange to both retailers and consumers, and so were better able to adapt to sudden shifts in demand for different kinds of produce. They tended to handle the trade in cloth, livestock, fish, and household goods, for which demand remained relatively buoyant after the Black Death: in contrast, the trade of weekly markets remained focused on basic agricultural produce

and essential perishable goods, demand for which fell across the same period. As episodic events, fairs also developed sidelines in entertainment, which enhanced their attractiveness to ordinary people and trades folk, as well as attracting comment from moralizers. Lee's work means that, in future, fairs will feature more prominently in our assessments of marketing structures in the later Middle Ages.

It is trite, but accurate, to conclude from this collection of essays that elements of both continuity and change are evident after the Black Death. The Black Death had little observable impact on some aspects of English society and economic life, such as the organization of, and the entrepreneurial spirit within, the Durham coal industry. It triggered identifiable change in other aspects, such as the regulation of commercial activity in local market places. Its contribution to changes in other aspects of medieval life was sometimes obscure and often difficult to extricate from the contribution of other influences. For example, both over-supply in the arable sector as a result of falling population and favourable climatic conditions exerted a downward pressure on grain prices in the last quarter of the fourteenth century, a trend reinforced by monetary factors: three powerful forces all acting in the same direction, only one of which was directly linked to the Black Death.

Our understanding of such issues has advanced greatly during John Hatcher's career. This has led to a recognition that the late fourteenth and fifteenth centuries are best viewed as a series of discrete and distinctive sub periods, each different in their characteristics and manifestations. For example, the 1350s was a decade of recuperation and adjustment; *c.* 1360 to *c.* 1375 a period of buoyant recovery, 'an Indian summer', when it seemed possible that little had changed in society and economy; while, in the last quarter of the fourteenth century, the economic effects of the huge drop in population, and their social implications, finally emerged in a sustained manner.²⁰ The 1350s stand out as a decade that has been relatively neglected by historians, but which is worthy of more detailed study, as Stone has shown. Important decisions had to be made in the immediate aftermath of the epidemic at the local and national level, in circumstances that were unprecedented and often not properly comprehended. Yet the consequences of these decisions, however knee-jerk or considered, however informed or uninformed, would be felt for decades. Seigneurial decisions about how to refill vacant landholdings, how to manage migrant serfs, and how to run a demesne in the months and early years after the epidemic of 1348–49 carried long-term implications for the operation of rural society. Similarly, the initial success of the national labour legislation shaped social policy and politics for years.

²⁰ For the fifteenth century, see Hatcher, 'The Great Slump'.

Debate will continue to rage over the exact consequences of the Black Death. Did it alter decisively the direction of social and economic trends or merely accelerate those already in motion? Was it the primary cause of the major social and economic changes of the later Middle Ages, or merely the context within which other powerful forces operated? The debate will rage, because the extant sources are incapable of providing all the evidence necessary to answer such issues satisfactorily, and because the evidence we do have is inevitably subject to the interpretative bias and baggage of the historians who interrogate it. There is much in the study of the economic and social history of late medieval England about which to be optimistic. In the future, the areas of debate are likely to become sharper and better defined; the methodologies used to exploit the source material will be further refined and improved; and there is still a vast amount of that material waiting to be exploited. Whatever future research reveals, it is difficult to see how any attempt to downplay the economic impact of the Black Death can evade or deny the profundity of its impact in two major two areas. First, the Black Death is the greatest demand-side shock in recorded history, and, as such, it presented huge challenges to all producers and consumers. Commodity markets and prices underwent significant realignment in response, even if the precise nature and timing of that realignment was subject to time lags of adjustment and to the influence of other powerful forces. Second, its decimation of perhaps half the population in just twelve months represents the greatest supply-side shock to the English labour market in recorded history, not least because the late medieval economy was incapable of compensating for the dramatic loss in muscle power by utilizing the power of machines. The effects of the decimation continued to be felt over the course of the subsequent two hundred years, because of the inability of the population to recover even some of the numbers lost in 1348–49. The profound and lasting influence of the Black Death upon these two fundamental areas of economic life means that it must be regarded as one of those rare occasions in social and economic history when a turning point can be identified with precision and confidence.

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Part I
The Medieval Demographic System

NEW PERSPECTIVES IN MEDIEVAL DEMOGRAPHY: THE MEDIEVAL DEMOGRAPHIC SYSTEM

Ole Benedictow*

The underlying premise of this paper is that the division of history into separate periods is not arbitrary or simply a matter of expediency arising from historians' need for manageable chronological units. The division of history into periods reflects comprehensive structural processes which, over time, produce pervasive and irreversible systemic change between particular social systems or social formations. Each social formation can be distinguished from those which preceded or followed it in terms of its structures of economic life, demography, technology, politics, religion, and class relations with the interaction of these structures producing also a characteristic dynamic of change and direction of development. An historical period is thus a chronological concept indicating that in a specified time in the history of a civilization, long-term systemic change has produced a qualitatively distinct and specific form of society. The history of civilizations can thus be seen in terms of a series of social formations. The concept of the medieval period designates a chronological division of the European civilization characterized by a specific social system. In turn, specific periods of history can often be divided into sub-parts such as, in the case of the medieval period, the early, high and late Middle Ages. Our argument here is that the social formation of medieval Europe was also characterized by the existence of a unique and specifically medieval demographic system, one which can be distinguished from the demographic systems of the early modern and modern periods (and from the demography of other civilizations).

As a scientific discipline, historical demography is devoted to the study of populations in the past. The focus is on a number of structures or phenomena

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which are generally considered to be central to the formation of a specific pattern of population: mortality, life expectancy (at various ages), fertility, family, or household composition and size, age at marriage (especially for women), social composition, distribution of rural and urban population, causes and patterns of change or stability. Together, these structures form a particular demographic system which is moulded by specific historical conditions. It is generally agreed amongst historians that medieval economic structures constitute an economic system which is qualitatively different from those of the pre- and post-medieval periods; the same is generally the case with medieval systems of politics, social-class relations and religion. It is the central contention of this paper that when we compile data for the demographic structural elements of the Middle Ages, the characteristic and specific features of a medieval demographic system will emerge.

The 'Demographic Transition' and Feudal Society

At first sight, it may seem 'obvious' that the Middle Ages should be seen as a distinct period, one which is qualitatively different from those which came before and after it; this is, after all, an idea which would be readily accepted by many historians of the medieval economy, politics, and religion. Yet, as we shall see, this has not been the case in the sphere of population history where many scholars have been unwilling to recognize the existence of a specifically medieval demographic system. On the contrary, it was once the orthodoxy (and still remains so in many quarters) to refer simply to 'the' demographic transition, implying that there only had been one genuine profound demographic transition in history, that associated with the transition from agricultural society to industrial society.

Particularly influential here was the work of Omran, the epidemiologist, who, in 1971, published a paper which set out the concepts of the epidemic transition and the demographic transition, concepts which then found general acceptance. These concepts referred to the epidemic and demographic transitions which started with the Industrial and Scientific Revolutions around 1750 and which led to the profound change involved in the modernization of Europe in the nineteenth century. The basic assumption underlying Omran's approach was that the epidemic and demographic structures of all pre-industrial societies were essentially the same. Accordingly, there had only been one historical epidemic transition and one demographic transition, one which was related to the profound societal transition between pre-industrial and modern society in

Western Europe.¹ Accordingly, the *Dictionary of Demography* defines ‘the demographic transition’ as referring to, in its simplest meaning,

the shift accompanying the modernization of the West from Stage I, a relatively static population with high fertility and mortality, to Stage II, a rapid population growth based on a continuing high fertility and falling mortality, and then to Stage III, a relatively static population based on a new balance between low fertility and low mortality.²

In this definition, there is only one essential demographic transition, that from Stage I, which represents all history, and more specifically, all demographic history, before the beginning of the process of modernization through the Industrial and Scientific Revolutions, to Stage III, with its characteristic modern demographic system, the two being linked by the transitory Stage II. This process together constitutes the ‘contemporary demographic transition’ (CDT).

According to this view, the CDT started in England about two hundred and fifty years ago and is still going on in large parts of the world. In this perspective, the medieval period was not characterized by the existence of its own distinctive demographic regime. Rather, the population history of the Middle Ages is understood as part of the common demographic system of the ‘pre-industrial’ world. To give but one example, in a textbook much used in Norwegian universities, Øye argues explicitly against the notion that ‘the demographic system of the Middle Ages was qualitatively different from the population structure in Norway as it is known from the eighteenth century’.³ In this perspective, information about early modern demography can be assumed to be indicative or representative of the population history of the Middle Ages and so has been used to characterize medieval conditions when actual evidence for the period was lacking or scarce.⁴ Øye accepts, for instance, the use of demographic data from the 1660s to estimate population size around 1300 even though, in fact, Norwegian agricultural society had been radically transformed over these centuries.⁵ Here, by contrast, we argue that medieval society was characterized

¹ Omran, ‘The Epidemiological Transition’.

² Petersen and Petersen, *Dictionary of Demography*, p. 217.

³ Øye, ‘Kvinner, kjønn og samfunn’ (Women, Gender, and Society), pp. 28–36, 95, 104. My translation from Norwegian.

⁴ See some concrete instances discussed in Benedictow, ‘Svartedauen i Norge’ (The Black Death in Norway), pp. 125–41, 147–57.

⁵ Øye, ‘Kvinner, kjønn og samfunn’, pp. 25–26. For instance, after *c.* 1620, sub-tenancies (‘undersettles’) which had previously been quite rare became an ordinary feature of Norwegian

by the existence of a demographic system of its own so that insight into medieval demography can only be gained from the study of actual medieval sources. The one-transition theory springs from a misunderstanding or misconception of historical periodization and its association with specific social formations and systemic social change.

More recently, this theory of a single transition from a pre-industrial to a modern demographic transition has come under fire from scholars studying pre-agricultural periods. Using Stone Age skeletal material, palaeodemographers and palaeosteologists have taken issue with the 'one-transition' orthodoxy, maintaining that there was a genuine demographic transition associated with the transition from hunter-gatherer societies to agricultural economies which they have labelled the 'Neolithic demographic transition' (NDT).⁶ The implication of this approach is that we should see human history as involving two main demographic transitions, as in Caldwell's division of history into three major 'modes of production', each defined by its characteristic productive forces: 'hunting and gathering, farming and capitalist/industrial'.⁷ However, even the two-transitions theory takes a very broad-brush approach and so ignores the great variety of social forms to be found in the thousands of years between the neolithic period and the contemporary demographic transition.⁸

Many scholars have argued that, rather than distinguishing historical periods in terms of their productive forces or mode of technology (as Caldwell does), we should do so in terms of their characteristic social and property relations. Once

peasant society and increased greatly the average number of households and persons living on independent agricultural holdings (registered units of taxation whether tenancies or free holdings). As a result, by the 1660s there was an average of six people living on each agricultural holding, as opposed to between 4.25 and 4.5 in the Middle Ages and sixteenth century, a fact which has important implications when the number of holdings is used as the basis for calculating national population. See Benedictow, 'Svartedauen i Norge', pp. 142–57. This household size will be familiar to medievalists of other countries. See Benedictow, *The Black Death*, pp. 266–71.

⁶ See the very interesting collection of papers in *The Neolithic Demographic Transition*, ed. by Bocquet-Appel and Bar-Yosef. As the blurb to the book puts it: 'Using cemetery data, it has been possible to identify the signature of a previously unknown demographic process associated with the transition from a hunter-gatherer to an agricultural economy. Characterized by a dramatic increase in the birth rate, and consequently of the population growth rate, over a period of less than a millennium following the transition to agriculture, this global demographic process has been termed the Neolithic Demographic Transition (NDT). The NDT signature has so far been detected in Europe, North America, Mesoamerica and South America.'

⁷ Caldwell, *Demographic Transition Theory*, p. 6.

⁸ The papers in *The Neolithic Demographic Transition*, ed. by Bocquet-Appel and Bar-Yosef, show this with full clarity.

we do this, the Middle Ages then emerges as a distinct period in its own right, one characterized by its dominant feudal relations of production.⁹ Here we do not use the term ‘feudalism’ in the narrow sense to refer simply to the ties between lords and vassals centred on vassalage and the service tenement/*feudum*.¹⁰ Instead, the term refers to the social relations of a more broadly-conceived social formation, one which was usefully described by Marc Bloch in Part VIII of his *Feudal Society* in terms of the following social structures:¹¹ (1) ‘A subject peasantry; (2) widespread use of the service tenement (i.e. the fief) instead of a salary [...]; (3) the supremacy of a class of specialized warriors; (4) ties of obedience and protection which bind man to man and, within the warrior class, assume the distinctive form called vassalage; (5) fragmentation of authority [...]; (6) and in the midst of all this, the survival of other forms of association, family and State [...]; — such then seem to be the fundamental features of European feudalism.’¹² Given this context, the aims of medieval demography must be to uncover the specific effects of the feudal social relations and institutions on the central parameters of life and death and to explore the functions of reproductive alliances (‘marriage’), as well as the major events and daily struggles which helped to shape the lives of everyone within these societies.

The Emergence of the Concept of a Medieval Demographic System

The key issue in deciding whether there was a distinctive medieval demographic system is the extent to which the population history of the medieval West differs from that of the early modern period. The characteristic or defining features

⁹ See, for instance, Hindess and Hirst, *Pre-Capitalist Modes of Production*, pp. 221–59; Hilton, ‘Introduction’; Rigby, *Marxism and History*, pp. 209–11, 228–33, and elsewhere; Rigby, *English Society in the Later Middle Ages*, pp. 17–144.

¹⁰ Among numerous options, see P. Cheyette’s fine discussion of this type of definition of feudalism and his call for the cross-cultural type of conceptual approach in Cheyette, ‘Some Notations on Mr. Hollister’s “Irony”’.

¹¹ Postan, ‘Foreword’, pp. xii–xv.

¹² Bloch, *Feudal Society*, p. 446. Since this monograph was written two generations ago, several scholars have developed this concept of feudalism or feudal society further according to a cross-civilizations approach; see for instance the papers of a number of scholarly specialists in *Feudalism in History*, ed. by Coulborn. I would also like to draw attention to the chapter on feudalism in the fine monograph by Andreski, *The Uses of Comparative Sociology*, pp. 149–62, where feudalism, in the spirit of Max Weber and Marc Bloch, is discussed and modelled as a social system.

of the demographic system of northwestern Europe in the early modern period are the following: a life expectancy at birth of thirty to thirty-five years, a corresponding level of mortality of something like 3–3.5 per cent, in normal years and a usual age at first marriage for women of 24 to 26.5 years, with ten to twenty per cent never marrying. The resulting average female reproductive period of twelve to fifteen years, the quite early onset of declining fecundity and the very high mortality of infants and young children meant that married women would, on average, give birth to 4.5–5 children, of whom forty to fifty per cent would reach maturity and enter society as adults who were themselves ready for reproduction.¹³ This constitutes a coherent demographic regime which at a regional or national level would tend to maintain or would only slowly alter population size. It reflects perhaps first of all a society that has succeeded in limiting the inflow and spread of epidemic diseases by a sufficient understanding of their mechanisms of spread both by individuals and political elites and that is administratively sufficiently developed to restrict the spread of disease within regions or countries by implementing quarantine systems in ports and other useful epidemic countermeasures (see below). The consequent main effect is a significant reduction of mortality which, in turn, tends to lead to a reduction in fertility rates and the size of families and has the unintended consequence of restraining overall population growth.

The research which eventually would lead to the recognition of the medieval demographic system can be traced back to 1948, the year of publications of both Russell's *British Medieval Population* and Thrupp's *The Merchant Class of Medieval London*. Although Russell's monograph was devoted to medieval demography, he was not concerned to establish the specificity of the medieval demographic regime. His statistical claims were 'subjected to much telling criticism from historians and demographers alike'. As Hollingsworth generously put it: 'Russell's chief virtue, in fact, is that he gives others something to refute. All his figures may be altered eventually, but the debt to him will remain.'¹⁴ The demographic aspects of Thrupp's work, by contrast, failed to attract the attention which they deserved. Although her study focused on a numerically small urban elite, her broad orientation and early interest in demographic perspectives meant that she also provided important sociological and demographic insights.

¹³ For a general outline of early modern European demography, see Flinn, *The European Demographic System*, pp. 13–46; on normal mortality, see p. 15; on normal age at marriage and proportion marrying, see pp. 19–21, 34; on fertility, see pp. 30–33.

¹⁴ Hatcher, *Plague, Population, and the English Economy*, pp. 12–13; Hollingsworth, *Historical Demography*, p. 58.

A key paper in the development of medieval demography was published by Postan and Titow at the end of the 1950s which examined the registrations of animal heriots paid on entry to holdings by customary tenants on five Winchester manors in the period 1245–1350.¹⁵ The authors were taken aback by the high levels of mortality which they found among a sample which was mainly made up of relatively well-off, adult male peasants (of twenty years of age or older). Mortality here amounted to forty per thousand for the whole period and fifty-two per thousand for the years 1292–1347, corresponding to levels of life expectancy at the mean age of entry to property of about twenty-four years and noticeably under twenty years in the two periods respectively: ‘this is an exceptionally high rate’.¹⁶ Since the life expectancy of adult males is usually substantially higher than that of those in the first twenty years of their life, this data suggested a level of life expectancy at birth of less than twenty years, thus, almost falling off the bottom of the life-table scales for males according to Princeton Life Tables, Model West.¹⁷ At the time, the extremity of these findings suggested either that Postan and Titow’s sources were unreliable as demographic evidence or that the statistical handling of them was flawed in some unrecognized way.

The breakthrough for medieval population history came in 1966 when Ohlin published a critical methodological-statistical study of a number of earlier works on medieval demography, producing outcomes that have since been broadly accepted. He showed, *inter alia*, that Russell had made several mistakes in the handling of some of the important source materials that he had so diligently gathered and that this was the case also with his estimates of life expectancy and mortality. Ohlin concluded that, according to this material, mean life expectancy at birth around 1300 for the baronial class was ‘in the neighbourhood of 25 years’, that it is ‘likely to have fallen within the range of perhaps twenty-two to twenty-eight years, and it might well have been lower’.¹⁸ This hedged phrasing and the suggestion that the source material really indicated an even lower range of life expectancy should be seen in the light that the estimation of life expectancy was based on a very cautious assumption of infant mortality of two hundred and fifty per thousand. This level of infant mortality was quite usual in Northwestern and Northern Europe at the middle of the eighteenth century and corresponds to, according to Princeton Life Tables, Model West, an average life expectancy at

¹⁵ See Benedictow, *The Black Death*, pp. 374–77.

¹⁶ Postan and Titow, ‘Heriots and Prices on Winchester Manors’, pp. 393–95, 399–400.

¹⁷ Coale and Demeny, *Regional Model Life Tables*, p. 42.

¹⁸ Ohlin, ‘No Safety in Numbers’, pp. 76–77.

birth of around thirty-three years.¹⁹ Consequently, Ohlin's assumption on this point indicates that his estimate of life expectancy in England around 1300 for this social elite tends towards a maximum estimate, even an unrealistic maximum. This approach could be seen in the light of the radical character of these findings and of the scholar's wish to appear cautious and make his results more readily defensible. For this range of life expectancy, Princeton Life Tables, Model West, levels 2–3, show levels of infant mortality of 340–285 per thousand.²⁰ Taking into account correspondingly higher mortality rates for young children, this indicates that a less cautious or more realistic approach would produce a range of life expectancy at birth in the range of 'perhaps' twenty to twenty-five years and rather in the lower reaches of this range. This level of life expectancy corresponds to a level of mortality of forty to fifty per thousand which is exactly the level Ohlin arrived at when he subjected Postan and Titow's study of heriots to a statistically more refined analysis than they themselves had offered,²¹ a result these fine scholars would quite likely have accepted.²²

This level of life expectancy is about ten years shorter (and implies a mortality rate correspondingly much higher) than that normally observed in the early modern demographic studies and clearly indicates the existence of a specific medieval demographic system or regime. This level of mortality is so high that it would require nearly full exploitation of female fecundity in order to produce fertility rates that could more or less reproduce the population and so implies nearly universal marriage for women at an early reproductive age, as teenagers. It thus suggests as a hypothesis that medieval women married early and that there was a very high rate of marriage. This is where Thrupp's observation of age at first marriage for women of the better-off classes in late medieval London fits in: 'Women were married young'. It is 'likely that girls were usually married, for the first time, before they were seventeen' and marriage even occurred as early as age eleven and twelve.²³ She also found material from Bristol which supported this finding, namely that the marriage of twenty girls orphaned in the period 1385–1485 occurred at ages ten to twenty: the median was seventeen, the average 16.8.²⁴ Later, these findings were supported by Hanawalt's evidence for the age

¹⁹ Coale and Demeny, *Regional Model Life Tables*, pp. 44–45.

²⁰ Coale and Demeny, *Regional Model Life Tables*, pp. 42–44.

²¹ Ohlin, 'No Safety in Numbers', pp. 84–89.

²² Postan and Titow, 'Heriots and Prices on Winchester Manors', pp. 399–400.

²³ Thrupp, *The Merchant Class of Medieval London*, pp. 171, 196 and n. 10.

²⁴ See also Kowaleski, 'Singlewomen', pp. 326–28.

at marriage in London for heiresses, mostly of artisan families, which suggested an average age at marriage of around nineteen.²⁵ This shows that marriage of girls even before reaching their 'teens, was not against the moral norms of this period and agrees with a range of early ages at first marriage for girls required by an average or median age at marriage of under seventeen years.

Although the customary heriot-paying peasantry and parts of the artisanal class included sizeable proportions of lower-class and lower-income people, the central problem in this early phase of the development of medieval demography was that it mainly relied on data relating to the better-off or upper classes and could not be persuasively generalized in support of the construction of a specific model of medieval demography. One should note though that it is not obvious that upper classes will necessarily invest in early marriage of daughters (and so maximize fertility) since it would tend to produce more children and consequent multiple divisions of the family fortunes. It would thus tend to threaten the material basis of their advantageous social standing and life-style, that is if early marriage was not a reflection of very high normal levels of mortality which threatened the biological survival and continuation of the family lines. It could therefore be significant that Hanawalt found that women with wealthy parents who were still alive married at a particularly young age: among the merchant class marriage occurred for girls at age seventeen or younger.²⁶ This data suggests a marriage regime which differs sharply from that of early modern England where, in the sixteenth century, 'the average age of marriage was twenty-seven to twenty-eight for men and twenty-five to twenty-six for women and by a relatively high proportion of women never marrying, about ten per cent' and can, once more, be taken to support the existence of a specific medieval demographic system.²⁷

In turn, this data has important implications for the differences in fertility rates between the medieval and the early modern periods. Most of the inhabitants of medieval Europe can be seen as part of a manorial 'peasantry' which is defined here in a broad sense to include a variety of rural social classes from the customary peasantry to the rural proletarians of cottagers, day labourers and sub-tenants. The evidence indicates that married peasant women in their best reproductive years gave birth, on average, every twenty-nine to thirty months in both the medieval and early modern periods, although with reduced fertility early and late in the

²⁵ Hanawalt, *Growing up in Medieval London*, pp. 142, 205.

²⁶ Hanawalt, *Growing up in Medieval London*, p. 206.

²⁷ Rigby, 'Gendering the Black Death', p. 218. Presumably, Rigby has the second half or the later sixteenth century in mind (below); see also Wrigley and Schofield, *The Population History of England*, pp. 248–65.

reproductive period.²⁸ The earliest English data, which relates to the sixteenth century, shows a central mean birth interval of about thirty months.²⁹ The decisive variable for birth intervals of nursing women is the period of amenorrhea, the period of infertility following a parturition associated with the combination of duration of nursing, relative sufficiency of diet and level of physical effort in daily life. In the case of peasant women of the past, the three elements of this combination can be generally characterized as long, poor, and hard, producing in generalized terms, an amenorrhea of around eight months, before fertility returns. This means that women who marry, on average, at age 17.5–20 will *ceteris paribus* give birth to two to three more children than women who marry at the average age of about twenty-five which was the usual norm in northwestern Europe in the early modern period (see below). This difference creates distinctive so-called ‘high-pressure’ and ‘low-pressure’ demographic systems which emerge as characteristic, respectively, of medieval and early modern demography. This contrast would also be heightened by the difference in marriage rates between a system of tendentially universal marriage and one which, like that of the early modern period, was characterized by a relatively high level of celibacy where ten to twenty per cent of women never married. One should take care not to confuse these useful dichotomous concepts of high or low pressure systems with social reality itself which, as pointed out by Hatcher, requires a much more complex model ‘if we are to provide an adequate description and explanation of the operation of England’s demographic system.’³⁰

The characteristics of this early modern, low-pressure, demographic system were famously established by Hajnal in his important paper ‘European Marriage Patterns in Perspective’ which drew attention to the apparently global and historical uniqueness of the marriage pattern that from some time in the early modern period pervaded most of Europe, ‘except for the eastern and south-eastern portion’. This marriage pattern was especially characterized by ‘(1) a high age at marriage and (2) a high proportion of people who never marry at all’. Hajnal presented a fairly large body of material in support of this view. However, at the time he faced difficulties in producing medieval evidence which could

²⁸ Benedictow, ‘The Milky Way in History’, pp. 32–37; Benedictow, *The Medieval Demographic System*, pp. 46–53.

²⁹ Wrigley, ‘Family Limitation in Pre-Industrial England’, pp. 93–95, Table 8; Cowgill, ‘The People of York’, p. 110; Wrightson, *Poverty and Piety in an English Village*, pp. 51–56; Howell, *Land, Family and Inheritance in Transition*, pp. 205, 221; Benedictow, ‘The Milky Way in History’, pp. 34–35.

³⁰ Hatcher, ‘Understanding the Population History of England’, p. 89.

substantiate his claims for the existence of a contrasting marriage pattern in the Middle Ages, one characterized by (nearly) universal marriage and an early age at first marriage for women, or for the timing of the transition from the medieval or 'non-European marriage pattern'³¹ to the unique 'European' pattern.³² Unfortunately, he had overlooked Thrupp's important observations and his study was published a year before Ohlin's paper which contained important indirect evidence for the existence of a medieval 'non-European' marriage pattern. However, he had noticed and availed himself of Russell's work on the 1377 Poll Tax returns which was levied on all persons over age fourteen (excluding only the destitute and clerics) and which provided information on a high marriage rate conforming to the 'non-European' pattern.³³ This was an important observation since it was the first significant indication of a 'non-European' marriage pattern among the general population. A few years later Hollingsworth, whose work is often now overlooked, on the basis of material originally gathered by Russell, suggested birth rates and death rates which made it 'evident that up to 1304 at least and probably up to 1489, England must have had a non-European marriage pattern' with 'early and practically universal marriage', in contrast to that of the early modern period.³⁴ These estimates were based on data relating to the baronial class and suggested the relevance of the perspective given above to the effect that a 'non-European' marriage pattern could be practised also by the upper and even the uppermost social classes as a response to a very high general level of mortality, i.e. to a 'non-European' mortality regime.

The next key step in the establishment of the notion of a distinctive medieval demographic regime and marriage system came in 1977 when John Hatcher published his slim but unusually important booklet on *Plague, Population and the English Economy, 1348–1530*. No doubt inspired by Ohlin's and Hajnal's papers, Hatcher argued for the existence of a medieval demographic system that was distinctly different from that of the early modern period. In defiance of the prevailing views of the time and the Cambridge Group's position (see below) he concluded that 'the prime determinant of the course of population in pre-industrial England was mortality rather than fertility', in other words that mortality rates within medieval society were so high that they determined the

³¹ The term 'non-European marriage pattern' is something of a misnomer since Hajnal himself identified this pattern as being characteristic of both medieval western Europe and also of southeastern Europe even after the medieval period.

³² Hajnal, 'European Marriage Patterns in Perspective', pp. 116, 134.

³³ Hajnal, 'European Marriage Patterns in Perspective', pp. 116–40.

³⁴ Hollingsworth, *Historical Demography*, pp. 383, 385.

overall demographic regime, forming the structures of life-expectancy, fertility and marriage.³⁵ Importantly, Hatcher does not confine this view to the late medieval plague-ridden period (see also below).

The demographic specificity of the medieval system can usefully be seen in terms of the 'turnover rate' of the population. In the medieval system, the general level of mortality was so high that the flow of lives out of the essential social networks of everyday life, whether by parents, spouses, children, relatives, or neighbours, would lead to early marriage and to high proportions of people marrying in an attempt to compensate for high mortality by high fertility. This response can be linked to a fundamental aspect of human behaviour: the basic need or drive to produce enough children to achieve the overriding evolutionary objective of all life, to pass their genes on to new generations. This would have the unintended effect, at the level of the population as a whole, that the loss of life would be more or less compensated for by a corresponding inflow of new lives. Human beings will also endeavour to pass on their social and religious beliefs and their property to children or close relatives, and to preserve or strengthen the social context which such arrangements required. There is thus a strong case for the hypothesis that high levels of mortality brought about a low age at marriage (especially for women) and created nearly universal marriage; and that such levels of mortality would be associated with social relationships between women and men and with the disposal of economic assets which would seek to maximize fertility, so as to counterbalance the outflow of people with a corresponding inflow of new members of family and kin.

However, in the later Middle Ages, mortality rates were so high that the inflow of new lives did not compensate for the losses suffered in the Black Death and the subsequent nationwide plague epidemics. After the sharp fall in population in the second half of the fourteenth century, long-term population developments took on the character of a gentle slide in numbers which lasted until about 1530. In support of the underlying premise of high fertility and of early and nearly universal marriage, Hatcher refers to Hajnal's analysis of the 1377 Poll Tax returns. He also points out that the early parish registers of the 1540s and 1550s indicate that 'birth-rates were extremely high' and that marriage was (nearly) universal, facts which implied that these demographic features were a continuation of a medieval system of early and near-universal marriage for women among the ordinary population. When combined with the marked reduction in the intensity of the circulation of epidemic diseases observed by contemporaries from the 1530s, the effect of these high fertility rates was strong and sustained population growth, a

³⁵ Hatcher, *Plague, Population, and the English Economy*, p. 72.

growth which lasted into the following century.³⁶ This situation indicates a causal explanation for the transition into a low-pressure system (with substantially higher age at marriage and reduced fertility rates) which eventually occurred once the new social and demographic realities had impressed themselves sufficiently on people to engender changes in practice, and which were then followed by changes in social norms and justifications of behaviour affecting fertility.

This new approach to the study of medieval population was developed in Miller and Hatcher's outstanding study of English rural society in the high Middle Ages which made explicit an approach to medieval demography that had largely been left implicit in Hatcher's book on the post-plague economy. They claimed that 'in the latter part' of the high Middle Ages, 'at birth even the children of gentry and noble families might on average have expected a life span of no more than twenty-two to twenty-eight years'. As a result, 'having reached his twenties the man of gentle status could still not expect to reach his fifties, nor the poor man to live beyond his early forties'.³⁷ Importantly, they present Ohlin's estimate of general life-expectancy for the gentle and noble classes without taking into account or making explicit his reservation and cautious indication that it erred on the high side and his likely reason for this appraisal. The children of the peasantry were likely to have a higher mortality rate and a shorter life expectancy than those of the rich,³⁸ so that Miller and Hatcher's work implies an appreciably lower average life expectancy at birth for the general English population than twenty-two to twenty-eight years. Princeton Life Tables, Model West, suggest, as mentioned, that they had in mind average life expectancy at birth in the range of twenty to twenty-five years, the poor obviously being represented by the lower reaches of this range, quite likely also below this range at times.³⁹

Mortality rates at this level could be seen as a confirmation of the usual view that from the end of the thirteenth century the lives of the majority of English men and women were negatively affected by overpopulation in terms of the available resources for livelihood, so that a Malthusian 'positive check' on the population had come into play. This may explain the slow contraction of the national population from well over six million around 1300 to around six million on the eve of the Black Death which appears to be scholarly orthodoxy on the matter.⁴⁰

³⁶ Hatcher, *Plague, Population, and the English Economy*, pp. 56, 65–66; see also Hatcher, 'Understanding the Population History of England', pp. 100, 101, 104.

³⁷ Miller and Hatcher, *Medieval England: Rural Society and Economic Change*, pp. viii–ix.

³⁸ Benedictow, *The Black Death*, pp. 251–53, 262–64, 324–25, 351–52, 374–77.

³⁹ Coale and Demeny, *Regional Model Life Tables*, pp. 42–43.

⁴⁰ Hallam, 'Population Movements in England', pp. 536–37. See also Smith, 'Human

It appears that rather more than half the manorial population were landless or smallholders and that 'much of the population was surplus to the economy by the mid-fourteenth century'.⁴¹ In the words of Miller and Hatcher: 'increasing mortality in the villages was merely one aspect of the economic problems which reached an acute stage as the thirteenth century closed and the fourteenth century opened', heralding a period characterized by 'peasant impoverishment' and 'the overcrowding of villages', a sombre perspective on this period which was summarized twenty-five years later by Hatcher and Bailey on the basis of much new research.⁴² These were thus extraordinary times when ordinary English women and men were exposed to increasing hardship, a tendentially declining life expectancy and increasing difficulties in establishing a material basis for marriage so that age at marriage and the incidence of celibacy should be expected to have increased.⁴³ This is confirmed by the rush to marriage in the wake of the Black Death, when young people and adults, who had been forced to postpone marriage or resigned to a celibate life, found good vacant tenements everywhere and married in droves all over Europe. In Ravensdale's words:

the crop of marriages [at the manor of Cottenham] in 1349 must have been followed by a baby boom among the villeinage [...]. The rush to the altar [...] in 1349 represented marriages that would have been postponed even longer but for the plague, the average age at marriage would have been depressed, thus bringing increased fertility within marriage. Insofar as the pestilence had lowered the population without altering the number of holdings that were available as bases for families, a higher proportion of the villeins would have been married.⁴⁴

This pattern is clearly reflected in the only extant parish marriage register from the time of the Black Death, that of Givry in Burgundy. In the years 1336–41, for which the register appears to be complete, the mean number of marriages was 17.5. In 1348, the year of the Black Death, no marriages were recorded in this small Burgundian town which obviously reflects the impact of the catas-

Resources', p. 191; Smith, 'Demographic Developments in Rural England', pp. 36–49; Hatcher and Bailey, *Modelling the Middle Ages*, pp. 30–31, 38.

⁴¹ Postan, 'Medieval Agrarian Society in its Prime', p. 622; Kitsikopoulos, 'Standards of Living and Capital Formation'; Lomas, 'South-East Durham', p. 260.

⁴² Miller and Hatcher, *Medieval England: Rural Society and Economic Change*, pp. 241, 249; Hatcher and Bailey, *Modelling the Middle Ages*, pp. 21–65.

⁴³ See also Hatcher and Bailey, *Modelling the Middle Ages*, p. 56.

⁴⁴ Razi, *Life, Marriage and Death in a Medieval Parish*, pp. 132–35; Lomas, 'South-East Durham', p. 260; Ravensdale, 'Population Changes', pp. 212–13. Benedictow, *The Black Death*, pp. 271–72, 287–88; see also Hatcher, *Plague, Population, and the English Economy*, p. 56, n. 20.

trophe. However, in 1349, the number of registered marriages was eighty-six, a quintupling of the pre-plague mean. For a number of subsequent years the number of marriages was also considerably higher than in the pre-plague period.⁴⁵ However, any consequential baby boom did not lead to renewed population pressure on the land since the plague returned, once more took a terrible toll of lives, and then became a recurrent feature of the social scene.

However, if the pre-plague period can be seen as one of extreme hardship for a large proportion of England's population, it does not explain the general demographic systemic structures as outlined by Ohlin and Hatcher. Hatcher argues that the general level of 'mortality was not simply a function of the state of the harvest or the level of real wages', as implied by Malthusian lines of argument, and emphasizes instead the importance of infectious diseases and the variability of pathogens, vectors and carriers of disease and other 'non-economic factors'.⁴⁶ In a long-term perspective, this underlines the significance of the aggregate impact of quite a number of serious infectious diseases even before the plague arrived and also, as underlined by Shrewsbury,⁴⁷ the continued spread of the array of previously established serious infectious diseases in the late medieval period. The Black Death was introduced into an already disease-ridden society where the spread of epidemic diseases of various kinds and severity was an ordinary occurrence which affected the population with illness and death to a degree where the population lived in a tenuous balance between life and death. It was this tenuous balance that the introduction of plague broke and caused a dramatic fall of the population to a level barely one-third of the pre-plague size by the middle of the fifteenth century and with hardly any signs of recovery before the 1530s.⁴⁸

The eventual stirrings of recovery of the population can be seen in terms of a shift in the basic understanding of epidemic diseases and their prevention that occurred in the early modern period, a shift which was of profound historical importance. In England, the first attempts at anti-epidemic measures occurred in 1518 suggesting that this new view of the nature of epidemic disease was already current by this time.⁴⁹ According to Slack, the development and spread of basic epidemiological insights in the Tudor and Stuart periods had a substantial

⁴⁵ Gras, 'Le Registre paroissial de Givry', p. 303.

⁴⁶ Hatcher, *Plague, Population, and the English Economy*, p. 72.

⁴⁷ Shrewsbury, *A History of Bubonic Plague*, pp. 36, 42.

⁴⁸ Hatcher, *Plague, Population, and the English Economy*, pp. 65–66; Hatcher, 'The Great Slump', pp. 271–73; Hatcher, 'Understanding the Population History of England', p. 97.

⁴⁹ Slack, *The Impact of Plague*, p. 47.

and growing impact not only on the spread of plague but on infectious diseases in general. This resulted in new forms of popular behaviour in the form of an increasing tendency to stay away from infected houses and people, and a new hostility to strangers and in an increasing efficiency in the countermeasures against disease taken by local and national government.⁵⁰ Similar developments and quarantine measures in other countries reduced not only the internal transmission of epidemic diseases but also their tendency to be spread abroad via infected crews, goods or travellers. Gradually, these changes would affect levels of mortality to such an extent that it could result in a rearrangement of basic demographic structures (see below).

The early modern demographic pattern contrasts sharply with the medieval demographic system as portrayed by Hatcher in which mortality, rather than fertility, was 'the prime determinant' 'of the course of population' with a general life expectancy at birth in this period in the range of twenty to twenty-five years and general mortality rates of four to five per cent. Support for this view of the Middle Ages as possessing a high-pressure demographic system came from Razi's important monograph on the population history of the manor of Halesowen (1270–1400). Here, Razi identified a much higher mortality rate, a much lower life expectancy, a much higher fertility rate, a much lower age at marriage (apparently predominantly in ages eighteen to twenty-two) and a higher proportion of the population marrying than was characteristic of early modern England.⁵¹ These features constituted an internally consistent demographic regime or system, one that was very different from the main structures of early modern demography. Razi explicitly associated this system with the characteristics of Hajnal's 'non-European' marriage pattern.⁵² Hatcher and Razi were not explicit about their radical break with the prevailing notions of historical demography which had been developed by the Cambridge Group for History of Population and Social Structure and which were championed by outstanding demographers such as P. Laslett, E. A. Wrigley, and R. S. Schofield.⁵³ Soon afterwards, Wrigley and Schofield published a towering work on early modern English demography.⁵⁴ What they lacked in medieval demographic expertise was soon made up for by the work of R. M. Smith and L. R. Poos. In a magisterial paper, Poos and Smith initiated a discussion with Razi of extraordinary quality and value in which

⁵⁰ Slack, *The Impact of Plague*, pp. 83–89, 284–341.

⁵¹ Razi, *Life, Marriage and Death in a Medieval Parish*, pp. 60–64.

⁵² Razi, *Life, Marriage and Death in a Medieval Parish*, p. 50.

⁵³ Best presented by Hatcher, 'Understanding the Population History of England', pp. 89–94.

⁵⁴ Wrigley and Schofield, *The Population History of England*, with particular reference to n. 27.

they succeeded in pointing out weaknesses and uncertainties inherent in Razi's use of manorial sources for demographic purposes. Their arguments increased significantly and even substantially the potential margins of error, although, on a number of points, Razi succeeded in defending his work well.⁵⁵

However, despite the power of Poos and Smith's arguments, it is arguable that their motive for challenging Razi's claims was that his findings about medieval demography were individually and systemically incompatible with the demographic system and structures which existed in early modern England, and so were likely to be erroneous. As Smith explicitly stated, the life expectancies revealed by Razi were implausible since his results would correspond to the mortality rates found in the Princeton Life Tables, Model West's levels one to three, producing 'an expectation of life at birth of between eighteen and 22.8 years [...] ten years lower than comparable values calculated for rural parishes of late-Elizabethan England.'⁵⁶ By contrast, Poos and Smith laid an emphasis on 'the pivotal role which fertility, heavily influenced by nuptiality patterns, plays in determining overall population growth'; 'England can be shown to have possessed one variant of this pattern [i.e. the European marriage pattern] from as early as the mid-sixteenth century.'⁵⁷ A few years later Smith made the claim for the primacy of fertility even more explicit when he rejected the estimates of life-expectancy at birth and older ages made by Postan, Titow, and Razi on the grounds that they would 'imply fertility levels one to one and half times higher than those found in Elizabethan England.'⁵⁸ He later went on to claim that although Hajnal's European marriage pattern could be found a couple of hundred years earlier, it is 'likely that the European marriage pattern was firmly in place, together with other necessarily attendant features of the social structure' in 'later medieval society',⁵⁹ echoing an earlier statement by Wrigley.⁶⁰

By implying so clearly that the incompatibility of Razi's results with the characteristics of the early modern demographic system meant that his results were necessarily flawed, Smith went beyond simply using later evidence to establish working hypotheses for research but instead assumed that the demographic struc-

⁵⁵ Poos and Smith, "Legal Windows onto Historical Populations?"; Poos and Smith, "Shades Still on the Window"; Razi, 'The Use of Manorial Court Rolls'; Razi, 'The Demographic Transparency of Manorial Court Rolls'.

⁵⁶ Smith, 'Human Resources', p. 204.

⁵⁷ Poos and Smith, "Legal Windows onto Historical Populations?", pp. 141–42.

⁵⁸ Smith, 'Human Resources', p. 207.

⁵⁹ Smith, 'Human Resources', p. 212.

⁶⁰ Wrigley, 'The Growth of Population in Eighteenth-Century England', p. 149.

tures of one period can legitimately be projected onto another. Poos adopted a similar method when he introduced material and perspectives from the early modern period into his study of the demography of late medieval rural Essex.⁶¹ It is precisely such assumptions this paper seeks to challenge. Thus while there is no *a priori* reason for choosing specific life tables of (Princeton) Model West as the basis for his medieval demographic estimates, Poos argues that these tables should be adopted for the medieval period because they appear to accord or correspond best to infant and child mortality derived from early parish registers.⁶²

Poos and Smith also underline that there is considerable variability in the correlation between adult mortality and infant mortality so that ‘adult expectancies can underpredict life expectancy at birth by as much as ten years.’⁶³ This claim is based on Ohlin’s discussion of Russell’s data for mortality and life expectancy of the baronial class at age fifteen or twenty. But, in fact, Ohlin’s own conclusion was that, even assuming an artificially low mortality rate for those under fifteen for whom we do not have evidence (corresponding to infant mortality of two hundred and fifty per thousand), the life expectancy at birth for this group around 1300 would have been within the range of twenty-two to twenty-eight years as opposed to the thirty to thirty-five years which was characteristic of the early modern period. And, if we introduce from life tables a more realistic mortality rate for those under fifteen, one which accords with Russell’s mortality date for those over fifteen (corresponding to infant mortality rates of three hundred to three hundred and fifty per thousand), life-expectancy at birth for this group would be even lower, around twenty to twenty-five years.⁶⁴ Handled in this way, Russell’s data provides strong evidence of the existence of a specific medieval demographic system, one with a much more severe mortality regime than that of the early modern period, even within the baronial elite. Thus the variability of infant mortality in relation to adult mortality does not preclude use of adult data for the estimation of life expectancy at birth or the general level of mortality, as is assumed by Smith and Poos’ arguments.

⁶¹ See, Poos, ‘Population Turnover in Medieval Essex’, pp. 16–20; Poos, *A Rural Society after the Black Death*, pp. 115–19. Benedictow, *The Black Death*, p. 252, n. 13, and pp. 369–373.

⁶² Poos, ‘Population Turnover in Medieval Essex’, p. 10.

⁶³ Poos and Smith, “‘Legal Windows onto Historical Populations?’”, p. 141. Poos and Smith, and Smith also later, refer also to the outstanding paper by Schofield and Wrigley, ‘Infant and Child Mortality in England’, i.e., the whole paper, which, however, appears consistently to relate to other aspects of infant and child mortality. Smith, ‘Human Resources’, pp. 203–04; Smith, ‘Demographic Developments in Rural England’, p. 59.

⁶⁴ Ohlin, ‘No Safety in Numbers’, pp. 75–77, 89. See also above, pp. 9–10.

This discussion shows that Smith and Poos can only avoid accepting that Russell's data (as refined by later historical demographers) suggests the existence of a distinct medieval demographic regime — and so retain their views about the similarity or identity of early modern and medieval demography — by assuming an extremely low value of infant mortality. In this context, it is important to keep in mind that life tables are based on the normal correlations, in other words on central values, and so tell us what should be expected or was likely to happen.⁶⁵ In Coale and Demeny's careful phrasing: 'the separate families of model life tables provide estimates that in our judgement are quite reliable when utilized judiciously for populations within the areas upon which each family of model tables is based'.⁶⁶ Use of normal values provides outcomes at levels of validity that can be designated likely or at least plausible; extreme values are inherently rare and will lead to extreme outcomes with correspondingly peripheral or marginal levels of validity and relevance. All premises or assumptions based on empirical observation provide valid outcomes, but results based on normal or usual observations or correlations will always have precedence or priority over the significance of extreme or rare assumptions. It is a methodological misconception that a small incidence of correlations or statistical outliers that deviate substantially from the main pattern of observations invalidates or destroys the powers of validation and usability of central values based on normal occurrence: it all relates to the concept of level of tenability and probability of being reflected in the sources according to usual source-critical considerations.

All English medieval studies of mortality among males above ages eleven, fourteen, or nineteen, consistently show much higher mortality rates than studies of the same cohorts of males in early modern society.⁶⁷ In view of this fact, it is likely that such an apparently grossly unhealthy environment would cause correspondingly or rather still higher mortality rates among the most vulnerable and susceptible persons in society, namely infants and young children, with a corresponding effect on the overall mortality rate of the population. In general, mortality rates among adolescents and adults will usually give a good indication of mortality rates among children and infants. Coale and Demeny thus see the use of life tables for the interpolation of population data as being valid provided certain precautions are observed. This is the basis for the way Ohlin goes about resolving this problem.

⁶⁵ See Loschky and Childers, 'Early English Mortality', p. 86.

⁶⁶ Coale and Demeny, *Regional Model Life Tables*, p. 24.

⁶⁷ Benedictow, *The Black Death*, pp. 251–54 and n. 10.

Unfortunately, in the debate generated by Razi's work, the remarkable internal consistency of his findings was lost out of sight as was their agreement with Ohlin's re-estimates of the data provided by Russell and by Postan and Titow and with Hatcher's (and Miller's) arguments and systemic analysis. Razi's evidence thus seemed to be an isolated case-study and so seemed at best to be a working hypothesis. Surprisingly, Poos and Smith hardly mention Ohlin's paper in relation to Razi's findings, referring to it only once and then to claim that it offers support for their own case about the implausibility of Razi's estimate of life expectancy.⁶⁸ Yet, in fact, Ohlin's paper had provided evidence which undermined Poos and Smith's own position and could be cited to reinforce the plausibility both of Razi's claims and of the more general case for the existence of a specifically medieval demographic system. Certainly, it seems unlikely that, for all the problems involved in Razi's use of manorial sources, his study of Halesowen's demography would fortuitously produce an internally consistent and viable demographic regime, one with a striking similarity to earlier findings based on other source materials. After all, Razi's study was based on manorial sources which Smith himself had described as the best evidence for the study of medieval English demography.⁶⁹ One should take into consideration that uncertainties and problems affecting medieval manorial sources as a basis for demographic studies do not necessarily pull in the same direction according to a principle of maximization and so they could, in practice, to some extent, cancel each other out. Some legitimate critical points would not necessarily work out in practice as 'feared'. Although these points do not affect the inherent uncertainties involved in using manorial sources, the outcome of demographic studies based on such material must be seen in the light of other medieval demographic studies, and also of studies of independent material such as the Poll Tax returns, and must be considered according to consistency and viability as an outline or correlates of a functional demographic system.

Since the debate over Razi's work, a number of studies have appeared which supports the claims for the specificity of the medieval demographic system. For instance, monographs by Hanawalt and Bennett on the English peasantry in the pre-plague period both provided support for Hajnal's and Razi's' views on the prevalence of the 'non-European' marriage pattern among the vast majority of the population constituted by the peasantry (see below).⁷⁰ Of particular impor-

⁶⁸ Poos and Smith, "Legal Windows onto Historical Populations?", p. 141, n. 41.

⁶⁹ Smith, 'Hypothèses sur la nuptialité en Angleterre', p. 132.

⁷⁰ Hanawalt, *The Ties that Bound*, pp. 91–93, 96–97; Bennett, *Women in the Medieval English Countryside*, p. 72.

tance were the studies of monastic communities in Westminster, Durham, and Canterbury, produced by Hatcher, Hatcher, Piper, and Stone, and Harvey. These studies showed that, despite the highly favourable living conditions enjoyed by the regular clergy, the monks in each of these three houses suffered from much higher levels of mortality and so had correspondingly much shorter life expectancies than those which characterized the population of early modern England. These studies thus confirmed the earlier work of Ohlin and Razi and buttressed the case for a demographic system based on very high mortality (around five per cent) and low life-expectancy (around twenty years).⁷¹ The evidence also showed a clear rise in mortality from about the mid-fifteenth century. These findings on the demography of monastic communities were also generally supported by V. Davis's study of the longevity of members of religious orders in late medieval England which also noted closely related structures of pre-plague and post-plague mortality and life-expectancy.⁷² For the peasantry, manorial studies, including that by Dyer and that by Ecclestone on the rural proletarians called 'garciones', also revealed a similar pattern of life expectancy and mortality and confirmed Razi's findings about pre-plague mortality and life-expectancy.⁷³ All of these studies suggested a typical life expectancy at birth of twenty to twenty-five years, corresponding to an annual mortality rate of four to five per cent. The aggregate effect of all these studies was to provide strong support for the existence of a specifically medieval demographic system.

However, Smith and Poos's line of argument also attracted supporters who tended to focus on the need to explain why England's population remained depressed and was even receding through the late medieval period. Goldberg argued in a number of works that the failure of population to recover after the Black Death reflected the much improved economic and social conditions for women created by the plague. The great deficit of labour in relation to the resources for production produced a sharp long-term rise in wages, particularly for unskilled workers. In particular, it resulted in new opportunities for women's employment in both the rural and urban economy, especially in services and as household servants where they tended to be demographically

⁷¹ Hatcher, 'Mortality in the Fifteenth Century'; Hatcher, Piper, and Stone, 'Monastic Mortality'; Harvey, *Living and Dying in England*, pp. 114–29. Bennett had earlier argued against Hajnal's theory and supported Laslett and Wrigley. See Bennett, 'Medieval Peasant Marriage', pp. 213–14.

⁷² Davis, 'Medieval Longevity', pp. 115–16.

⁷³ Dyer, *Lords and Peasants in a Changing Society*, pp. 229–30; Ecclestone, 'Mortality of Rural Landless Men', pp. 21–27.

'hidden'.⁷⁴ This gave many women the opportunity to gain an independent livelihood and so to delay or even to forgo marriage and instead to choose a life as singlewomen, with a consequent fall in overall fertility, thus undermining the population's powers of demographic recuperation.⁷⁵ The post-Black Death late medieval marriage regime would thus have been quite similar to the early modern one⁷⁶ as presumed by Smith and Poos and explicitly supported by Goldberg.⁷⁷

This argument was also backed by Bennett and to some extent by other historians engaged in women's history.⁷⁸ Bennett explicitly supported Smith's and Goldberg's view that it is 'a very real possibility that this supposedly early modern 'European Marriage Pattern' existed in England as early as the late fourteenth century' because women were now offered increased working opportunities and could in many cases afford to delay or avoid marriage.⁷⁹ This view may not be at odds with her 1986 monograph on the pre-plague manor of Brigstock (Northants) where she offered her support for Razi's contention of 'relatively early marriage among the pre-plague peasantry'. It may be seen as at odds with the view presented in her 1981 paper on merchets (purchases of marriage licences) on the manors of Ramsey Abbey in the early fifteenth century. Here she showed that young villein women frequently paid their own merchets, suggesting an eagerness to enter matrimony on their part. Whilst such purchases imply that these women had entered paid work, which could have led to deferred marriage, it is not clear that any delay would be protracted given the high wages which

⁷⁴ Goldberg, *Women, Work, and Life Cycle*, pp. 7, 82–202. At about the same time, Smith argued this view in a Europe-wide perspective: Smith, 'Geographical Diversity in the Resort to Marriage', pp. 25, 29–33, 42–45; Bailey, 'Demographic Decline', pp. 4–14.

⁷⁵ Mate, *Women in Medieval English Society*, pp. 56–61.

⁷⁶ Goldberg, 'Marriage, Migration, and Servanthood'; Goldberg, *Women, Work, and Life Cycle*, pp. 203–17, 223–32, 261–66. See the good overview of this subject in Rigby, 'Gendering the Black Death', p. 217, nn. 14 and 15.

⁷⁷ This view was pioneered by Smith; see works referred to by Hatcher, 'Understanding the Population History of England', p. 92, nn. 32–33. We should also mention Smith, 'Geographical Diversity in the Resort to Marriage', pp. 16–59; Poos, *A Rural Society after the Black Death*, pp. 111–29; Goldberg, *Women, Work, and Life Cycle*, p. 20. See also Rigby, 'Gendering the Black Death', p. 217.

⁷⁸ Bennett, 'Medieval Women, Modern Women', p. 164; Kowaleski, 'Singlewomen', pp. 41, 45–49; Mate, *Daughters, Wives, and Widows*, pp. 38–40; Mate, *Women in Medieval English Society*, pp. 56–61. We should underline that Mate's and Kowaleski's discussions of this subject are more nuanced and show a sound input of source-criticism.

⁷⁹ Bennett, 'Medieval Women, Modern Women', p. 149.

workers could obtain in this period.⁸⁰ However, Bennett herself is reluctant to admit that wages improved significantly for women in the later Middle Ages, with any changes being confined to the decades that immediately followed the Black Death, thus being ephemeral and temporary. Yet, in fact, far from being short-lived, the plague's impact in reducing population lasted for nearly two centuries, from 1348–49 until the 1530s. Bennett's argument presumes also that, as Bailey put it, employers were able to dictate terms in an age of labour shortage: 'an hypothesis which stretches the bounds of our credulity'.⁸¹

Goldberg's position was perspicaciously discussed and dismantled by Bailey who revealed many of the problems associated with the former's assumptions as to the development of the late medieval labour market and its opportunities for female servanthood.⁸² Goldberg's position was also sharply criticized by Hanawalt who pointed out serious weaknesses in the material basis of his assumptions on age at marriage.⁸³ Objections to the view that fertility rates declined as women deferred marriage in an age of labour shortage were made on a number of different grounds. One was the argument that, in fact, marriage was a priority for young women, as indicated by the frequent purchase of merchets by young villain women with their own hard-earned money and by the marked upsurge in the number of merchets and marriages in England (and elsewhere) in the wake of the Black Death and subsequent plague epidemics.⁸⁴ Delaying marriage thus tended to be the product of necessity rather than choice, a view supported by Donahue's study of marriage litigation brought before the court of York in the fourteenth century which showed that most cases were initiated by women and usually sought to enforce marriage.⁸⁵ These reservations strengthen the view that the failure of population to recover after the Black Death can be explained in terms of continuing high mortality rates rather than of deferred marriage and lower fertility rates, a point emphasized by the evidence of severe mortality rates and brief life expectancies experienced by monastic communities throughout the late medieval period. Finally, the very high fertility levels found in the early parish registers (i.e. from 1541 until around 1565) can be seen as evidence of the

⁸⁰ See above nn. 70, 71. See also Bennett, 'The Tie that Binds', pp. 127–29.

⁸¹ Bailey, 'Demographic Decline', p. 14.

⁸² Bailey, 'Demographic Decline', pp. 4–14. See, however, critical remarks on Bailey's paper by Kowaleski, 'Singlewomen', pp. 49 and 74, n. 52.

⁸³ Hanawalt, *Growing up in Medieval London*, p. 263, n. 19.

⁸⁴ Benedictow, *The Black Death*, pp. 271–72; above, pp. 16–17 and n. 46.

⁸⁵ Donahue, 'Female Plaintiffs in Marriage Cases', p. 197.

preceding medieval high pressure system before the development of substantially lower levels of mortality, rising age at marriage and correspondingly reduced fertility which characterized the early modern period. The notion of a depressed fertility rate caused by better female working opportunities thus appears to have faded out of the discussion in recent years.

In 1993, Loschky and Childers, the American economists, published a life-table based study of all the available English medieval demographic data which was the first attempt at synthesizing the English medieval mortality data in this way. As they said, 'every study of mortality before 1541 gives crude death rates higher than those found by Wrigley and Schofield' in their study of English population history in the period 1541–1871.⁸⁶ They argued that the English medieval demographic data corresponded to the patterns found in Princeton Life Tables, Model West, levels 1–4, indicating a general mortality of forty to fifty-five per thousand and a life-expectancy at birth of around twenty to twenty-five years. Life expectancy at age twenty for the generation born between 1276 and 1300 was 25.19 years corresponding to (Princeton) Model West life table, male level 2 with life-expectancy at birth of twenty years. Loschky and Childers also pointed out that mortality studies for the years before 1348 all suggested 'crude death rates in the range of fifty per thousand' with a correspondingly low average life expectancy at birth.⁸⁷ It must be pointed out that their study has clear weaknesses or flaws, in particular their reliance on the flawed data collected by Russell and Hollingsworth and their lumping together of disparate mortality data of varying quality from different social groups in different periods. They also claim to have identified a strong fall in mortality in the second half of the fifteenth century, a decline that could be presumed to herald the transition to the demographic system of the early modern period.⁸⁸ However, this decline is sharply at odds with the evidence of rising mortality at this time as shown in the data for the monastic communities of Canterbury, Westminster and Durham (see above). Even when these weaknesses are taken into consideration, their synthetic analysis of mortality data provided substantial support for the argument of a distinctive and high specifically medieval mortality regime. Once again, the clear implication was that Wrigley and Schofield's reconstructions of demographic parameters for the early modern period could not be used to make inferences about the nature of the medieval demographic system.

⁸⁶ Loschky and Childers, 'Early English Mortality', p. 85.

⁸⁷ Loschky and Childers, 'Early English Mortality', pp. 94–95.

⁸⁸ Loschky and Childers, 'Early English Mortality', pp. 91–97.

If the Middle Ages was characterized by its own high-pressure demographic system, the explanation of the existence of this system model lies, as argued above, in the fact that medieval Europe, even in the pre-plague period, was a disease-ridden society where epidemic diseases of various kinds and severity circulated among the population causing illness and death and so tending to limit or hinder any population growth. This tenuous balance between fertility and mortality was then broken by the arrival of plague and by its continuing impact until into the sixteenth century. The failure of population to recover in the late medieval period was not the product of deferred marriage and reduced fertility rates created by the 'golden age of the labourer' but rather of the high mortality rates which characterized 'the golden age of the bacteria.'⁸⁹ As Ziegler aptly put it: 'the medieval house might have been built to specifications approved by a rodent council as eminently suitable for the rat's enjoyment of a healthy and care-free life.'⁹⁰ Far from population recovering from the mid-fifteenth century, this period saw, as Hatcher, Piper, and Stone demonstrated, a 'precipitous surge in mortality which began in the 1460s and lasted into the 1520s'. Indeed England, like Norway and other countries, suffered an unusual number of severe plague epidemics and mortality crises in the decade 1521–30 when population size appears to have reached its late medieval nadir.⁹¹ Thus, the high-pressure system which kept the size of England's population in a tenuous balance before the advent of plague epidemics was unable to regain this balance until the effects of plague had been substantially reduced by implementation of epidemic countermeasures. Eventually, such countermeasures were to prove so effective that they reduced the level of mortality significantly below the pre-plague level and so unleashed strong population growth.

On the basis of various materials relating to different social classes, and with a preponderance of material relating to the peasantry and lower rural classes, it can be suggested that the medieval demographic system normally involved mortality in the range of four to five per cent and a life expectancy of twenty to twenty-five years. These high levels of mortality were correlated with early marriage (especially for women), a high or nearly universal marriage rate and resulting high

⁸⁹ Thrupp, 'The Problem of Replacement Rates', p. 118; Smith, 'Human Resources', p. 208.

⁹⁰ Ziegler, *The Black Death*, p. 157.

⁹¹ Hatcher, Piper, and Stone, 'Monastic Mortality', p. 676; Hatcher, 'Understanding the Population History of England', p. 96; Slack, *The Impact of Plague*, pp. 53–57, 75; Shrewsbury, *A History of Bubonic Plague*, pp. 159–69; Benedictow, *Svartedauen og senere pestepidemier* (The Black Death and Later Plague Epidemics in Norway), pp. 125–76; Noordegraaf and Valk, *De Gave Gods*, pp. 43–92, 224–32.

levels of fertility. The result was a demographic system which was clearly distinct from the early modern system which crystallized in the later sixteenth century. The reliability of these conclusions about medieval England is reinforced by the data on mortality and life-expectancy available for other European countries in this period since this evidence is entirely consistent with the English data.

For the time being, the available medieval data on life expectancy and mortality are relatively few and confined to a few countries. However, they have conspicuous consistency, are highly different from those of the mature early modern period, and constitute a coherent and specific demographic regime or system.⁹²

Medieval Osteological Demography and its Concordance with Documentary Evidence

The argument for a distinctive, medieval demographic system in the medieval West is based not only on various types of documentary evidence but, reassuringly, is also confirmed by the independent evidence from osteological studies of skeletal populations in medieval cemeteries (and vice versa). Summing up the sprinkling of French data on medieval life expectancy based on studies of both skeletal and documentary materials Biraben cautiously concluded that:

life expectancy at birth appears to have been of the order of magnitude of 25 years, probably a little more in the case of the privileged (excepting the noblemen because of premature deaths in combat) and a little lower in the case of the peasants and the poor. Likewise, in prosperous periods, it could have reached 26 or 27 years, but in the periods of the great crises, especially in the 9th and 10th centuries and from the middle of the 14th century until the middle of the 15th century, it has not, perhaps, even reached 22 or 23 years [...] one should not forget that this figure is an average, and that [...] a quarter or one-third of all infants died before their first birthday.⁹³

Indeed, when we allow for the fact that the socially-privileged classes who are said to have a life-expectancy at birth of a little more than twenty-five years constituted only a tiny minority of the population and that the bulk of the population was made up of peasants and the poor, who must have had a somewhat lower life-expectancy, and of townspeople, who must have had an even lower life-expectancy still, Biraben's data seems to suggest that the average life-expectancy at birth of the medieval French population was lower than twenty-five years, probably

⁹² Benedictow, *The Black Death*, pp. 250–55.

⁹³ Biraben, 'L'Hygiène, la maladie, la mort', p. 425. My translation from French.

about twenty-three to twenty-four years. Biraben's innovative and pioneering use of osteological data together with evidence drawn from documentary sources opened up new avenues of progress for medieval demography. Of particular importance was his demonstration that the skeletal remains of medieval populations could be used to establish gender and age at death, evidence which could then be converted into levels of mortality and life expectancy of reasonable quality and accuracy as shown by their agreement with results obtained from documentary sources. Biraben's findings suggested the existence of a medieval demographic system in France whose characteristics were consistent with those revealed by studies of the English documentary evidence.

Given the almost total absence of documentary sources suitable for the study of mortality and life expectancy in medieval Scandinavia, Biraben's work inspired me to examine the osteological evidence for skeletal populations in the Nordic countries in this period, evidence often published by anatomists and human osteologists in journals and collections of occasional papers which are rarely consulted or even known by historians.⁹⁴ My research resulted in a small monograph on *The Medieval Demographic System of the Nordic Countries* (1993) which was reissued in a considerably enlarged edition in 1996 which included a much expanded case for the existence of a specific medieval demographic system also in the Nordic countries.⁹⁵ Studies of quite a number of skeletal populations in Nordic medieval cemeteries revealed life-expectancies at birth in the range of twenty to twenty-five years, the average quite likely being in the middle of this range or even slightly lower, which would correspond to a mortality rate in the range of four to five per cent.⁹⁶ Since there often is a substantial deficit of infants and the youngest children (because their bones tend to disappear or be reduced to unusable form), these estimates are based on life tables corresponding to the age composition of the adolescent and adult portions of the cemetery populations. If we allow for infant mortality rates at the level which obtained in the Nordic countries in mid-eighteenth century when life expectancy at birth was near or about thirty-five years, namely about two hundred and fifty per thousand, this evidence would indicate life expectancy at birth of around twenty-

⁹⁴ I am extremely grateful to Professor Per Holck at the Department of Anatomy, University of Oslo, the leading specialist on Nordic historical human osteology, for help in being acquainted with these papers, valuable discussion and encouragement.

⁹⁵ Benedictow, *The Medieval Demographic System*, pp. 207–42; see also n. 30 above.

⁹⁶ Benedictow, *The Medieval Demographic System*, pp. 29–41; Benedictow, 'The Demography of the Viking Age', pp. 159–65; Benedictow, 'Demographic Conditions', pp. 238–44.

five years.⁹⁷ However, in four Nordic medieval cemeteries, the soil has permitted the preservation of high and presumably quite representative proportions of the skeletal remains of infants and young children. This evidence actually indicates a considerably higher mortality rate for infants than that found in the eighteenth century, namely in the range of 300 to 330 per thousand and corresponding levels of mortality for young children, suggesting a life expectancy at birth of near twenty years and a corresponding mortality rate of nearly five per cent.⁹⁸ One should take into account that most medieval cemeteries were in normal use also in the late medieval period and were affected by the increased mortality of this period. However, that the osteological evidence from the medieval Nordic countries and the English documentary sources for the same period should reveal such a consistent demographic pattern once more supports the plausibility of these findings and further buttresses the case for the existence of a distinctive demographic system across a number of countries or regions of medieval Europe.

If, even before the Black Death, medieval mortality rates were much higher than those found in post-transitional, early modern societies, this implies correspondingly higher fertility rates. Empirical evidence corroborating these deductions is available for a range of medieval European societies, from Italy in the south, to England in the west, and Iceland and Sweden in the north. The evidence shows that medieval women in both town and countryside usually married at ages fourteen to twenty,⁹⁹ which contrasts sharply with the high average age at

⁹⁷ Benedictow, *The Medieval Demographic System*, pp. 230–37; Benedictow, ‘The Demography of the Viking Age’, p. 159.

⁹⁸ Benedictow, *The Medieval Demographic System*, pp. 29–36, see especially Tables 1A, 1B, 2C, and 2D; see also Palm, *Folkmängden*, pp. 77–78.

⁹⁹ For English data on medieval age at marriage see above; for other countries see Herlihy and Klapisch-Zuber, *Les Toscans et leurs familles*, p. 207. Cf. p. 399; Dubois, ‘La Dépression (XIV^e et XV^e siècles)’, pp. 348, 351; Hollingsworth, *Historical Demography*, pp. 383–85; Palm, ‘Stormaktstidens dolda systemskifte’; Palm, ‘Household Size in Pre-industrial Sweden’, pp. 78–84; Palm, *Folkmängden*, pp. 49–81; Myrdal, *Kvinnor, barn och fester*, pp. 5–7; Lindal, ‘Ægteskab’; Sigurðsson, ‘Forholdet mellom frender, hushold og venner’, p. 321; Jochens, ‘En Islande médiévale’, p. 100. Jochens claims that eighteen was the usual age at marriage for women in the Icelandic family sagas (Jochens, ‘En Islande médiévale’, p. 100). Lindal’s and Sigurðsson’s discussions of the Icelandic material on this topic (see above) indicate an even lower average age at marriage than that maintained by Jochens. This fits well with Roberta Frank’s assertion in Frank, ‘Marriage in Twelfth- and Thirteenth-Century Iceland’, p. 475, that ‘the lack of spinsters in these sagas [the Icelandic family sagas] has to do with the importance which thirteenth-century Iceland attached to marriage, family connections, and procreation, an emphasis that made any female figure of interest to the saga-authors either married or about-to-be’. (The term ‘family sagas’ is unfortunate, because the word translated with ‘family’ has the meaning of

marriage of around twenty-five years which was characteristic of early modern society. The documentary evidence for an early age of women at marriage is confirmed (and vice versa) by studies of skeletal populations in Hungary, Normandy, and medieval Denmark (present-day southwestern Sweden) which reveal a sudden increase in female mortality at ages fifteen to twenty which probably reflects the onset of maternal mortality amongst women who had not reached the levels of anatomical and physiological maturity well suited to pregnancy and child birth.¹⁰⁰ These findings about an early age of marriage have since been buttressed by Myrdal and by Palm's ingenious use of a range of other sources for late medieval Sweden.¹⁰¹ An early age at marriage for women and the resulting higher rates of fertility also meant more maternity-related injury and death from pregnancy-related problems, and because pregnancies produce reduced immunity to contagious disease (immuno-suppression) and other health hazards, more parturitions with their own hazards and more frequent post-parturition conditions that produce also more exposure to serious infections. Women had also a particular responsibility for the nursing care of the sick in their households which more generally increased their relative exposure to infectious diseases in a disease-ridden society.

A demographic regime characterized by early age at marriage with consequent early exposure to sexual intercourse, high levels of fertility and a corresponding maternal reproduction-related super-mortality and also a particular work-related exposure to epidemic disease implies a higher mortality-rate for women relative to men not only in those of reproductive age but also in preceding and subsequent working ages. This suggests that, on average, the females of premodern Europe would have had a generally lower life-expectancy than men, although this was particularly pronounced in those of reproductive age.¹⁰² As late as 1899–1902, official population statistics for Italy, where a non-northwestern demographic system (as defined by Hajnal) still prevailed, indicate female super-mortality in relation to men at all ages from age one to age forty-nine.¹⁰³ This inference is corroborated by studies on skeletal materials obtained from medieval

descent group or kin group and is much closer in meaning to clan than to family in the modern European sense of the word.)

¹⁰⁰ See Benedictow, *The Medieval Demographic System*, pp. 52, 55–56.

¹⁰¹ See n. 99.

¹⁰² Benedictow, *The Medieval Demographic System*, pp. 56–68, 73–75; Benedictow, 'The Milky Way in History', pp. 29, 44–45; Benedictow, 'Demographic Conditions', pp. 238–44.

¹⁰³ Delille, 'Un Problème de démographie historique', pp. 434–38.

and other premodern populations.¹⁰⁴ Wrigley and Schofield found a small but consistent higher life expectancy for women than men from the period 1550–99 which probably reflects partly the early phase of the transition to a low-pressure demographic system with considerably higher average age at marriage for women with consequent correspondingly reduced maternal reproduction-related mortality and a higher increase of life-expectancy than men.¹⁰⁵ Since a new understanding of the contagious nature of infectious diseases and the establishment of increasingly efficient epidemic countermeasures appear to be the key factor in explaining the shift from the medieval to the early modern demographic regime, women's higher exposure and susceptibility to disease would be relatively more reduced than for men. If men enjoyed a life expectancy equal to or even longer than that of women in the medieval period, this would constitute yet another characteristic distinguishing feature of the medieval demographic system. This would also imply that in medieval demographic studies, life tables for men and women would essentially be interchangeable and perhaps should even be used inverted for the two genders.¹⁰⁶

The Final Establishment of the (Concept of a) Medieval Demographic System and the Transition to Early Modern Demography

In 2003, in a paper which represented a milestone in the development of medieval demography, John Hatcher addressed the issues of the specificity of the (late) medieval demographic system and demonstrated the systemic differences between the demographic regimes of the late medieval and early modern periods.¹⁰⁷ No longer was the population history of the medieval period to be seen through the prism of early modern demography but instead was now seen as a demographic system in its own right. This recognition of the distinction between the medieval and early modern periods in terms also of their demography necessarily raises

¹⁰⁴ Benedictow, *The Medieval Demographic System*, pp. 56–75; Benedictow, 'The Demography of the Viking Age', pp. 159–65.

¹⁰⁵ Wrigley and Schofield, *The Population History of England*, pp. 249–50.

¹⁰⁶ This indicates that the difference in favour of women shown with respect to longevity and mortality by Life Tables at these levels of mortality and life expectancy are anachronistic projections of early modern European data and data from developing countries which are heavily affected by the modern world and its successful combat of the spread and effects of infectious diseases and other efficient mortality-reducing measures.

¹⁰⁷ Hatcher, 'Understanding the Population History of England', pp. 83–130.

the issue of the causes, nature and timing of the transition between them and the connection between this transition and the other social changes of this period. Hatcher dated the mortality transition to the later sixteenth century or possibly slightly earlier.¹⁰⁸ This transition from a high-pressure system would be closely correlated with the gradual emergence of the low-pressure early modern system observed and described by Wrigley and Schofield.

As indicated above, it is evident that a key factor in this transition was the great change in the understanding of infectious diseases which began at the end of the fifteenth century (or perhaps slightly later). Now, instead of simply being fatalistically comprehended as a divine punishment for human sin, communicable disease began to be seen as a natural phenomenon, one that could be prevented, limited or halted by human countermeasures, even though the transmission of disease was still understood in terms of the classical notion of miasma. Thus, whilst visiting the sick or the dying had once been seen as a human moral obligation, it was now increasingly recognized and accepted that people should stay away from houses or localities which were sites of infection. In Denmark and Norway and Northern Germany, this understanding of epidemic disease and of the behaviour needed to counter-act it was apparently beginning to spread early in the sixteenth century.¹⁰⁹ In 1525, the inhabitants of Åmot parish, an inland community in southeastern Norway, had clear notions of the communicability of epidemic disease by interpersonal contact and also by 'fomites' (i.e. objects touched or used by diseased persons). Thus they shied away from the contaminated rectory and refused to attend church services, they also accused the parson of leaving 'plague clothes' on the local track so as to infect poor people who were tempted to pick them up (accusations that were, almost certainly, grossly unfair).¹¹⁰ This new understanding only considerably later found expression in a series of administrative countermeasures which began in the early seventeenth century but only acquired real efficacy from 1625 when the government began to take an active role. In Norway, the last and territorially highly restricted plague epidemic occurred in 1654.¹¹¹ Nonetheless, the effects of this new understanding of the communicability of epidemic diseases can be identified in the early sixteenth century and were associated with nation-wide

¹⁰⁸ Hatcher, 'Understanding the Population History of England', p. 104.

¹⁰⁹ Benedictow, *Svartedauen og senere pestepidemier*, pp. 181–86.

¹¹⁰ Benedictow, *Svartedauen og senere pestepidemier*, pp. 179–81.

¹¹¹ Benedictow, *Svartedauen og senere pestepidemier*, pp. 243–44, 261–68, 281–83, 314–17, 322–24.

population growth from 1530 or perhaps rather about 1550,¹¹² a pattern similar to that identified in Slack's impressive monograph on these developments in Tudor and Stuart England. Nevertheless, the transition from a regime of high mortality (and correspondingly high fertility) was undoubtedly delayed by two other developments. Firstly, from the end of the fifteenth century a number of new epidemic diseases, including exanthematic typhus and probably also small pox, syphilis, influenza and whooping cough, made their first appearances and caused serious mortality.¹¹³ Secondly, the strong growth in international trade by ship commencing at about the same time seems to have increased immensely the spread of infection all across Europe.¹¹⁴

The use of the term 'late medieval demography' implies that the demography of this period is a distinct sub-phase of the medieval demographic system, one characterized by an increased level of mortality which could not be balanced by fertility and so produced a characteristically declining population, but also by being a final phase in which the original system faded out and was increasingly replaced by a new demographic system, that of the early modern period. Due to the effects of the Black Death and later recurrent plague epidemics, European populations generally fell precipitously, and around 1400 entered a phase characterized by frequent violent upsurges of mortality and long-term slow decline but also witnessed demographic adaptive responses. In a medieval demographic system characterized by a usual age at marriage for women in the range of ages fifteen to twenty, the age at marriage in this sub-period would tend to sink towards the lower reaches of that range, resulting in increased fertility in the face of increased mortality and an increased incidence of women dying before having completed their child production. In the preceding period, from about the last decades of the thirteenth century to the advent of the Black Death, there is strong evidence of increasing Malthusian pressures in many areas and regions of

¹¹² Benedictow, *Svartedauen og senere pestepidemier*, pp. 169–75, 179–80.

¹¹³ See, for example, Zinsser, *Rats, Lice and History*, pp. 71–76, 241–53, 278–79; Copeman, *Doctors and Disease in Tudor Times*, pp. 127–28; Cartwright, *A Social History of Medicine*, pp. 76–78; Snyder, 'Typhus Fever Rickettsiae', pp. 1059–60; Greenwood, *Epidemics and Crowd-Diseases*, pp. 172–74, 227; Ackerknecht, *Geschichte und Geographie der wichtigsten Krankheiten*, p. 67.

¹¹⁴ In Norway, this is reflected in a great increase in importation of plague from England, the rhythm of outbreaks being much the same as in England and the ports of introduction being those most visited by English ships buying or bartering with corn or farina timber, deals, and other wooden wares. More generally, England can be seen to have played a pivotal role in the spread of plague in the northerly parts of Europe which reflects this country's rapidly growing status as a European power house of shipping and commercial activities, rivalled by the Dutch from around 1600. Benedictow, *Svartedauen og senere pestepidemier*, pp. 102–11, 129–43.

Europe: all usable land with the prevailing agricultural techniques had been taken up and a considerable part of the rural population was surplus to the economy. This was a time witnessing a growing agricultural proletariat of cottagers, sub-tenants, and day-labourers and also of urban proletarians, people who were seriously exposed to poor harvests, and generally straitened circumstances. This meant that under-nutrition, malnutrition and bouts of starvation would increase the general mortality level and also the susceptibility to infectious diseases so that life expectancy was sagging, the age of marriage was increasing and there was a growth in the number of people who never married, producing a long-term tendency of stationary or slightly falling population. The Black Death cleared the way for surviving young people to enter the many vacant tenancies and they married in droves, a feature observed also in relation to the next big plague. However, the plague epidemics combined with the existing array of established infectious diseases to create persistent levels of high mortality which wiped out the effects of increased fertility and reduced the population to a level well below that required by a Malthusian check which would bring the size of population in line with agricultural output. Nevertheless, even within the era of the plague, the main demographic structures retained a distinctly medieval character. Some of these features were preserved longer in southern and eastern Europe which were not yet undergoing the processes of modernization which increasingly characterized northwestern Europe in the early modern period.

In England (as in Norway) it is, as we saw above, doubtful whether the population underwent any long-term increase from its late medieval nadir before 1530 or perhaps even the mid-sixteenth century, a take-off which heralded the start of a new historical period, a new social formation and a new demographic system.¹¹⁵ This perspective confirms or accords with Hatcher's emphasis on the importance of infectious diseases, the variability of pathogens, vectors and carriers of disease and other 'non-economic factors'. It also underlines the importance of applying superordinate sociological categories of analysis, the status of demography as a social structure interacting with and interdependent on other main social structures (variables) like economy, social-class relations, politics, culture, religion and thus the specificity of the workings of specific social formations argued above. As late as 1541–65, rates of mortality, marriage and fertility in England were much higher and the proportion never marrying extremely low compared with the rates in the following centuries.¹¹⁶

¹¹⁵ Hatcher, 'Understanding the Population History of England', p. 96; Benedictow, *Svartedauen og senere pestepidemier*, pp. 129–86; Noordegraaf and Valk, *De Gave Gods*, pp. 43–92, 224–32.

¹¹⁶ Wrigley and Schofield, *The Population History of England*, pp. 260, 172.

At one point, in describing the demographic structures of the sixteenth century prior to 1565, Wrigley and Schofield appear to be on the verge of acknowledging these facts and of recognizing the existence of a late medieval high-pressure model of population which was subsequently replaced with the characteristic structures of a low-pressure model: ‘The impression left by the sixteenth-century evidence is of a population with a great potential for growth which was realized if high rates of mortality did not intervene. The violent and frequent upsurges in the number of deaths recorded before 1565 look as if they may have been the last throes of a late medieval regime of widespread epidemic mortality which, when they subsided in a twenty-year period of calm lasting from 1565 to 1584, allowed a strong underlying rate of natural increase to break through into the light of day.’ They then go on to describe a new adaptation between mortality and fertility at lower levels.¹¹⁷ In his critique of Wrigley and Schofield’s view on the demography of the later fifteenth and sixteenth centuries Hatcher concludes:

when the mortality experience is combined with the elevated and oscillating fertility and the virtual universality of marriage revealed in the first four decades of parochial registration, there can be no doubt that Wrigley and Schofield’s ‘low-pressure’ system was not in place before the 1580s at the earliest.¹¹⁸

As the gun smoke of academic controversy drifts away from the battlefield, we can thus see the emergence of a broad consensus on the demographic systems and developments of the medieval and early modern periods and on the processes which led to the transition between them.

¹¹⁷ Wrigley and Schofield, *The Population History of England*, pp. 178–79.

¹¹⁸ Hatcher, ‘Understanding the Population History of England’, p. 104.

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MEASURING ADULT MORTALITY IN AN AGE OF PLAGUE: ENGLAND, 1349–1540

Richard M. Smith*

The two centuries which followed the Black Death of 1348–9 constitute one of the most intriguing periods in the history of population.¹

So wrote John Hatcher in his Economic History Society pamphlet that continues to be one of the best synthetic assessments of the demography and economic correlates of demographic change in the period from 1348 to 1530. This pamphlet was published in 1977 and since then John Hatcher has made a sequence of extremely important and imaginative contributions to the study of the Black Death and its consequences. From the perspective of historical demography he has contributed in major ways to the particularly intractable issue concerning the measurement of mortality processes in the period *c.* 1390–1530. In this paper an attempt will be made to locate John Hatcher's contribution to the larger subject of the mortality attributes of pre-industrial society, with particular reference to the specific issues surrounding the characteristics of late medieval monastic populations. It will be necessary initially to situate John's contribution within the framework set by Michael Postan, with whom John interacted closely in his early years in Cambridge and for whom population change was central to the explanation of economic change, but who himself published relatively little that was directly demographic in his exploitation of primary evidence.

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¹ Hatcher, *Plague, Population, and the English Economy*, p. 11.

It is now sixty years since Postan wrote what became a classic essay on the economic manifestations of demographic decline in the late fourteenth and fifteenth centuries.² His concern was largely directed to the rural sector and he dealt with population in two ways. First, he wished to question the opinions of historians such as Rogers, Levett, Kosminsky, and Clapham who had argued that the demographic losses of the mid-fourteenth century, which in the short term had been disruptive, were not sustained or intensified thereafter. For instance, he quoted from Sir John Clapham's highly influential *Concise Economic History of Britain* which had been published in the same year using the following passage.

An opinion often expressed, which is perhaps near the truth, is that the population of England and Wales doubled between 1100 and 1300; fell sharply with the pestilence; and rose again to about its former maximum by 1500.³

Postan's 1949 article (published in 1950) also reflected on Josiah Russell's then newly published *British Medieval Population*.⁴ He wrote approvingly of Russell's use of evidence and the formal application of demographic methods to such sources which he regarded as having 'demonstrated the expansion of population between the eleventh century and the middle of the thirteenth, and the decline of population for some time thereafter'.⁵ He devoted a small part of this section of the article to a review of various problems associated with the sources that Russell employed and remarks that although medieval England was endowed with 'evidence capable of yielding demographic measurements to an extent undreamed of abroad', there was still no 'way of directly estimating the total population after 1377'.⁶ While he did not attempt to enter the field of demography to grapple with this problem, from the perspective of agricultural history he left us a rich legacy of ways of addressing this matter indirectly.

When Postan wrote in 1949 that 'nothing short of frequent census or census-like enumerations would make it possible to reveal the long-term changes in population levels and also to measure the rates of change',⁷ he was indubitably correct and no source has since been discovered with such qualities that effectively fills the void between the Poll Tax of 1377 and the onset set of parochial registration

² Postan, 'Some Economic Evidence of Declining Population'.

³ Clapham, *A Concise Economic History of Britain*, pp. 77–78.

⁴ Russell, *British Medieval Population*.

⁵ Postan, 'Some Economic Evidence of Declining Population', p. 224.

⁶ Postan, 'Some Economic Evidence of Declining Population', p. 223.

⁷ Postan, 'Some Economic Evidence of Declining Population', p. 222.

of baptisms, marriages and burials after 1537, notwithstanding some potentially useful inferences that can be drawn from the 1524–25 lay subsidies.⁸ It remains as true today as it did in 1949 that we have few means of charting the precise or even approximate chronology of change in national population numbers from 1377 to 1537. What progress in this broad area has been made may be supposed limited by comparison with the achievements that economic historians have secured in their reconstructions of long-term secular trends and intermediate cycles in various branches of the fifteenth century economy.

In more expansive mood, when writing his overview of English agrarian history in the first volume of the revised edition of the *Cambridge Economic History of Europe*, Postan reflected on the role of plague in determining both demographic decline and continued stagnation in the fifteenth century, although he was willing to entertain the possibility of greater buoyancy, perhaps renewed growth, after 1470. It is in this article that he also hints at the possibility that the productive capacity of the land may have taken more than a century to recover after earlier impoverishment of soil fertility. He was also ready to acknowledge that in some places signs of renewed growth may not have been fully identifiable until the early decades of the sixteenth century and was firm in his belief that the early sixteenth-century national population total was still well below its thirteenth-century peak.⁹ Postan did not comment on the size of the early Tudor population in relation to that of 1377. There is now a consensus that notwithstanding the difficulties of estimating a national population total based on the 1,386,196 tax payers in 1377, those numbers formed a demographic base most likely substantially greater than that from which the lay subsidies of the 1520s were collected, almost a century and a half later. Estimates of national population in 1377 ranging from 2.2 to 3 million may be compared with Roger Schofield's calculations of an English population based upon the muster rolls of 1522 and the lay subsidies of 1524–25 of c. 2.2 million.¹⁰ There are, of course, significant margins of error around all of these estimates but the balance of probability, as

⁸ For a recent and exceptionally important consideration of lay subsidy evidence that assesses the urban share of the late medieval English population and also has much to say about relative population sizes in 1377 and 1524–25, see Rigby, 'Urban Population in Late Medieval England'.

⁹ Postan, 'Medieval Agrarian Society in its Prime'.

¹⁰ Wrigley and Schofield, *The Population History of England*, pp. 563–69. For another estimate suggesting an even lower population total in 1524–25, see Campbell, 'The Population of Early Tudor England'. A comprehensive review of recent attempts to chart population change between 1377 and the 1520s is to be found in Rigby, 'Urban Population in Late Medieval England', pp. 396–97.

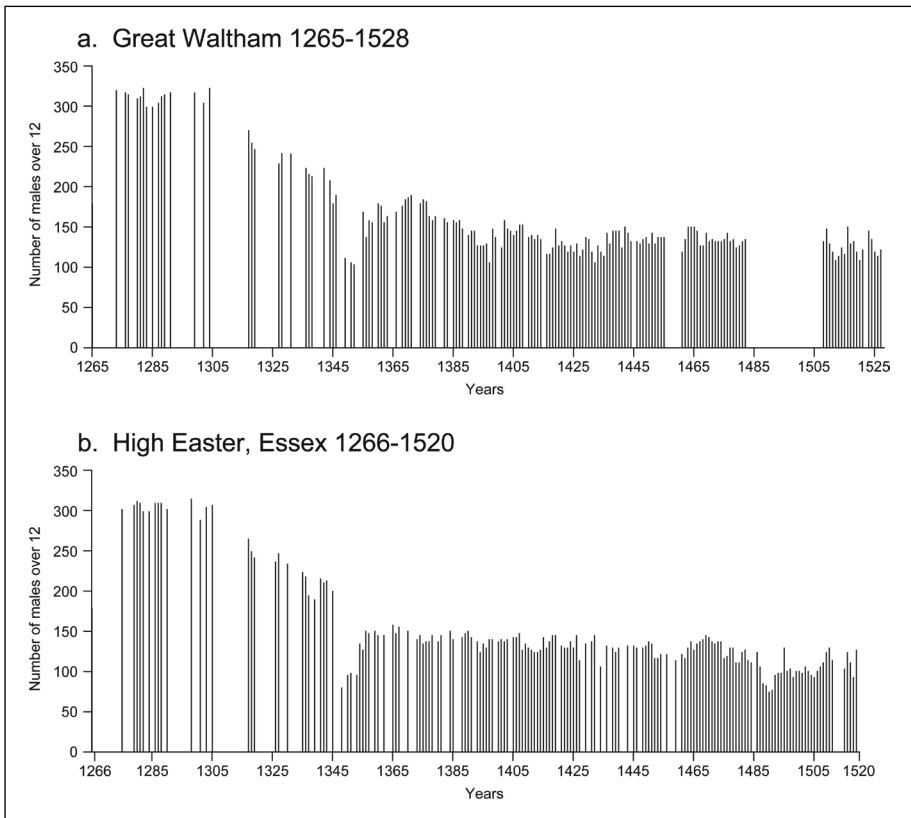


Figure 1. Males over the age of twelve in two Essex manors, c. 1270–1530

Source: Poos, *A Rural Society after the Black Death*, p. 96.

John Hatcher has very recently emphasized, points to an early sixteenth-century population that was still well below that of the late fourteenth century.¹¹ Of course, there is little evidence that has been marshalled in the last sixty years to establish when the lowest point within the cycle of decline and subsequent recovery was reached. Evidence from counts of males (over the age of twelve) in tithing from a relatively large number of Essex manors suggests little sign of growth before 1520.¹² (fig. 1) The stability of the very low numbers on these Essex manors through much of the fifteenth century is perplexing, although similar

¹¹ Hatcher, Piper, and Stone, 'Monastic Mortality'.

¹² Poos, *A Rural Society after the Black Death*, pp. 91–110.

patterns are suggested from various East Sussex and Wealden sources.¹³ Such observations are supportive of earlier work by Ian Blanchard who argued for indications of demographic recovery in one area of the North of England being delayed until well into the sixteenth century.¹⁴ The Essex data, do appear to be reasonably reliable (at least in the early sixteenth century) since the numbers of events, and rates of growth displayed after 1537 by the parish registers of these same communities are fully compatible with the estimates of population sizes shown in the tithing counts at similar dates.¹⁵

The debate about the proximate demographic factors driving national trends is guaranteed to excite interest since, as Hatcher stressed in 1977, the depth of the demographic decline and its duration seem hard to reconcile with notions of dynamic equilibrium and homeostasis that some would see as central notions within Malthusian theory, given that real wages appear to have risen for a great deal of the period and yet population sagged to a level similar to that of eleventh-century England.¹⁶ This issue is of added interest given the extent to which Malthusian notions have been regarded in certain quarters as central to an understanding of early modern English demographic behaviour, although it should be stressed that this emphasis derives more specifically from the perspective of nuptial behaviour than underlying life expectancy.¹⁷ Comparisons, however, are difficult given the dearth of demographic data that might be thought to match those that derive from the so-called parish register era of demographic measurement from *c.* 1537 to 1837. Since Russell's pioneering work there have been relatively few studies that have succeeded in generating demographic measures that might be seen as robust enough for direct comparison with the more firmly grounded findings from the early modern period from post-1540 parish registers. In fact, most of the work that can be so categorized relates to measurements of mortality and John Hatcher's work and that by Barbara Harvey which was much influenced by Hatcher's initial endeavours form the most robust of these calculations.¹⁸ Careful research has enabled a consensus to emerge on the scale of the mortality and the

¹³ *The Agrarian History of England and Wales*, ed. by Finberg and Thirsk, III, ed. by Miller, pp. 127–28.

¹⁴ Blanchard, 'Population Change, Enclosure'.

¹⁵ Poos, *A Rural Society after the Black Death*, pp. 109–10.

¹⁶ Hatcher, *Plague, Population, and the English Economy*, pp. 72–73.

¹⁷ Wrigley and Schofield, *The Population History of England*, especially chap. 10, pp. xxi–xxiv and 421–31.

¹⁸ Hatcher, 'Mortality in the Fifteenth Century'; Hatcher, Piper, and Stone, 'Monastic Mortality'; and Harvey, *Living and Dying in England*.

resulting short-term population losses over the course of 1348 and 1349, but this paper will not be concerned with that subject. Mortality-focused research on early modern England has proceeded and has reached conceptually quite sophisticated heights in recent years. In particular there has emerged a school of thought which has begun to consider mortality regimes in that era in terms of outcomes which view mortality rates and trends as the resolution of tensions deriving, on the one hand, from the changing incidence of exposure to infection, and resistance to infection on the other.¹⁹ Furthermore, some historical demographers have become less tolerant of the idea that mortality changes should be regarded as primarily autonomous of human agency with society largely a passive victim of the waxing and waning of infectious disease.²⁰ The latter approach had developed as a particularly powerful and persuasive paradigm in the 1970s and early 1980s, largely as a result of finding that grain price and real wage variation proved such poor ‘malthusian’ predictors of death rates in the early modern period.²¹ Late fourteenth- and fifteenth-century England provided further justification for such a preference, since many would see no better example of exogenously determined high mortality in an economic context of high relative *per capita* prosperity.²²

Particularly relevant to any consideration of fifteenth-century developments in mortality is the adoption by many scholars of the premise that there was a predictable, indeed a predictably positive, relationship between general mortality rates and the degree of instability or volatility displayed by annual counts of death totals. Furthermore we encounter another presumed-to-be-logical step in this style of reasoning which is exemplified by Michael Flinn who was ‘certain’ that mortality crises and their peaks ‘have been the principal regulating element in historical demography during the four or five centuries after the Black Death’, and by Carlo Cipolla who believed that ‘the intensity and frequency of the peaks controlled the size of agricultural societies.’²³ Consequently it has proved easy for some scholars to suppose that observable signs of population growth must be consonant with actual diminution in the volatility of annual death totals (even if no data bearing directly on the latter are available), and that a stabilization in

¹⁹ For example, Landers, ‘Historical Epidemiology’.

²⁰ Kunitz, ‘Speculations on the European Mortality Decline’; Landers, ‘From Colyton to Waterloo’; Woods, ‘Medical and Demographic History’.

²¹ Chamber, *Population, Economy, and Society*, ed. by Armstrong.

²² Livi-Bacci, *Population and Nutrition*, pp. 101–02.

²³ Flinn, ‘The Stabilization of Mortality’, p. 286; Cipolla, *The Economic History of World Population*, p. 77.

death rates or a damping down of their annual variance will be a development capable, in isolation, of causing demographic growth (even if measurements relating to population size are not available to support such a proposition).

Of course, a belief in long demographic waves which are thought to have displayed crests and troughs that were closely synchronized across both space and time has been a major plank in the arguments of those who might be termed 'exogenists'.²⁴ However such synchronism proved to be more credible in an era when careful empirical research on such matters was lacking and scholars all too readily employed indirect indicators as substitutes for 'purer' demographic data. As we gain access to greater quantities of regionally specific demographic data the less readily can we propose the existence of pan-European demographic waves with tightly matched starting-, finishing- and mid-points. Although most scholars would wish the proposition to stand that in England the Black Death initiated a new epidemiological regime, it is not entirely clear that it initiated a demographic cycle. No historian familiar with the European evidence would wish to deny the significant demographic decline experienced over the century following the start of the second pandemic. However, the growth of evidence in the last two decades would hardly indicate that demographic low points and recovery phases were well matched across Europe. Certainly Karl Helleiner's cautious remark that 'the rise of the secular demographic trend in some European countries after the middle of the fifteenth, and its prominent upswing in all of them during the better part of the sixteenth century' does not imply that those developments be regarded as part of a *unitary process*.²⁵

Our best local evidence in England points to a degree of demographic decline of a quite significant order in the two generations prior to 1349 and yields little sign of sustained 'upswing' until well into the sixteenth century. In fact, as noted above, our data lead us to accept the existence in the 1520s and 1540s of national populations that were respectively *c.* 2.2 and *c.* 2.8 millions, still thirty and fifteen per cent lower than the three million persons many see as living in England in 1377. It does indeed appear that England, and possibly other nearby northwest European contexts, were considerably more sluggish than some other parts of Europe, especially those in the southern regions of the continent, in exhibiting both renewed and sustained demographic growth. The English population in the

²⁴ For a powerful recent demonstration of this style of reasoning with remarkable data sets in his Tawney Lecture to the Economic History Society in 2008, see Campbell, 'Nature as Historical Protagonist'.

²⁵ Helleiner, 'The Population of Europe from the Black Death', p. 71.

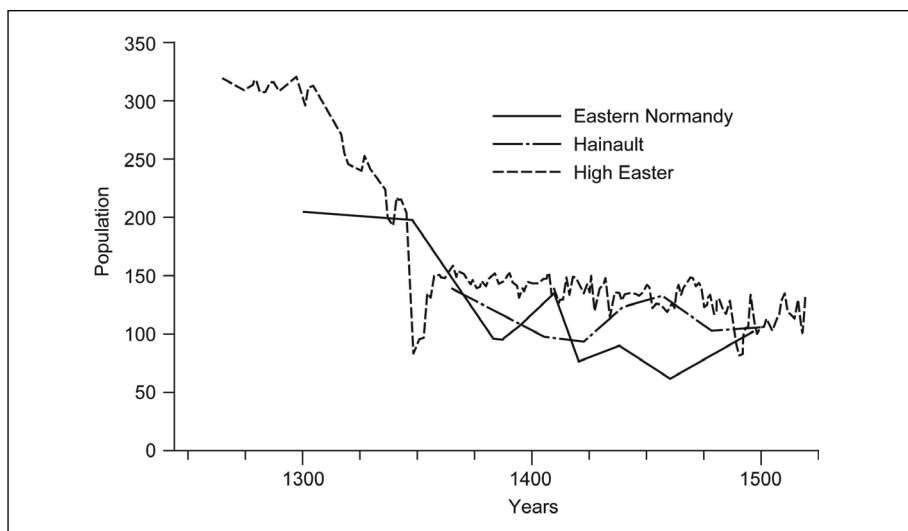


Figure 2. Some series of rural population levels from the fifteenth century
 Source: Poos, 'The Historical Demography of Renaissance Europe', p. 752.

first quarter of the sixteenth century was perhaps no more than forty per cent of its size in 1300.²⁶ Figure 2 illustrates this point by displaying three series of population estimates for rural populations during the later fourteenth and fifteenth centuries. The data are: males aged twelve and older and resident within the large rural community of High Easter in Essex (England), drawn from the fiscal record of *per capita* payments at the annual meeting of the local court; estimates at several points in time of numbers of hearths in the county of Hainault in the Low Countries, drawn from local hearth censuses; and Guy Bois's estimate of the population of eastern Normandy, drawn mainly from *monnéage* or hearth-tax rolls. All these series are displayed in Figure 2 as indices, with the level of each series in 1500 being set at the index baseline of 100, because of the very different absolute levels of population under study. Each source has its own array of qualifications and considerations of interpretation, but all seem fairly firm as bases for general changes in levels over time. Comparing the series in this way reveals some common characteristics.²⁷ By and large all three series imply either stationary or declining local populations through much of the fifteenth century (there is some suggestion

²⁶ Smith, 'Plagues and Peoples'.

²⁷ Data presented in Poos, 'The Historical Demography of Renaissance Europe'.

that Normandy may be showing some sign of growth toward the end of the fifteenth century), and in all three cases there was considerable fluctuation around trend as would be expected from small, locally based population series.

The relative uniformity of experience revealed by these data is intriguing and comparisons with evidence from areas further south in Europe raise interesting questions. For instance, being better endowed than England with cross-sectional taxation sources that survive to offer 'snap-shots' at fairly frequent intervals, Tuscany provides us with evidence to chart the course of population change from 1427 to 1551. While in the countryside or *contado* of Prato, for instance, population had fallen perhaps to one-third of its early fourteenth-century size in 1427, by 1551 the rural population had grown a further eighty per cent from 1427. Comparable population losses were encountered in the Florentine *contado* which in 1427 had a population that stood at two-thirds of its pre-Black Death size. Here, too, growth was markedly evident after 1460, with an estimated mean annual growth rate of between 0.6 and 0.8 per cent from 1469 to 1552, notwithstanding the effects of severe epidemics in the 1520s. Tuscan growth rates have been considered low when compared with those found in Sicily where the population expanded at rates closer to one per cent *per annum* over approximately the same period. The late Larry Epstein remarked perceptively that high rates of demographic growth after 1450 were 'not unusual for the Mediterranean regions'. Calculations concerning population change in Provence suggest mean annual growth rates well in excess of one per cent *per annum* between 1471 and 1540.²⁸ These are trends that this area seems to share with the Rhone valley and the area around Lyon that has been studied by Marie-Therèse Lorcin using, it should be stressed, the somewhat problematic measure of the replacement rate.²⁹ In this region of south-central France in the period 1340–80 nearly sixty-three per cent of testators mention no children whatsoever and the average number of children per will-maker is 2.6. In the period 1460–1501 the comparable values had risen and fallen respectively to twenty per cent and 5.3 children, indicative of a situation very favourable to demographic growth.

It is perhaps worthy of comment that in the context of a consideration of demographic patterns in mid-late fifteenth-century East Anglia, Robert Gottfried has made a somewhat strained case for demographic growth based on the fact that a sample of will makers from that area shows a small decline in son-less testators from 57.9 per cent in 1430–80 to 51.0 per cent in the period

²⁸ Epstein, 'Cities, Regions and the Late Medieval Crisis'.

²⁹ Lorcin, *Vivre et mourir en Lyonnais*.

1480–87.³⁰ Such figures closely resemble those assembled by Paul Glennie for London will-makers over the same period although in neither case can they stand comparison with the magnitude of change revealed in Lorcin's evidence.³¹ Such data in both English and French contexts, it should be stressed, are highly ambiguous and apart from being afflicted by the problem of omission they are a composite demographic statistic dependent upon forces impacting on *both* fertility and mortality. It would only be acceptable to compare these differing measures of actual and potential demographic growth for the purposes of understanding relative levels of mortality if it could be assumed that fertility was invariant across these societies, which is, of course, an unreal assumption.

While such points as these raise doubts about the wisdom of using population levels and growth rates in isolation to sustain an argument about epidemiological change, such data cannot, of course, be exploited as substitutes for the epidemiological evidence we would ideally wish to possess. Epidemic outbreaks, their intensity, periodicity and spatial extensiveness have been asked to bear a heavy load in the argument in the absence of demographic data on mortality. Measurements of these features of mortality crises have given rise to considerable debate and discord within the scholarly community of medievalists. Mid-twentieth-century opinion, particularly that of Russell and Bean, placed the onset of demographic recovery before 1450, arguing that by this date there had been a lessening in the frequency of plague outbreaks.³² Bean claimed that after the late fourteenth century a decline in the incidence of national mortality crises occurred, particularly those associated with plague epidemics. The historical technique he employed to make this case was questionable in so far as he focused on chroniclers whose recording of epidemics was far from comprehensive, let alone reliable. Furthermore, it was a reliability and comprehensiveness that as John Hatcher emphasizes, declined as the genre became less concerned with national matters and more preoccupied with local affairs which invalidates their use for an estimation of the incidence of 'national' epidemics. Furthermore, Bean was almost certainly in error in assuming that crises had to have a national presence to have any impact on national mortality rates. John Hatcher made a damaging indictment of Bean's position in 1977 when he drew attention to the presence of serious plague outbreaks in Christ Church Priory Canterbury in fourteen of the years between 1413 and 1507, only four of which coincided with epidemics

³⁰ Gottfried, 'Population, Plague, and the Sweating Sickness'.

³¹ Glennie, 'A Commercializing Agrarian Region'.

³² Russell, *British Medieval Population*, pp. 270–81; Bean, 'Plague, Population and Economic Decline'.

defined as 'national' and which accounted for only twenty per cent of the deaths identified by contemporaries as the result of plague in the monastic community over the period. In fact, in his Economic History Society pamphlet Hatcher contended that in the century after 1377 England experienced at least fifteen outbreaks of plague and/or other epidemic diseases of national or extra-regional proportions. He also argued that the mortality rates may have eased appreciably from time to time in the later fifteenth century and that a lengthening of gaps between major plague outbreaks may have been reflected in some abating of the frequency and virulence of local outbreaks.³³ He certainly adopted a cautious tone and admitted that, given what is known of epidemic periodicities and mortality rates in the early sixteenth century, any late-fifteenth-century respite may have been halted.

It was not until the late 1970s that we encounter the publication of the first of a series of attempts to provide a quantified treatment of crisis mortality in later medieval England. In 1964 Sylvia Thrupp had led the way in demonstrating the possible potential of late medieval probate records for demographic purposes.³⁴ Robert Gottfried, who was a graduate student of Thrupp, completed in the mid-1970s a doctoral thesis that was published virtually unchanged in 1978.³⁵ It was based upon an analysis of marginally more than 20,000 wills from Norfolk, Suffolk, Hertfordshire and London from 1430–80. In this work he appears to show that graphs made from the raw totals of probated wills peaked during the periods of epidemic disease reported in the narrative sources. Gottfried also wished to argue for plague's endemicity in the populations of eastern England as a result of his consideration of the frequency and spread of 'crisis mortalities'. 'Crises' according to the definition adopted by Gottfried occurred in quarters of the year with three or more times the community's quarterly mean number of testate and intestate deaths. On this basis Gottfried claimed that 'at any one time or another in the two hundred seasonal quarters in the years between 1430 and 1480 over fifteen per cent of the several hundred parishes in question experienced at least a single quarter of excess mortality'.³⁶ In a separate study Gottfried extended his analysis to the decade 1480–89 and believes that on the basis of an observed decline in autumn deaths (September, October, and November) and a growth in the relative importance of spring deaths (March, April, and May) in

³³ Hatcher, *Plague, Population, and the English Economy*, pp. 15–19.

³⁴ Thrupp, 'Problem of Replacement-Rates'.

³⁵ Gottfried, *Epidemic Disease in Fifteenth Century England*.

³⁶ Gottfried, *Epidemic Disease in Fifteenth Century England*, p. 129.

the 1480s, following a particularly severe plague epidemic in 1479–80, a significant diminution in plague deaths takes place. In this study he also insisted that the Sweat made very little impact on mortality patterns in East Anglia in 1485. Gottfried, as noted above, was inclined to draw attention to significant demographic stirrings in this region in the 1470s, based upon a slight rise in replacement ratios of male testators, although he wishes to emphasize the contribution of fertility rather than mortality to this development.³⁷ This is not the place to review the plausibility of that aspect of Gottfried's analysis, since the focus is on his views on epidemiological shifts in the 1480s.

Soon after Gottfried's work had been published Paul Glennie in his Cambridge doctoral thesis devoted considerable space to a study of mortality patterns as reflected in the wills of residents of late medieval London and Hertfordshire.³⁸ Unlike Gottfried, Glennie did not terminate his research in the 1480s but, exhibiting great energy, extended it to include a large swathe of the sixteenth century which also enabled him, in the case of Hertfordshire, to graft burial counts from parish registers on to his will series. Glennie observed a very good fit between pestilential episodes noted by chroniclers and other literary sources and the noteworthy peaks in probate series. In fact, there were few periods of as short as a decade in which London and the adjacent county of Hertfordshire were not sufficiently affected by some epidemics to produce a significant increase in totals of probated wills. To judge from the proportions of wills in the summer and autumn quarters plague seems to have been a major factor. No evident decline in the late summer/autumn peaks occurs in Glennie's evidence over the whole period, nor does he believe that there is any reason to share Gottfried's optimism regarding a declining frequency in epidemic occurrences or virulence since, in the early sixteenth century, mortality, based on annual will-counts manifests an instability that is indistinguishable from that apparent in the previous century.

Another venture that grapples with death periodicities using probated wills concerns a sample of 10,000 wills drawn from the diocesan Exchequer Court of York from the early fifteenth to early sixteenth century by Jeremy Goldberg. These wills relate to individuals ordinarily resident in the counties of Yorkshire and Nottinghamshire, although York residents loom large and most likely constitute a declining proportion of the sample over time.³⁹ As Glennie also showed,

³⁷ Gottfried, 'Population, Plague, and the Sweating Sickness'.

³⁸ Glennie, 'A Commercializing Agrarian Region'.

³⁹ Goldberg, 'Mortality and Economic Change in the Diocese of York'.

Goldberg identifies a strong link between years with conspicuously large numbers of deaths in those years that coincide closely with chronicle evidence for disease. Noteworthy years such as 1391, 1438, 1458–59, 1467, 1471–72, and 1479 are also years that Glennie or Gottfried have highlighted as experiencing crises and which John Hatcher had so defined without resort to quantitative analysis of will registers, but from the annual surges of monastic deaths at Christ Church Priory.⁴⁰ Goldberg makes an effective case for the crises of 1391 and 1438 being strongly associated with dearth in the northern region within which his study is based. He does, however, acknowledge plague to be a likely culprit in the remaining years in the crisis sequence listed above. Like Gottfried he is struck by the limited evidence relating to ‘sweating sickness’ in 1485 and both scholars appear to have discovered a common growth in spring deaths relative to those in late summer and autumn after 1470. In fact, Goldberg reports that by the end of the period of his study in the early sixteenth century the seasonality of testator deaths is almost identical with that observed by Wrigley and Schofield in their parish-register based sample of 1540–99, in which late winter and early spring quarters experience a disproportionate share of deaths in any year.⁴¹ Goldberg also mentions an apparent decline in recorded deaths in the last two decades of the fifteenth century, although this was a pattern not sustained in the early decade of the sixteenth century when, as David Palliser has shown, York appears to experience its worst crises of the whole of the century.⁴² There are many features in Goldberg’s account of mortality patterns from the York wills that are shared with the East Anglian will-makers studied by Gottfried. Nonetheless, Goldberg appears to conclude that the early sixteenth century was marked by renewed short-term instability of mortality and in stressing this epidemiological feature he aligns himself with Glennie and Hatcher. It must be admitted that the failure by Gottfried to extend the analysis of East Anglian wills into the early sixteenth century leaves this study somewhat exposed if we are expected to conclude that a durable stabilization of mortality had been achieved in that region from the 1480s.

It is noteworthy that none of these studies we have discussed so far provided findings that relate directly to the issue of the spatial character of plague epidemic patterns other than to draw attention to the incidence of crises that were both national and extra-regional and those that were peculiarly local. We encounter no discussion of the point made by Charles Creighton in 1891 that

⁴⁰ Hatcher, ‘Mortality in the Fifteenth Century’, pp. 25–27.

⁴¹ Wrigley and Schofield, *The Population History of England*, pp. 293–95.

⁴² Palliser, ‘Epidemics in Tudor York’.

after the mid-fifteenth century plague 'was seldom universal' and became 'more and more a disease of the towns' and that when it did occur in the countryside it was 'for the most part at some few and limited spots'.⁴³ Paul Slack emerges to date as the only author to confront this issue systematically in research which makes use both of wills in the period from 1485 through to 1538 and parish registers thereafter. Slack, it seems, does accept Creighton's proposition that in the late fifteenth century the geographical range of plague epidemics was narrowing notwithstanding the case he makes for plague being more widely and evenly distributed across rural areas before 1550 than thereafter. Since he addresses this problem solely with reference to evidence extracted from parish registers after 1538 he is, therefore, forced to recognize that the increasing quantity of evidence as the sixteenth century progresses creates difficulties for any analysis intended to draw confident contrasts between the early and later parts of the sixteenth century.⁴⁴ Such a research procedure surely makes it even more difficult to assess the situation in the later fifteenth century. However, in a fascinating case-study of Devon (regrettably not undertaken for other counties) Slack shows that a plague epidemic in 1546–47 was widespread in its incidence within the county, affecting twenty six of the thirty-three parishes with extant registers, in which twenty of the twenty-six communities experienced at least a doubling of burial totals. Slack even ventures the suggestion that the plague of Devon in 1546–47 may be regarded as a late example of generalized outbreaks of plague which had previously been more common. In addition to making the case for a greater incidence of rural plague in the early sixteenth century he also presents some compelling evidence to suggest that prior to 1560 plague and dearth were more frequently associated and that later in the century the two causes of crisis mortality were far less likely to conjoin, thereby making it easier to distinguish one from the other. Furthermore, as plague also became increasingly confined to towns, their poorer quarters came disproportionately to experience it. It is possible to read Slack's very carefully structured and, for the most part, cautiously presented research to suggest that narrowing of plague's geographical range was *not* a development occurring in the fifteenth century but was a transformation that occurred later in the sixteenth century when a minority rather than a majority of villagers were likely to encounter it during a life-time.⁴⁵

Consequently, it is not without significance that Wrigley and Schofield noted that the 1540s and 1550s experienced crisis-mortality rates respectively of

⁴³ Creighton, *A History of Epidemics in Britain*, pp. 340–57.

⁴⁴ Slack, *The Impact of Plague*, pp. 59–63.

⁴⁵ Slack, *The Impact of Plague*, pp. 83–110.

15 per thousand and 27.7 per thousand months compared with rates of only 5.5 and 8.1 per thousand respectively for the 1560s and 1570s.⁴⁶ In fact Wrigley and Schofield might be interpreted as concurring with Slack when, in commenting on the first twenty years of their 330-year series they noted that 'the violent and frequent upsurges in the numbers of deaths recorded before 1565 look as if they may have been the last throes of a late medieval regime of widespread epidemic mortality'.⁴⁷ They are, however, more equivocal about the relationship between the spatial incidence of epidemic mortality and underlying positive movements away from trend on the part of the national crude death rate. Six of the forty-five national crises over the 330 years from 1541–1871 (defined as a year in which the crude death rate moved more than ten per cent above trend) occurred in the 1540s and 1550s. The two most striking crises of 1558–59 and 1557–58 when the crude death rate was 124.7 per cent and 60.5 per cent above trend also were distinguished as years when 39 and 32.5 per cent respectively of all parishes in observation experienced at least one month of crisis. However, the other years in the two decades when the crude death rate was between twelve and twenty-five per cent above trend showed no systematic relationship between severity of national crisis and proportion of parishes experiencing at least one crisis month. For instance, 1546–47 is perhaps an example of a year when mortality appears to have risen sharply in a number of places but the net impact on national death rates was somewhat muffled because the crises were of short duration and few places were affected. That year reveals a characteristic statistical patterning of crisis mortality, a combination of that we might associate with regionalized rural plague. We have earlier noted that Slack had identified 1546–47 in Devon as a year of plague throughout the county, in fact locally it was 'the most widespread crisis of the whole century between 1540 and 1640'. Nonetheless, the national death rate was that year ranked by Wrigley and Schofield only modestly in thirty-third place in the league table of forty-five 'crises'.⁴⁸

It is, however, unfortunate that notwithstanding the considerable expenditure of very worthy effort it has proved impossible to use data of the kind collected in the studies discussed above to investigate the relationship between annual instability of deaths and life expectancy at specific ages, to test that is, the proposition that the two variables were in the two post-Black Death centuries inversely related. Nevertheless, it is now possible, because of efforts of John Hatcher and Barbara Harvey, to point to three bodies of evidence that, for a sizeable stretch of the two

⁴⁶ Wrigley and Schofield, *The Population History of England*, p. 650.

⁴⁷ Wrigley and Schofield, *The Population History of England*, p. 335.

⁴⁸ Wrigley and Schofield, *The Population History of England*, p. 653.

centuries following the Black Death, do enable us to observe the movements in the two variables that measure the crude death rate and life expectancy at a specific age. John Hatcher has been the driving force in reconstructing the mortality history of two of these populations and in the process provided for Barbara Harvey for a point of comparison in a third.⁴⁹ The three 'populations' possessing sources from which such data can be extracted concern the monks of the three Benedictine houses of Westminster Abbey between 1390 and 1529, of Christ Church Priory, Canterbury between 1395 and 1505 and Durham Priory from 1395 to 1529. The evidence from Canterbury might be regarded as the prototypical source material first analysed by John Hatcher and a preliminary set of findings appeared in his pamphlet of 1977 with a longer and more detailed set of data provided in a paper that was published in 1986. It is no exaggeration to state that the latter study set new standards of demographic precision, being by some margin the most statistically controlled and sophisticated analysis of late medieval English evidence by that date to have appeared in print. This characteristic owes much to the care with which Hatcher extracted the evidence from the original sources and to the expert technical assistance he sought in its analysis, but above all it is to do with the way in which the sources from Canterbury permit the historian to specify the 'population at risk' in a fashion that sources such as wills, inquisitions post mortem and manorial court rolls rarely allow us to achieve. The same qualities distinguish the other data set which Barbara Harvey first revealed in her Ford Lectures at Oxford and subsequently published in 1993 and that which John Hatcher generated for Durham Priory in collaboration with David Stone and Alan Piper, with some assistance from Jim Oeppen, then of the Cambridge Group for the History of Population and Social Structure, who also collaborated with Harvey in the estimation of mortality parameters for the Westminster monks. There is no space in this discussion to reflect on the technical problems confronting the monastic sources used for this kind of demographic reconstruction. The community of monks in all three institutions was, of course, made up of males who were generally over the age of eighteen or twenty years. These are limitations with regard to age and sex that they share with those populations observable in the other sources that have been the object of demographic analysis such as probate sources, manorial court rolls, and inquisitions post mortem.

With regard to the three monastic populations we must first consider the evidence relating to volatility of mortality in all three institutions. The community of monks at Westminster contained approximately fifty individuals

⁴⁹ Harvey, *Living and Dying in England*, chap. 4. References to the articles by Hatcher and by Hatcher, Piper, and Stone are to be found in notes 11 and 18.

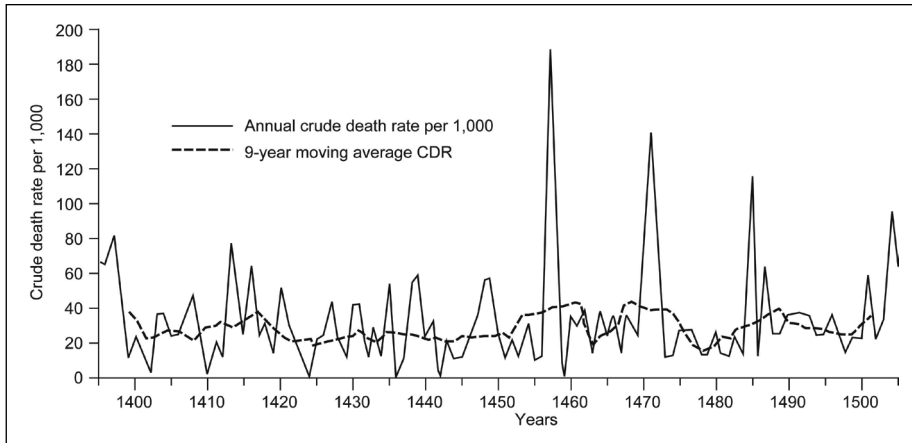


Figure 3. Death rates of monks in Christ Church, Canterbury, c. 1395–1505

Source: Hatcher, 'Mortality in the Fifteenth Century', p. 26.

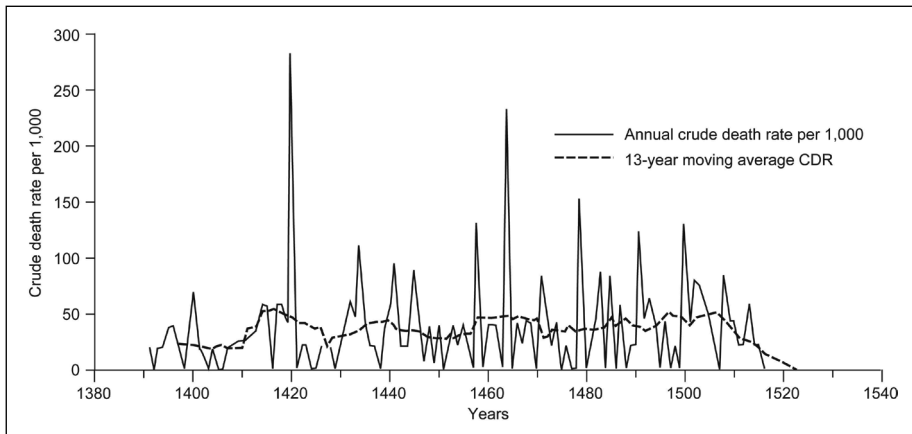


Figure 4. Death rates of monks in Westminster Abbey, c. 1390–c. 1525

Source: Harvey, *Living and Dying in England*, p. 126.

throughout the period, while that at Canterbury was somewhat larger, containing between seventy-five and ninety-five individuals, and was by English standards a rather sizeable monastic institution. Durham Priory had a population varying in size from sixty to eighty, of whom at any one time thirty could be residing in nine cells that were located in Finchale, Jarrow and Wearmouth in County Durham, Holy Island and Farne Island in Northumberland, Coldingham in Berwickshire, Lytham in Lancashire, Stamford in Lincolnshire, and Durham College, Oxford. In Figures 3 and 4 we are able to observe the death rate relating

to these populations of males over eighteen or twenty years of age. The graphs concerning both populations are unambiguously distinguished by death rates exhibiting noteworthy volatility from year to year. In both cases Hatcher and Harvey have adopted moving averages of crude death rates to smooth out year to year variations which are most likely to be statistical exaggerations because of the relatively small size of the populations at risk in each calendar year. Assuming that the age-structures of the two populations were not greatly different it would seem that the crude death rates in both communities were lower in the first half of the fifteenth century than in the second. In fact, the moving average swings between a rate of twenty and thirty per thousand for much of the earlier period at Canterbury and between thirty and forty per thousand at Westminster, and after 1450, the respective rates move up a notch for both communities to levels between thirty and forty per thousand at Canterbury and between forty and fifty per thousand at Westminster. While levels may have differed, a similar upward secular trend in death rates appears common to both populations. It is by no means easy to compare the year-to-year volatility of the death rates in the two populations since the authors of these studies have adopted different criteria in their attempts to define 'crisis mortalities'. John Hatcher sets his index of crisis mortality at forty per thousand and over, and on that basis observes that Christ Church Priory experienced mortality crises more than once every four years. Crude annual death rates of forty per thousand (see fig. 3) were exceeded seventeen times between 1395 and 1450 and ten times between 1450 and 1505. The earlier period clearly had a higher frequency of mortality surges than did the later period, although the crises after 1450 were distinguished by the striking peaks they displayed; rates of one hundred and eighty-nine per thousand in 1457, one hundred and thirty-nine per thousand in 1471, and one hundred and sixteen per thousand in 1485, the year of the 'Sweat', had no equivalents before 1450 at Canterbury. Barbara Harvey adopts a somewhat more demanding definition of 'crisis', alert to the fact that she is working with a smaller monastic community and a smaller 'population at risk' than Hatcher had at his disposal. Consequently she identifies as a crisis year any twelve-month period when the crude death rate is three times or more in excess of the thirteen-year moving average (i.e. for a considerable part of the period years in which the crude death rate reached or exceeded one hundred per thousand). On this basis Harvey identifies three years prior to 1450 and six years thereafter when mortality crises were being experienced (see fig. 4). She also identifies seven further years in which crude death rates were significantly above average, two of which fell before 1450 and five after that date.

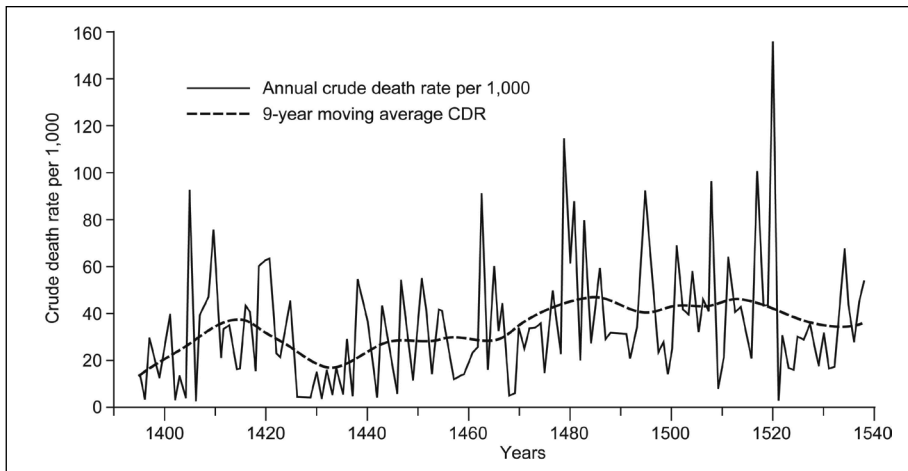


Figure 5. Death rates of Durham monks, 1395–1529

Source: Hatcher, Piper, and Stone, 'Monastic Mortality', p. 677.

There seems little doubt that at Westminster the frequency and intensity of mortality crises rose after 1450. In fact on the basis of these identifications the monastic community at Westminster prior to 1450 experienced a bad year once in every nine years, and afterwards, once in every five years. The majority of the very severe crises in both communities occur in the second rather than the first half of the fifteenth century. Westminster unambiguously, it seems, represents a community in which both frequency and intensity of severe crises move in unison and are clearly of a higher order in the second half of the century than the first. It appears that the experience of Durham was remarkably similar to that of Westminster and Canterbury (see fig. 5). Our faith in these findings is strengthened by the fact that as John Hatcher notes, in commenting on the year-to-year stability of mortality, 'in all three monasteries both annual and moving averages of crude death rates reveal high and volatile mortality, with a prolonged surge after mid-century'.⁵⁰ If annual death rates in these three communities were in any sense representative of wider trends in crude death rates and short-term instability of mortality amongst England's population, they would provide little comfort for those scholars who see an amelioration in the mortality climate as the fifteenth century progresses.

There are indeed notable overlaps between both houses in the years of greatly enhanced mortality; 1457, 1471, 1485, and the very early 1500s are years in which

⁵⁰ Hatcher, Piper, and Stone, 'Monastic Mortality', pp. 676–78.

both monastic communities experienced sharp rises in death rates. However, while three of these years, 1457, 1471, and 1485, are among the worst years at Westminster, they trail some way behind the crises that that Abbey's monks experienced in 1420 when the crude death rate moved to a level six times above the moving average and in 1464 when at five times above trend the crude death reached two hundred and thirty-two per thousand. However, while it is easy to point to epidemic years such as 1457/8 and 1471 which clearly were geographically widespread within England, in so far as they receive recognition in the literary sources and stand out in the will-based studies of Gottfried in East Anglia, Glennie in Hertfordshire and London, as well as Goldberg's more geographically detached population in Yorkshire and Nottinghamshire, there are equally noteworthy discrepancies. It is perhaps significant, and certainly interesting, that of the sixteen years of crisis identified by Barbara Harvey at Westminster, ten seem not to have been years of enhanced mortality in nearby London.⁵¹

The quality of the data collected by Hatcher and Harvey is such that they are able to estimate life expectancies at specified ages, a far more penetrating demographic measurement than the crude death rate which is always susceptible to the influences deriving from age structures in any community. Obviously, it is not possible to estimate expectations of life of monks on entry into these communities for the whole period, as observations can only be made on members of entry cohorts over their completed lives. In Figure 6 these estimates for all three communities are plotted in the form of overlapping entry cohorts and the trends they present can be compared over an extensive period of the fifteenth and early sixteenth centuries. There are differences in the underlying levels of life expectancy. It would appear that the higher crude death rates exhibited by Westminster monks is also reflected in their somewhat lower life expectancies at age twenty-five when compared with the Canterbury and Durham populations. Durham for the first fifty years of the series has life expectancy significantly above thirty years compared with the mid-twenties in Westminster. It seems clear that Westminster's close proximity to the largest urban centre of the country was a factor in creating this penalty and Durham's smallness of size and the site it occupied in the town gave it a health advantage, exacerbated perhaps by the fact that the monks there spent extended periods in small cells in relatively low density and isolated settings. Canterbury appears to have occupied an intermediate position as a monastic community in a city of between 4000 and 5000 inhabitants.

However, it is not the differences in level of life expectancy but the similarities in trends that should be noted. The Durham and Canterbury populations display

⁵¹ Harvey, *Living and Dying in England*, p. 126.

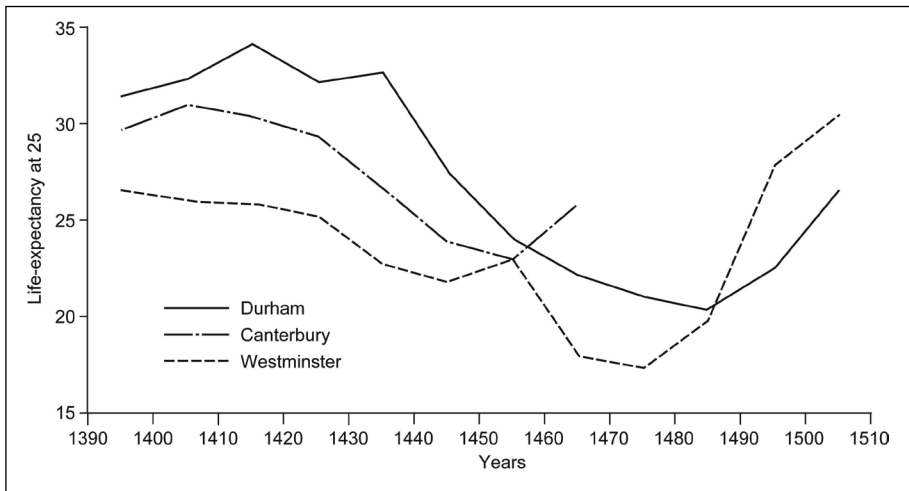


Figure 6. Life expectancy of monks at age twenty-five plotted at year of mean death
Source: Hatcher, Piper, and Stone, 'Monastic Mortality', p. 674.

entry cohorts in the early to mid-fifteenth century with expectations of life at age twenty-five of approximately thirty to thirty-four years. After 1450 both communities of monks in Canterbury and Westminster experience a sharp decline in life chances, to such an extent that the entry cohorts of the 1470s displayed life expectancies seven to eight years lower than did those at the beginning of the series in the 1420s. The decline in life chances at Durham begins somewhat later, but when it starts the deterioration is relatively greater there than elsewhere. Equally striking is the swift recovery in life expectancies exhibited by those males entering Westminster Abbey and Durham Priory as monks at the beginning of the sixteenth century. At Westminster by the 1530s expectation of life at age 20 (e_{20}) had returned to the point at which it stood a century earlier. It is worthy of note that over the whole period, however, the Westminster series reveals no net improvement in life expectancy. The situation at Canterbury cannot be fully compared with the other two Benedictine communities since the relevant data extend over a far shorter time period.

Unlike much of the work that we have earlier discussed that depends upon probate evidence, Hatcher's evidence from Canterbury, in particular, and Harvey's to a lesser extent from Westminster, give us an especially accurate specification of the seasonality of deaths. At Canterbury which benefits from obituary lists in which an extremely precise date (indeed time of death) is allocated to deaths, it is interesting to observe that the seasonality of deaths, which already possessed a

readily detectable excess in the summer and autumn months before 1450 moved further in that direction in the second half of the fifteenth century.⁵² We have already noted that Goldberg and Gottfried argued that the seasonal pattern of probated wills in East Anglia, Yorkshire, and Nottinghamshire was assuming a more noteworthy winter and early spring seasonal surplus in the later fifteenth century, although their will-based evidence is not strictly speaking susceptible to accurate dating of deaths. Harvey's evidence is harder to interpret as she is obliged to use indirect means of identifying the season of death within any one year. However, she too finds that the summer and autumn months experience a higher relative frequency of deaths than winter and spring quarters, a feature which is greatly accentuated in crisis years.

The Canterbury sources are particularly distinctive in providing a contemporary attribution of cause of death which clearly must be interpreted circumspectly. Nonetheless Hatcher is struck by the frequency with which plague is noted, a factor which is connected with the alteration to the funeral rites of suspected plague victims which were shortened and the corpse initially isolated and thereafter rapidly interred for fear of infection.⁵³ Hatcher reports that at least sixteen per cent (and most likely twenty per cent) of all deaths over the period from 1413 to 1507 appeared to be caused by plague. It is fortunate that after 1485 the Canterbury obituary book provides a particularly detailed and informative medical diagnosis such that the diseases of dying monks have been tabulated by Hatcher. Plague certainly looms large in the record and might well have loomed larger, if the crises of 1457 and 1471 had been covered by such a detailed obituary list. However, it is surely noteworthy that contemporaries identified tuberculosis and pulmonary afflictions as accounting for forty per cent of deaths at this period of enhanced mortality in the late fifteenth century which was a significantly greater share than attributed to plague.⁵⁴

Barbara Harvey has discovered no source of this type in the Westminster archive and has been obliged to content herself with rather different, but no less rewarding, evidence that provides some context to the condition under which monastic deaths occurred. She has shown considerable ingenuity in employing an unusually full class of record kept by the Westminster infirmarers who maintained an extensive account of the pittances or daily cash payments given to sick monks for each night that they spent in the infirmary. While it would obviously

⁵² Hatcher, 'Mortality in the Fifteenth Century', p. 26.

⁵³ Hatcher, 'Mortality in the Fifteenth Century', p. 29.

⁵⁴ Hatcher, 'Mortality in the Fifteenth Century', p. 30.

be unduly cavalier to treat such information as a robust index of morbidity, these accounts constitute a source which, if carefully employed, yields more than just a record of the infirmary's bed-management policy. They are, however, a record of in-patients and in that respect an incomplete statistical account of reported illness in the community. While it appears that a smaller proportion of the choir monks spent time in the infirmary from 1465–1528 than from 1375–1464, those that did so stayed longer. Barbara Harvey seems inclined to regard this development as indicative of the infirmary moving to treat fewer acute short-duration illnesses and to take greater responsibility for more chronic, long-duration conditions.⁵⁵ It is, of course, tempting to see a mixture of causes of death such as that revealed in the post-1485 obituary book at Canterbury as in some real sense compatible with the bed-occupancy patterns revealed by Harvey's analysis of the Westminster infirmary at the same period. In fact, in proceeding to measure the patient's period of stay in relation to outcome, whether through discharge or death, one might take this matter further. Unfortunately, the infirmary's accounts are far from being a continuous record and only are complete for two out of every three years of crisis mortality. They reveal that there was no common pattern to hospitalization in those years of very high mortality. For instance in 1458, a crisis year, most of those who died spent four to seven nights in the infirmary which seems compatible with a short-sharp illness such as plague which is reported extensively throughout the English regions (and at Canterbury) that year. In 1471 three of the four deaths followed stays by the deceased were of twenty-five, eighty-six, and one hundred and seven nights' duration and suggest that it would be unwise to identify this as a plague-driven crisis. Likewise, in 1464 the second worst year of mortality crisis at Westminster when the crude death was five times above trend, the average stay of those dying was two to three weeks which is not a duration of illness entirely consistent with what might be expected of a plague epidemic.⁵⁶ The lengthening of stay of infirmary patients overall in the later fifteenth century is suggestive at least in this specific locality of an epidemiological shift towards illnesses of a longer duration, although it should be stressed that the average length of stay prior to death shows no statistically significant shift as a whole through the whole period.⁵⁷ Because of the incompleteness of the infirmary's pittance-payment account Harvey was unable to compute the number of fatalities who never experienced hospitalization prior to their death. These may have been a far

⁵⁵ Harvey, *Living and Dying in England*, pp. 103–105.

⁵⁶ Harvey, *Living and Dying in England*, p. 141.

⁵⁷ Harvey, *Living and Dying in England*, pp. 105–108.

from inconsequential number since one might suspect that to a certain extent the infirmary at Westminster served mainly the needs of those suffering from illnesses that did not actually kill the patient. It is deeply gratifying that three late medieval English Benedictine communities have left us records of a kind that have enabled two imaginative social and economic historians to construct a highly sophisticated account of their mortality histories over the fifteenth century. These accounts are remarkable in that they share, notwithstanding their different locations, so many features in common. Naturally some questions must be asked: can they provide the basis for our understanding of national developments regarding mortality over the period *c.* 1390–1520? Do they provide clear signals or do they, when set alongside our other evidence, particularly that which has been slowly assembled by the analysts of later medieval wills, court rolls, and inquisitions post mortem produce a more complex picture? We have in the specific contexts of Westminster Abbey, Christ Church Canterbury, and Durham Priory advanced our technical knowledge by many orders of magnitude and confidence in the view that there was net improvement in mortality over the whole course of the fifteenth century has received something of a battering. It does seem that we have had fundamentally to rethink the chronology of mortality change as measured by adult life expectancy over the fifteenth and early sixteenth centuries.

How might we best begin to conceptualize these changes? At present the prospects for applying a framework such as that advocated by John Landers, in which mortality is treated as a function of the balance between *level of exposure* to infection to which members of a population are subjected and their *capacity to resist* these infections, look decidedly unpromising.⁵⁸ Our inability to conceptualize processes in this way is certainly handicapped by the contradictory messages emanating from the admittedly sparse evidence. For instance, the understandable concern with the place of plague in the late medieval epidemiological regime has caused there to be a focus on the enumeration via testamentary records of crises and the identification of plague references in contemporary literary sources. Some of this analysis points rather hesitantly to a shift in the seasonality of mortality which appears to undergo a move from a profile in some contexts in which late summer, autumn peaks are present to one in which late winter and early spring become the most hazardous phase of the year. However, other regions in and around London reveal no such seasonality shift and in Canterbury we see an intensification of the summer-autumn peak over time. While some evidence on the level and instability of mortality from probated wills can reveal tantalizing signs both of a possible stabilization and a lowering of death rates in the last

⁵⁸ Landers, 'Historical Epidemiology'.

quarter of the fifteenth century, there is no shortage of evidence suggesting both a rise in will counts and renewed year-by-year instability of deaths in the first quarter of the sixteenth century. Furthermore, the previous confidence in a renewal of demographic growth in the last quarter of the fifteenth century that certainly characterized the literature on this subject before the late 1980s appears now to rest on fairly fragile foundations.

We are still far from being able to test the proposition that a marked shift occurred in the course of the fifteenth century in the geographical patterning of plague from widespread rural epidemics to outbreaks that were predominantly confined to the towns. Was this a shift largely completed by 1400 or, indeed, if it occurred at all, was it a development confined to or still in train over the early sixteenth century? We can accept Paul Slack's point that these changes, at least in England, bearing upon the diffusion of plague are unlikely to have been the product of the adoption of quarantine measures by local or central governmental authorities since such measures were not taken up, let alone effectively implemented, until the late sixteenth century, at the earliest. Ole Benedictow, has suggested that this spatial change in the character of plague epidemics is the key epidemiological development of the fifteenth century and was critical of Paul Slack for failing to give this question the attention he believes it deserves. Benedictow argued that such an epidemiological shift had indeed occurred by 1500 and hypothesized altered social behaviour to account for it as a product of reducing *exposure potential* and *realized exposure* in the rural populace. There was, he claims, a decline in social reciprocity in times of disease and hardship reflected in the dismantling of traditional collective institutions and the erosion of reciprocal peasant norms. Likewise, he suggests, an accompanying decline in *intra*-group sociability linked with a falling resort to familial inheritance as the basis of social reproduction.⁵⁹ Benedictow could hardly have chosen more contentious, controversial, and highly problematic arguments to do with the nature of late medieval social change to explain epidemiological developments that have yet to be specified empirically. Nonetheless the types of argument promoted by Benedictow are certainly within the spirit of the heuristic shift that Landers advocated for historical approaches that gave a greater role for human agency as a determinant.

The mortality developments so persuasively unearthed by Harvey and Hatcher in their studies of the monks of Westminster and Canterbury would carry greater significance if they could be shown to have wider relevance. Were they, for instance, typical of other urban settlements? Can similar mortality trends be observed in the two urban communities of which they were part? In answering

⁵⁹ See Benedictow, review of 'Paul Slack, *The Impact of Plague*', p. 657.

this latter question Hatcher can draw on no direct demographic data relating to the city of Canterbury but is impressed by Andrew Butcher's findings regarding the parlous state of the town's economy in the last quarter of the fifteenth century — the sharp drop in rents and the low occupation rates of shops and houses — which he explains as a consequence of the undermining effect of epidemic disease.⁶⁰ In the case of the immediate environs of Westminster Abbey demographic evidence relating to the town is in rather better supply. An unusual source concerning the purchase of candles for use in the burial rites of the parishioners has survived. It has been profitably exploited by Gervase Rosser who has shown there to have been a substantial worsening of death rates in the Westminster parish of St Margaret's in the years from 1490–1510 which can have little to do with the growth in the town's population and implies, even in years of unexceptional mortality, death rates of at least fifty–sixty per thousand.⁶¹ Such patterns do indeed seem consistent with the plunge in life expectancy among the monastic community at Westminster Abbey, the members of which, as Barbara Harvey emphasizes, were deeply integrated into their local communities and openly exposed to the urban infections.⁶²

If there was a cycle in England of fifty to seventy-five years (three generations) from *c.* 1460 to *c.* 1520 in which mortality first deteriorated then improved, we are as yet in no position to know whether it was a regionally localized phenomenon, predominantly urban, or whether it had a wider rural presence. What factors could be adduced to account for either an increase in *realized exposure* or *reduced resistance* over the period *c.* 1460–1510 and either *reduced exposure* or *increased resistance* in the period thereafter? Harvey finds little to suggest that any major environmental changes may have served to increase *exposure potential* during periods when mortality markedly worsened.⁶³ It is true that the younger monks in this population prove to be particularly vulnerable and they certainly contributed a share to deaths that was far greater than their share in the community's population.⁶⁴ However, an argument that depends on there having been a shift in the population mix thereby introducing country boys to an urban environment and to epidemic diseases to which they had no prior exposure would appear not to work insofar as the increased presence of the young in the age structure is as

⁶⁰ Butcher, 'Rent and the Urban Economy'.

⁶¹ Rosser, *Medieval Westminster*, pp. 177–80.

⁶² Harvey, *Living and Dying in England*, p. 142.

⁶³ Harvey, *Living and Dying in England*, p. 135.

⁶⁴ Harvey, *Living and Dying in England*, p. 140.

much a cause as a consequence of the rise in the death rate. Nonetheless, immigration of vulnerable newcomers would most likely help to push life expectancy even further in a downward direction. Jeremy Goldberg suggests that serious consideration be given to the vulnerability of young monks to new venereal disease in the late fifteenth and early sixteenth centuries, given the very close proximity of the urban religious houses to the haunts of prostitutes.⁶⁵ While this is an argument that relates both to epidemiological concepts of *conduction* and *retention* as well as *pathogenic load*, the introduction of a new disease provides no basis for understanding the subsequent very sharp improvement in life expectancies that follows in the early sixteenth century.

In drawing out many of the specific and especially striking characteristics of these late medieval data sets it has been entirely legitimate that comparisons should be made between demographic rates derived from relatively small 'populations' in the late fifteenth century and those from the larger samples that derive from parish registers after 1540. It is true that late medieval crude death rates and life expectancies when compared initially by Hatcher and Harvey (for Canterbury and Westminster) with those derived by Wrigley, Schofield, and Oeppen from aggregate back projection of parish-register based data suggested a more favourable regime in the mid- to late sixteenth century and therefore raises the possibility that between *c.* 1450 and 1510 there had been a marked, indeed unprecedented decline in mortality.⁶⁶ Yet much care must be exercised in comparing these urban-based populations of the later medieval period with national crude death rates relating to populations that are overwhelmingly rural in the mid- to late-Tudor period. Urban crude death rates in pre-industrial England were almost always in excess of forty per thousand and frequently significantly exceeded fifty per thousand.⁶⁷ It is noteworthy that estimates of *e*₂₅ ranging from twenty-two to twenty-eight years from English parish-register based studies constitute adult mortality levels in market towns such as Alcester (Warwickshire), Gainsborough (Lincolnshire), and Banbury (Oxfordshire) that fall well within the ranges of

⁶⁵ Goldberg, 'Mortality and Economic Change in the Diocese of York', p. 54. See also Goldberg, 'Pigs and Prostitutes', pp. 174–76.

⁶⁶ See Hatcher, 'Mortality in the Fifteenth Century', p. 32 for comparisons drawn with estimates of life expectation at birth based on back projection in Wrigley and Schofield, *The Population History of England*, Appendix 3, pp. 527–35. Hatcher, 'Mortality in the Fifteenth Century', p. 33 also made a comparison with a mean estimate of *e*₂₅ from nine parish reconstitutions to show how much lower the monastic life chances were when compared with males at age twenty-five in those late sixteenth-century parishes.

⁶⁷ Galley, *The Demography of Early Modern Towns*.

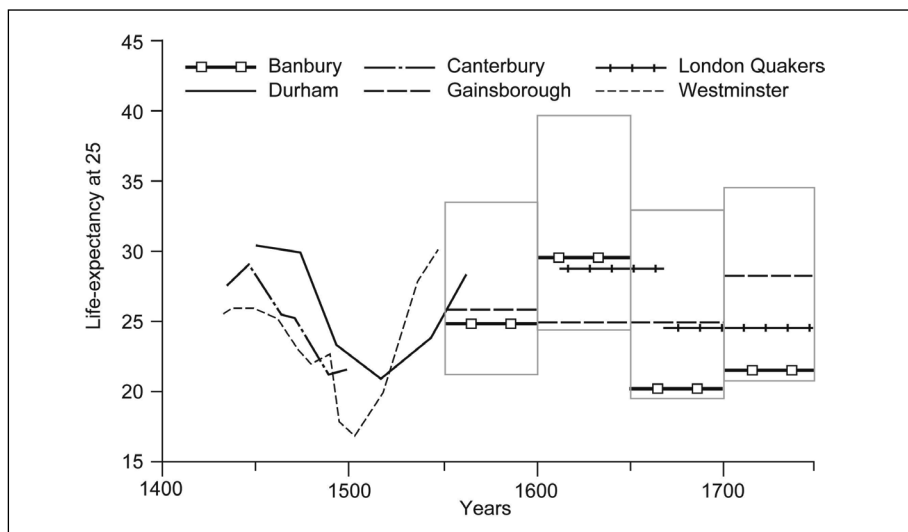


Figure 7. Life expectancy of monks at age twenty-five and a distribution of life expectancies at age twenty-five for married male parishioners (twenty-six English parishes)

e25s exhibited by the monks throughout most of the period studied by Harvey and Hatcher.⁶⁸ Furthermore, in London in the late seventeenth and especially early eighteenth centuries adult-Quaker mortality was as severe as, possibly more severe than, those exhibited by the Benedictine populations two centuries earlier (see fig. 7).⁶⁹ Expectations of life at age twenty-five ranging from twenty to twenty-eight years should not be regarded therefore as essentially 'late medieval' in character.

It is also worth noting that even at the end of the period covered by Harvey's study of Westminster when e25 had risen once again to early fifteenth century levels, the Westminster monastic community still possessed a level of e25 lower than that of the national, predominantly rural populace based upon parish registers. Since Hatcher and Harvey made their comparisons with sixteenth- and seventeenth-century parish-register based estimates of e25 new estimates from such sources have been published.⁷⁰ These data were secured by use of back-projection and were not based upon totals of deaths by age in each period of time.

⁶⁸ Family reconstitutions held by the Cambridge Group for the History of Population and Social Structure.

⁶⁹ Landers, *Death and the Metropolis*, p. 158.

⁷⁰ Wrigley and others, *English Population History from Family Reconstruction*, pp. 280–93.

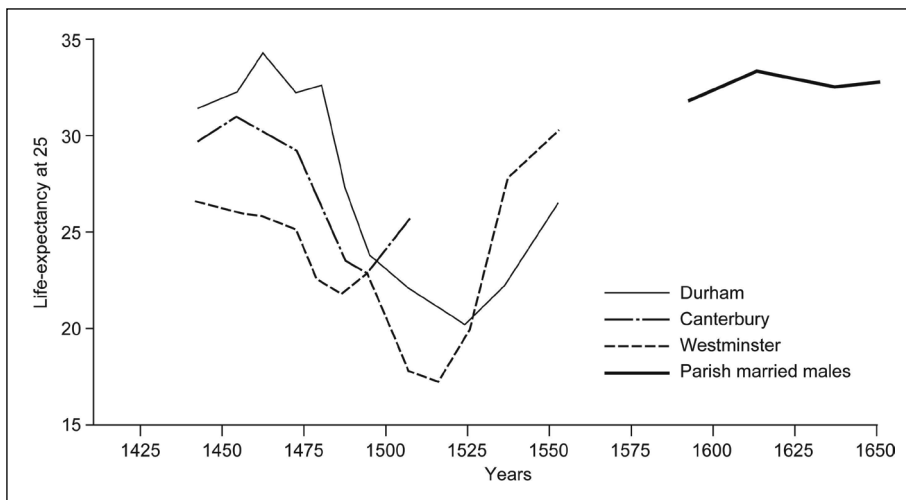


Figure 8. Life expectancy of monks at age twenty-five and a mean of life expectancies at age twenty-five for married male parishioners in twenty-six English parishes

Source: Hatcher, Piper, and Stone, 'Monastic Mortality', p. 676.

Given a knowledge of population size and age structure produced by the process of back projection, the computer program which embodied the back-projection technique then selected that mortality level from within a family of life tables which was needed in order to absorb the known totals of deaths for the period, which in turn yielded a set of mortality rates and statistics, such as e_{25} . The aggregative-based mortality rates are therefore not derived from direct observation. Subsequently, a new set of mortality estimates were produced using the more reliable technique of family reconstitution and these embody refinements that deal more effectively than work hitherto with a classic 'competing risk' problem that has afflicted so much previous adult mortality calculation.⁷¹ The new estimates lower the earlier estimates of e_{25} s for the parochial populations of the sixteenth and seventeenth century and diminish somewhat the contrast that had been drawn between that period and the late fifteenth century. It should be noted that John Hatcher and his colleagues in their most recent paper on Durham have used adult mortality from family reconstitutions as their comparator with the monks in all three houses (see fig. 8).⁷²

⁷¹ Wrigley and others, *English Population History from Family Reconstruction*, pp. 581–600.

⁷² Hatcher, Piper, and Stone, 'Monastic Mortality', p. 679.

Family reconstitutions have also drawn attention to the significant discrepancies that exist between adult and infant and child mortality in early modern populations. In the sixteenth and seventeenth centuries the age patterns of adult mortality are best encapsulated by levels 3 to 5 in Princeton Model North (each rise in level is equivalent to a rise in e_0 of approximately 2.5 years). In this period infant and child mortality rates were far less severe than the implied rates derived from the model life table level applying to adults. In fact the rates suggest that levels 9 to 11 were most accurately capturing mortality rates within the younger age groups. This feature of the mortality history of England in the early modern period has far reaching implications for the interpretation of partial data, especially if relating exclusively to adults from earlier periods.⁷³ For example, although there is little or no source material that can throw light on infant and child mortality in medieval times, there is a significant amount relating to adults. There was a tendency to assume that what was true of adult males was equally applicable to the remaining elements in the population below age twenty or twenty-five. These assumptions were perfectly justifiable when they were originally made but now stand in need of reconsideration. For instance in 1986 John Hatcher established that e_{25} s among the monks of Canterbury Cathedral Priory for a good deal of the fifteenth century were equivalent to Princeton Model West level 3, and that, during the phase of sharp deterioration in mortality at the end of the century, mortality levels technically fell below the bottom of the Princeton scales.⁷⁴ He compared these estimates with those from early modern England and concluded that the 'life table analogies' were 'consistent with an expectation of life at birth of 21–23 years.' However, more recent work suggests that such comparisons and the demographic logic underpinning them may be decidedly more problematic than was once supposed and John Hatcher has acknowledged this in his 2006 paper on Durham.⁷⁵ Of course, this issue cannot be fully resolved given the absence of data relating to infant and child mortality for any social group during the later medieval period.

While the national mortality level may not have been as high as that revealed by these monastic populations, we certainly need to know whether Harvey and Hatcher have identified an epidemiological cycle that is more overtly apparent within national trends in late fifteenth- and early sixteenth-century England.

⁷³ Wrigley and others, *English Population History from Family Reconstruction*, pp. 283–85.

⁷⁴ Coale and Demeny, *Regional Model Life Tables*, pp. 42–45.

⁷⁵ Hatcher, 'Mortality in the Fifteenth Century', p. 31; Hatcher, Piper, and Stone, 'Monastic Mortality', pp. 681–82.

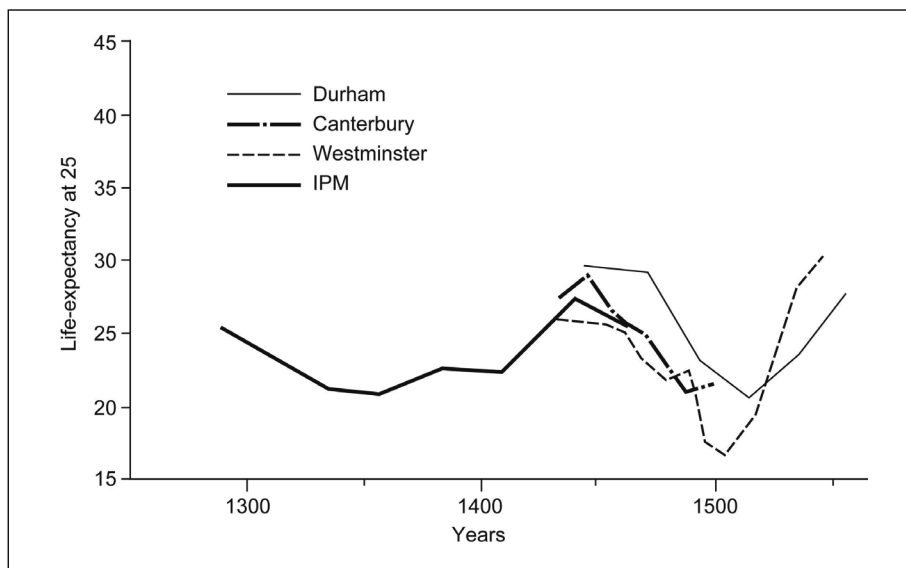


Figure 9. Life expectancy of monks at age twenty-five and tenants-in-chief of the crown, after J. C. Russell
 Sources: Hatcher, Piper, and Stone, 'Monastic Mortality', p. 674;
 Russell, *British Medieval Population*, p. 186.

Only further research will confirm such a possibility. John Hatcher, at the conclusion of his 1986 study on the Canterbury monks, justifiably made a plea for more work on the inquisitions post mortem (IPMs) of the tenants-in-chief of the Crown.⁷⁶ New work of this kind is sorely needed, particularly since it is now clear that the techniques employed by Josiah Russell in his earlier analyses and the incomplete sample he employed undermine the trust that we can place in his estimations.⁷⁷

Russell made estimates of adult life expectancy using the IPMs which where they overlap chronologically with the monastic samples are quite similar in their levels (see fig. 9).⁷⁸ These inquisitions recorded the admission of heirs to feudal property, at known ages and dates, and simple linkage of an heir's admission and that heir's subsequent death would appear to provide an unassailable record of the person's life span. The data are not without limitations: the great majority of

⁷⁶ Hatcher, 'Mortality in the Fifteenth Century', p. 38.

⁷⁷ Russell, *British Medieval Population*, pp. 92–117, 173–93.

⁷⁸ Hatcher, 'Mortality in the Fifteenth Century', pp. 37–38.

available cases pertain to males few of whom were very young upon admission to property thereby thwarting the source's use for estimations of female and infant and child mortality. Furthermore, the persons involved were generally from the upper ranks of English society (peers, gentry, and substantial freeholders, rather than peasants or poor). In what follows, given the constraints of space, the results of a relatively brief reanalysis of Russell's methods and results are reported.⁷⁹ In particular it is suggested that given developments in demographic methodologies, particularly those relating to event-history analysis it is advisable to use a quite different methodological approach for such calculation. In employing such techniques on data derived from three samples of tenants-in-chief drawn from the fourteenth-century inquisitions at roughly quarter-century intervals in 1301, 1327, and 1352, it is concluded that Russell's results constituted a significant under-estimation of late medieval life expectancy.⁸⁰ These samples yield one cohort born and largely dead before the Black Death, another born soon enough before the Black Death to have been affected by it, and a thirds entering observation after the epidemic.

The inquisition process was in principle relatively straightforward. In the event of a tenant-in-chief dying while holding freehold property directly from the crown, the Chancery issued a writ ordering a local jury to declare what property the deceased held and who was the heir; the resulting information constituted the inquisition. If the deceased held property in more than one county a jury from each of the counties concerned would return a separate inquisition. The record also included information on the age of the heir, the purpose of which was to establish whether the heir was above or below the legal minimum age for holding property at common law in his or her own right (twenty-one for males, fourteen for females). Another category of record that forms part of the same archival series as the IPM is the proof of age in the form of inquests taken to prove the age of heirs who had inherited as minors but had reached the age of majority and were entitled to receive his or her property. Every inquisition is given a date, and after the second quarter of the fourteenth century the record

⁷⁹ This analysis was initially undertaken by Professor Larry Poos of the Catholic University of America in Washington DC and by Jim Oeppen when he was a senior research officer in the Cambridge Group for the History of Population and Social Structure, and must be regarded as presenting preliminary findings until larger samples extending over longer periods of time can be deployed.

⁸⁰ Samples have been drawn from the series *Calendar of Inquisitions Post Mortem*, currently constituting 23 volumes extending from the reign of Henry III almost to the middle of the fifteenth century.

only infrequently fails to give the date of death of the deceased. Previously that information was rarely given, meaning that for most of the earlier inquisitions, it has to be assumed that a short period of time extended between the tenant's death and the inquisition.

It might be supposed a simple task in the form of nominative linkage to connect an heir's admission to property, at a recorded date and at a recorded known age, with that heir's own subsequent death at a subsequent known date. In possession of such information, it would be possible to calculate the heir's life expectancy at the age at which he or she entered the property. The principal uncertainty surrounding this style of nominative linkage normally relates to the identity of name and individual given variability of given names and spellings such as might be found in a parish register. However in the case of the IPMs the additional information about property and its location can increase the confidence in making linkages. The major difficulty in carrying out nominative linkage with the inquisitions post mortem is that the population under observation (i.e. the tenants-in-chief) was not a fixed unchanging group. A variety of events would remove an heir from the record, having once been admitted to his or her property and thereby removal from subsequent observation in the IPMs, or generate a record to be created of the death of a tenant who had not left no evidence of having been admitted at an earlier date as an heir. Tenants could alienate property, or the Crown could seize it for treason or other reasons. As a result people who had not entered into observation by being named as heirs in the inquisitions could purchase or receive property from the Crown and subsequently appear in inquisitions when they had died. In addition and increasingly in the fourteenth and fifteenth centuries tenants could also execute legal settlements whose very purpose was to remove them from the fiscal burdens and uncertainties incumbent upon feudal tenure (and thus from these records). Moreover, at times when a tenant-in-chief's estate came into the Crown's hands (temporarily, during an heir's minority, or permanently, due to escheat or confiscation), those who held their property from the tenant-in-chief then found themselves subject to the same relationship with the Crown as the tenant-in-chief formerly had been, and thus entered the record. Some IPMs have simply been lost leading to incomplete life histories of tenants-in-chief. For all the above reasons, the population at risk to appear in the inquisitions' records constituted a relatively volatile group in permanent state of flux. Because of this instability in the sample of tenants-in-chief appearing in the inquisitions drawn for this study only about half the heir's admitted to property subsequently appeared in inquisitions dealing with their own deaths.

Supplementary information in the printed series of calendared abstracts of the IPMs is of considerable assistance in overcoming the problems previously identified, since the editors have chosen to include the observations that were mentioned in the fuller text of the manuscript records of individuals in contexts other than their own deaths or successions. Most typically, if one is trying to trace the totality of tenant A's appearances in the record series, one may see, in the course of an entirely unrelated person's inquisition, tenant A named coincidentally as the lord or tenant of some of the deceased's property proving that tenant A was still alive at the time of that record; or alternatively, tenant A's widow or heirs may be so named, signifying that tenant A had died by the time of that record. The probability of observing tenant A in the record in these contexts, then depends upon the presumably random demographic events of other person's life histories, as well as the extent of tenant A's own landholding. An especially rich tenant-in-chief with lands distributed over a wide geographical area might be presumed to make many appearances in the records other than those relating to his own inheritance and death. One may therefore be able to observe the heir in a number of different contexts that indicate that he or she is either still alive at that subsequent date, or has died by then.

The three samples drawn for this pilot study are each made of five hundred heirs admitted to property and then traced to all subsequent appearances. Only males have been used in these samples since due to the predominance of primogeniture in property descent at Common Law, male heirs predominated and far too few females appear in the record to produce sufficiently samples to compute statistically meaningful measures of life expectancy. For each person in the samples the following data are available: year of ancestor's inquisition and age of heir at that date, year of each subsequent appearance of heir and context of appearance (heir's own death, heir known to be still alive at that date, or her known to be dead at that date). All events have been dated by calendar year.

Figure 10 contrasts Russell's original estimates of life expectancy at twenty-five with those derived from the monastic data.⁸¹ John Hatcher in commenting on these estimates of life expectancy produced by Russell noted that 'there is a strong measure of consonance between these three data sets.'⁸² However, in commenting cautiously on these data he suggested that there were considerable differences in the quality of the sources from which they were drawn, and the nature of the methods and in particular the specification of the populations at

⁸¹ Hatcher, 'Mortality in the Fifteenth Century', p. 37.

⁸² Hatcher, 'Mortality in the Fifteenth Century', p. 37.

risk. Given the time in the mid-twentieth century that Russell researched and the subsequent advances in historical demographic analysis associated with nominative record linkage from the 1960s and the emergence of a substantial statistical methodology of survival analysis, it is obvious that a number of features of Russell's use of IPM data are revealed that lead to problems with the interpretation of the results. The most important is that Russell used a method to estimate life expectancy that is only appropriate for two situations: when the data are complete and where 'complete' means that the entry into observation and the death of each individual is known- or where the incompleteness is purely random. The method he employed assumes that the populations are 'closed' and completely registered.

Incomplete personal histories or losses of evidence arise because of the practices and processes described above and through the manner of Russell's analysis. A record that identifies the entry of an individual into observation and gives an age at entry should be linked to a subsequent record that reports the death of that individual. In the three samples drawn in this case-study it is not possible to find an unambiguous link for between fifty and sixty per cent of the heirs. Russell's text is ambiguous in reporting how he coped with such cases, but he states 'We must remember that the available information varies greatly from person to person. Less than half of the cards give other than the death of a man.'⁸³ As Russell was working backwards in the linkage process from death to entry, this comment seems to suggest that he may have been aware of a flaw in his approach or the evidence to which his methods were being applied.

If such linkage failures occurred randomly this would result in a bias in the results derived, but there should be no directional bias in results so generated. If the true life-expectancy at ages twenty-five were thirty-two years, then we would expect our estimate to be thirty-two, plus or minus some unknown error. However if the factors at work thwarting linkage were a function of age or time then the estimates derived could be biased upwards or downwards from thirty-two, and still be subject to an uncertain time interval. For example, suppose that the information which allows an unambiguous link to be made itself evolves over time (for instance, spellings of personal names change from inquisition to inquisition, properties are amalgamated.). In this case the longer a person lives, the less likely it is that they will be linked and life expectancy will therefore be underestimated. On the other hand, if frequency of appearance in the records and hence 'visibility' is a function of power and wealth, both of which might be

⁸³ Russell, *British Medieval Population*, p. 116.

increase as attributes with age, then survivorship will be over-estimated, since those who die young and property deficient will tend to be missed.

Since the publication of Russell's work there have been a number of breakthroughs in the analysis of mortality from incomplete data particularly in AIDs-related epidemiological research which makes use of what are truncated and interval-unknown data.⁸⁴ IPMs are good examples of this type of data. The techniques now available require that the information for the individuals whose records are incomplete is fully maximized in contrast to Russell's approach which is revealed when he writes

How far may documents outside of the inquisitions and proofs be admitted as evidence? It would seem that any documents showing dates of persons entered in the lists would be significant as long as the deaths might be in any age group. After all, this information shows in any case a completed life. On the other hand, it would not seem fair to use data which would only show people alive beyond the original date of entrance into consideration. These data could not be used in the simpler method of calculation of expectation of life and the introduction of them into the life table would add many years of life with no equivalent deaths.⁸⁵

Russell's argument above is only justifiable if those possessing a complete record are an unbiased group and we have previously suggested that this cannot be presumed.

In the reanalysis of the IPM samples an attempt was made to find a reference to 'last-alive' date within the supplementary information for every individual in the *Calendars of Inquisitions Post Mortem* who enters into observation but cannot be linked to a death. In some cases, it is possible to define an interval in which the death must have occurred because a wife is described as widowed. These two groups capture an additional twenty-five to thirty per cent of entrants, depending on sample, leaving another one-quarter who enter observation and disappear without trace. Although this research is incomplete chronologically and could be inflated with regard to sample size, the use of modern methods of analysis appropriate to this kind of incomplete data lead to the conclusion that Russell's estimates of life-expectancy at age twenty-five can be as much as twenty-five per cent too low (see fig. 10). These estimates confirm the suspicion that Russell's estimates were biased and that the bias was downwards, indicating that the process that leads to linkage failure is positively related to age and time (i.e. a

⁸⁴ For example, see Heisey and Nordheim, 'Modelling Age-Specific Survival in Nesting Studies', and Sun, 'Empirical Estimation'.

⁸⁵ Russell, *British Medieval Population*, p. 115.

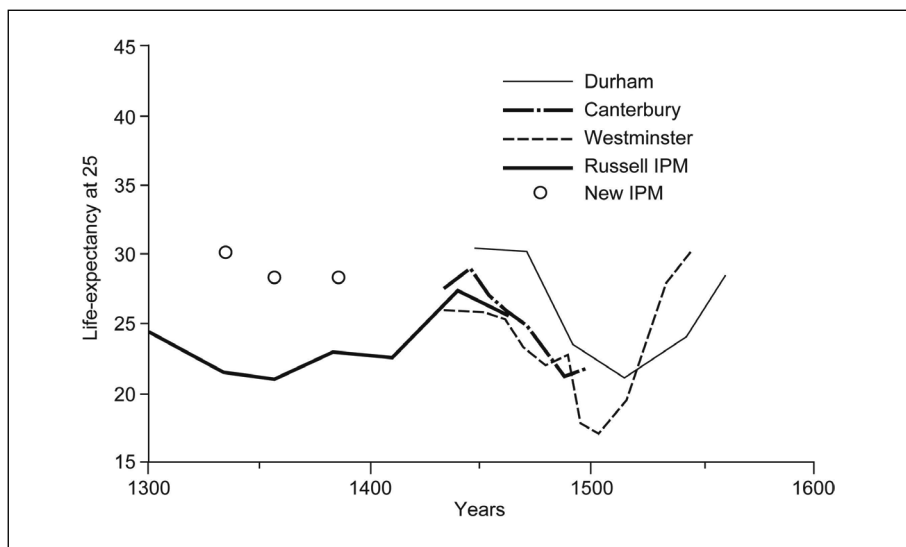


Figure 10. Life expectancy of monks at age twenty-five and revised estimates of life expectancy of tenants-in-chief of the crown

reduced linkage success for those who were well endowed with estates and lived longer). From Figure 10 it can be seen that, if these new estimates are to be preferred, adding about twenty-five per cent to the Russell 'line' puts some periods of the fourteenth century within the range of the early modern estimates from parish registers but also lends support to the view that the monastic mortality of the late fifteenth and early sixteenth centuries was indeed very high, particularly if the bias of a twenty-five per cent exaggeration of e_{25} is removed from Russell's estimates for the late fifteenth century.

In the late fourteenth century the levels of e_{25} applying to lay aristocratic and monastic groups were very similar (see fig. 10). It is also worthy of our attention that in the late fourteenth century the monastic samples and the tenants-in-chief display e_{25} s that are strikingly similar to those of the English peerage after 1600, a feature that is even more apparent when the focus is upon unmarried peers before 1750 (see fig. 11). These estimates for the peerage constitute revisions to those originally made by Hollingsworth which underestimated expectation of life at age twenty-five by two to four years.⁸⁶ The new estimates suggest that adult

⁸⁶ Hollingsworth, 'The Demography of the British Peerage'; Hollingsworth, 'Mortality in the British Peerage Families'.

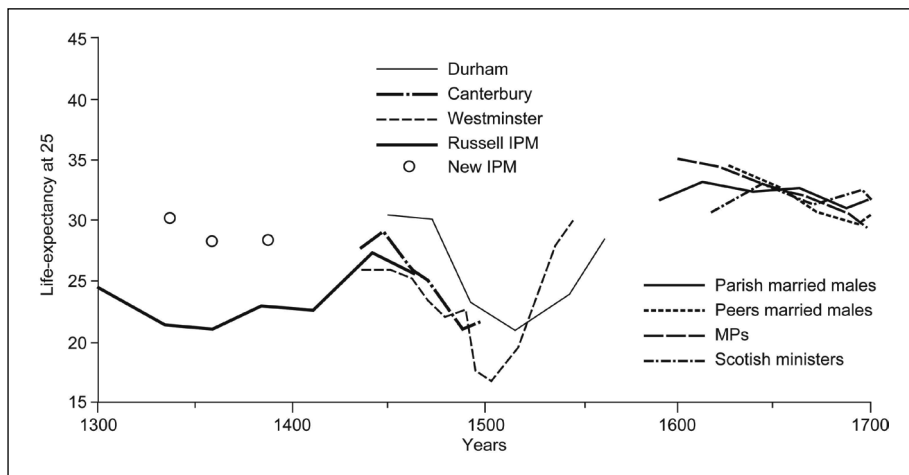


Figure 11. Life expectancy of monks, tenants-in-chief, English married male parishioners, peers, members of parliament (MPs), and Scottish ministers, 1300–1700

mortality within this status group were significantly closer to those that have been computed for non-elite English populations from a sample of twenty-six villages.⁸⁷ There is some basis to the view that in the fourteenth and early fifteenth centuries, but making allowance for the impact of the major mid-fourteenth-century epidemic catastrophe, e25s for tenants-in-chief and monks were on a par with those for parishioners and peers in the seventeenth century. At present the major period of lacunae of data extends over the late fifteenth into the very early sixteenth centuries making objective comparisons of late medieval and early modern mortality problematic.⁸⁸

More work, although it would involve a huge investment of academic labour, could be done using manorial court rolls particularly by tracing males sworn into tithing at age twelve through to their death and employing rigorous rules for the establishment of ‘presence in observation’ along the lines adopted by Larry Poos. It is worthy of comment that estimates made by Poos of e20 and e25 for fifteenth-century Essex manorial tenants reveal levels, prior to 1450, that are similar to those of the post-1550 parish register sample (see fig. 12). After 1450 e25s among

⁸⁷ Smith and Oeppen, ‘Place and Status as Determinants of Infant Mortality’, p. 71.

⁸⁸ It should be possible to gain better estimates of adult mortality for the tenants-in-chief of the crown for the early fifteenth century now that calendars in recently edited volumes XXII–XXVI covering the period 1422–47 have been published.

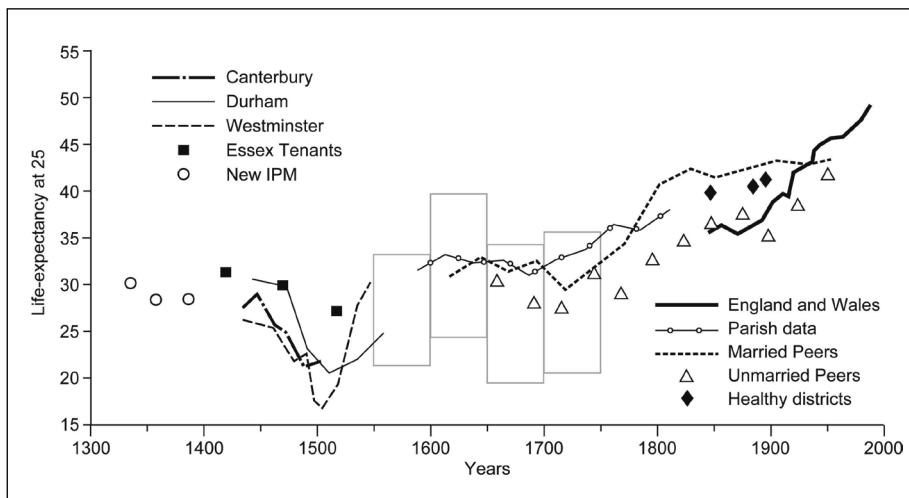


Figure 12. Life expectancy of English males, 1300–2000: various social groups

these manorial tenants fall significantly, as unfortunately does the size of the sample, but they are suggestive of a worsening level of mortality.⁸⁹ Brand new estimates that Rebecca Oakes has recently constructed in her 2008 doctoral thesis relating to scholars at Winchester College who then moved on to New College Oxford and whose careers are traced thereafter also point to a deterioration in mortality that sets in after 1440 or 1450, at a time that is remarkably similar to the onset of a deterioration in survivorship among the Benedictines. Nonetheless Oakes's estimates do not show the severity of decline that are observable in the monastic population but appear remarkably similar to those of the Essex manorial tenants.⁹⁰ Were such individuals enmeshed in the same epidemic cycle that the monks of Canterbury, Westminster, and Durham were experiencing? Was this cycle also detectable in the near continent of Europe? We surely should be engaged in more comparative, collaborative work with colleagues in northern France and the Low Countries where hopefully monastic sources might be susceptible to analysis that resembles that pioneered by John Hatcher. It is possible however that the intensity of mortality deterioration in these English non-monastic samples was more muted than that to be found in the monastic communities, although such an observation has to be made extremely tentatively.

⁸⁹ Poos, *A Rural Society after the Black Death*, pp. 115–20.

⁹⁰ Oakes, 'Mortality and Life Expectancy'.

Nonetheless the evidence now accumulating is far greater and it might be claimed more reliable than that available thirty years ago when John Hatcher wrote his classic pamphlet. There are enough data at our disposal now to dismiss the notion that there was one late medieval mortality regime that was transformed into one early modern regime after 1541, although there is strong evidence for the presence of a mortality cycle that had its onset after 1450 when both the levels of life expectation worsened among adults alongside a growing instability in the death rate in that age group. What brought this about and why mortality rates ameliorated in the course of the reign of Henry VIII remains a conundrum that is still far from being resolved, although John Hatcher's efforts have added enormously to a reassessment of this issue and to a significant firming up of our understanding of the relevant processes. If this finding does emerge more firmly from further research, we may have discovered a demographic development that would suggest more circumspect characterization of the fifteenth century; to paraphrase John Hatcher, we may be best advised to regard that century as 'a succession of sub-periods each with its own distinctive characteristics'.⁹¹

⁹¹ Hatcher, 'The Great Slump', p. 239.

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THE DEMOGRAPHY OF MARITIME COMMUNITIES IN LATE MEDIEVAL ENGLAND

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Previous studies of late medieval population have often focused on national trends, but this emphasis tends to neglect the local variety of which national trends are the net outcome. This paper draws attention to the peculiar demographic characteristics of maritime communities in late medieval England, which were distinguished by the adaptations they made to the challenges posed by the marine environment and by the distinctive structures and institutions that helped to build their own maritime identity.¹ Scholarly interest in past maritime cultures has grown significantly in recent years, stimulated by our growing fascination with the relationship between environments and people, and with 'global' history, in which the new Atlantic history integrating colonialism, imperialism, and multi-ethnic studies plays a major role. Historical demographers have made important contributions to these new approaches to maritime communities, focusing in particular on Atlantic and North Sea coastal settlements in the eighteenth and nineteenth centuries, when the survival of censuses and parish registers permit extensive family reconstitution, with less varied

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¹ The literature on maritime communities is vast and multi-disciplinary. Some recent publications that give an idea of the range of approaches taken include: Westerdahl, 'The Maritime Cultural Landscape'; *People of the Northern Seas*, ed. by Fischer and Minchinton; Mollat du Jourdin, *Europe and the Sea*; Cabantous, *Les Citoyens du large*; special issue of *The Geographical Review*, 'Oceans Connect', ed. by Wigen and Harland-Jacobs; Horden and Purcell, *The Corrupting Sea*; Kirby and Hinkkanen, *The Baltic and North Seas*; *Maritime Ireland*, ed. by O'Sullivan and Breen; *Seascapes*, ed. by Bentley, Bridenthal, and Wigen; and articles in the new journal, *Atlantic Studies: Literary, Cultural and Historical Perspectives*, first published in 2004 under the auspices of the Society of Multi-Ethnic Studies: Europe and the Americas (MESEA).

but nonetheless revealing data from some sixteenth- and seventeenth-century coastal settlements.² Although these demographic studies cover different centuries and types of coastal communities, they have identified several common characteristics of maritime populations, including low sex ratios (because of male absences and high mortality), exaggerated seasonality of marriages and baptisms related to the timing of fishing and sea trade, early and endogamous marriage, and smaller families. This essay explores whether these distinctive demographic features can be found in late medieval maritime communities. The detailed sources available to those working in later centuries are not available to the medievalist. Nevertheless, a range of indirect evidence does suggest some striking demographic continuities between the late medieval and early modern periods, indicating that occupational activity and the adaptive strategies made by maritime communities may have trumped the economic and demographic differences that supposedly distinguished the late medieval from the early modern era.

Recent demographic analyses of coastal communities range over the early and late modern period and cover different types of settlements, but they have identified several common characteristics of maritime populations. The most universal demographic feature is the frequent absence of men because their work aboard fishing or trading ships took them away from home for months (or even years) at a time; in later centuries, out-migration to the colonies in the New World was also important here.³ Another factor producing male absence was the high mortality that working fishermen and mariners endured from storms, shipwreck, and capture by the enemy.⁴ Male absences and high mortality in turn tended to create a low sex ratio (such as eighty to ninety men for every hundred women) in these communities.⁵ This surplus of women, combined with the

² The French have led the way; see Cabantous, *Les Citoyens du large*, for a summary of much of this literature. Other examples of this work that I have drawn on include: Blaikie, 'Coastal Communities in Victorian Scotland'; Smith, 'The Demography of Coastal Communities'; Polónia, 'The Sea and its Impact'; Storm, 'Seasonality of Births and Marriages'; Dyrvik, 'Farmers at Sea'; Johansen, Madsen, and Degn, 'Fishing Families'; Cabantous, *Dix mille marins face à l'océan*; Farrant, 'The Rise and Decline of a South Coast Seafaring Town'; Mayhew, *Tudor Rye*; Butcher, *The Ocean's Gift*; and Butcher, *Lowestoft*.

³ Male out-migration was especially strong in Portuguese and Galician coastal settlements in the sixteenth and seventeenth century; see Polónia, 'The Sea and its Impact', and Poska, *Women and Authority in Early Modern Spain*.

⁴ Even today, fishing has a higher mortality rate than any other occupation. For statistics on the occupational dangers facing fishers, see Pollnac, Poggie, and Cabral, 'Thresholds of Danger'. See also Tunstall, *The Fishermen*, p. 273.

⁵ See, for example, Cabantous, *Les Citoyens du large*, p. 86; Blaikie, 'Coastal Communities

authority that women had to assume when their men were away for long periods, as well as the essential role that fishers' wives played in baiting hooks, mending nets, and curing and selling the catch, appears to have endowed maritime women with more agency and influence than in those in land-based societies.⁶ In Iberian ports, there is also some evidence of unusual inheritance strategies that favoured women whose husbands died early.⁷

The work regime of fishers and mariners also affected the seasonality of marriages and births. In early modern Brighton and Lowestoft, for example, marriages peaked in the winter after the fleets returned home from the Yarmouth herring fishery whereas very few conceptions or marriages occurred in the fall months when the fishing fleet was away.⁸ Winter conceptions also dominated in the Norman fishing villages that relied heavily on the herring fisheries.⁹ These seasonal patterns could vary even by maritime occupation. A study of Robin Hood's Bay in North Yorkshire from 1781 to 1840 shows that December and then January were the highest months for conceptions, after the men had returned home from the Yarmouth fishery.¹⁰ Conceptions were at their low point (twenty per cent of the total) from July to October when the fishers were most busy. In contrast, conceptions in sailors' households in North Yorkshire were high from December through February when shipping activity fell off, but declined earlier in the year in March to June when the shipping business picked up. The type of maritime activity pursued by the male householder thus influenced the particular pattern of seasonality of births in their settlements.

Scholars working with particularly good data from the eighteenth century and later have found that fishers' marriages also tended to be early and endogamous, patterns encouraged by the co-ownership of boats and the ease

in Victorian Scotland', p. 19; Poska, *Women and Authority in Early Modern Spain*, pp. 35–37, 139–41; Polónia, 'Women's Contributions', pp. 274–76.

⁶ This point has been made many times, but is especially well expressed in Thompson, 'Women in the Fishing'. See also Polónia, 'Women's Contributions'; Abreu-Ferreira, 'Fishmongers and Shipowners'; Cabantous, *Les Citoyens du large*, pp. 151–60.

⁷ Vinyoles i Vidal, 'La vita quotidiana'; Abreu-Ferreira, 'Fishmongers and Shipowners'.

⁸ Farrant, 'The Rise and Decline of a South Coast Seafaring Town', pp. 61–62; Butcher, *Lowestoft*, pp. 38–39. Kussmaul, *A General View of the Rural Economy of England*, pp. 16–17, 28–29, 42, 67, notes that fishing strongly influenced the seasonality of marriages, but that the patterns varied by the types of fish caught.

⁹ Houdaille, 'Mouvement saisonnier des baptêmes', p. 411.

¹⁰ Storm, 'Seasonality of Births and Marriages', p. 44. For the influence of work on the seasonality of conceptions, see also Dyer, 'Seasonality of Baptisms'.

with which young men could enter the fishing craft and make money, especially when the fisheries were booming.¹¹ Surname studies for coastal settlements in the Ards Peninsula in County Down (Ireland) and in North Yorkshire also suggest a high degree of endogamous marriage among fishers.¹² Indeed, marital isonymy (when couples married someone with the same surname) was unusually high in many of these communities.¹³ In early modern Lowestoft, David Butcher found that forty per cent of seafarers' marriages were to other fishers or mariners, suggesting that this pattern of endogamous marriage may have stretched back some centuries.¹⁴ But this pattern did not prevail everywhere; in the small sea port of Via do Conde, Portugal, there was a high rate of exogamous marriage as the women who were left behind looked to the rural hinterland for husbands.¹⁵ The particular occupational enterprise also made a difference since fishers in eighteenth-century France were more inclined to marry women from fishing families, married earlier, and had larger families than sailors.¹⁶ Shipmasters, though marrying later than any of these groups, had larger families than common mariners, probably because they married younger women and were better-off than other sailors. Different types of fishing enterprises might also have wielded an influence; deep-sea fishers, for example, had less incentive to keep boats and tackle in the family through marriage since their industry relied heavily on outside investors, who provided wages and capital assets such as boats and fishing gear.¹⁷

Despite their early marriage and high fecundity, seafaring families were often smaller than farming families.¹⁸ Theoretically early marriage and a high rate of

¹¹ Blaikie, 'Coastal Communities in Victorian Scotland', pp. 19–20, 23; Byron, 'The Maritime Household', pp. 273, 276, 278; Johansen, Madsen, and Degn, 'Fishing Families'; Cabantous, *Les Citoyens du large*, pp. 180–81. For some early modern evidence of an early age of marriage for both men and women in Rye, see Mayhew, 'Life-Cycle Service', p. 205.

¹² Smith, 'The Demography of Coastal Communities', pp. 63–64.

¹³ Blaikie, 'Coastal Communities in Victorian Scotland', p. 24; Smith, 'The Demography of Coastal Communities', pp. 63–64. Maritime quarters in several eighteenth-century French ports had high rates of consanguineous marriages (four to seven per cent); see Cabantous, *Les Citoyens du large*, p. 181.

¹⁴ Butcher, *The Ocean's Gift*, p. 41.

¹⁵ Polónia, 'The Sea and its Impact', p. 212. Note, however, that mariners in that community tended to migrate away permanently to the colonies.

¹⁶ Cabantous, *Les Citoyens du large*, pp. 128–30, 180–81.

¹⁷ Blaikie, 'Coastal Communities in Victorian Scotland', p. 24.

¹⁸ Polónia, 'The Sea and its Impact', p. 213; Cabantous, *Les Citoyens du large*, pp. 120–23. See

nuptiality (very few people did not marry) should have resulted in a high birth rate and larger families, but this does not always seem to have been the case, for reasons that demographers are hard pressed to explain.¹⁹ It may be that high male mortality cut short the fertility cycle by making many women widows early on or that repeated male absences reduced the frequency of intercourse, thus limiting family size. The relative poverty of many mariners might also be a factor. But it is also puzzling why marriages should remain endogamous if sex ratios were low but marriage rates high and the number of life-long singlewomen relatively small compared to agricultural communities. Low sex ratios should have encouraged women to look outside the community for marriage partners and/or resulted in a high proportion of life-long singlewomen. Another unresolved issue concerns rates of illegitimacy — high in some maritime communities, but low in others.²⁰

Before turning to the demographic characteristics of medieval coastal communities, it is first necessary to define what the term ‘maritime community’ means. It was primarily a coastal or estuarine settlement with immediate proximity to the sea — which was not only in sight of most households, but also a looming and dangerous presence. These were the places most subject to sudden and overwhelming floods and severe coastal erosion, catastrophic events especially well-documented in eastern England where the coastal geography was more vulnerable. Medieval Winchelsea, Romney, and Hastings, for example, all had to be resituated further inland because of severe coastal erosion accelerated by violent storms.²¹ Particularly severe weather in the early fourteenth century reportedly destroyed almost six hundred buildings in Dunwich and almost completely submerged the port of Ravensersodd on the Yorkshire coast.²² Rural manors lost thousands of acres of arable and pasture land to such floods, as laid out in some detail in the *Nonarum inquisitiones* of 1340.²³ To cope with these dangers, coastal communities developed highly organized forms of cooperative institutions in which all landholders were required to build and maintain stretches of the sea walls or dikes according to the amount

also the lower density of conceptions leading to baptisms per square mile for coastal parishes in seventeenth-century Sussex in Brent, ‘Rural Employment and Population in Sussex’, pp. 52–53.

¹⁹ Blaikie, ‘Coastal Communities in Victorian Scotland’, pp. 19–21.

²⁰ Adair, *Courtship, Illegitimacy and Marriage*, pp. 202–03; Polónia, ‘The Sea and its Impact’, p. 208; Blaikie, ‘Coastal Communities in Victorian Scotland’, pp. 21–22.

²¹ Williamson, ‘The Geographical History of the Cinque Ports’.

²² Bailey, ‘*Per impetum maris*’.

²³ Burleigh, ‘An Introduction to Deserted Medieval Villages in East Sussex’; Bailey, ‘*Per impetum maris*’.

of land they owned.²⁴ Other cooperative ventures included assessments to pay for ships and men the king wanted for the navy, the construction of quays and cranes, dredging the harbour, extending the haven, or fortifying the town in the face of the constant threat of enemy raids during the Hundred Years War.²⁵

Occupation also played an important role in defining these communities, which normally included at least thirty per cent — and up to seventy per cent in some cases — of households directly engaged in fishing or seafaring.²⁶ Smaller fishing villages were easy to identify by their proximity to salt water and fishing activities, although communities with a substantial proportion of occupations depending on the sea could also qualify, including mariners and pilots in waterfront wards or parishes within larger port towns. Among the medieval settlements included in the category of maritime community are Formby in Lancashire which in the 1379 poll tax had twenty-nine households, of which twenty-six were headed by a fisher, or Benacre in Suffolk which in 1381 had thirty-one households, fourteen of which were fishers, or even Arne in Dorset where all eleven householders were salters.²⁷ The category also encompasses estuarine villages such as Tollesbury in Essex, where the 1381 poll tax recorded fourteen druggers, two fishers, two fowlers, and one seafarer among its sixty-two households, and even Beetham in Cumbria where in 1254, nine of twenty-eight cottagers owned fishing nets.²⁸

Oddly enough, it is not immediately apparent that all medieval port towns can be included in this category.²⁹ Most of the Cinque Ports and some of the smaller seaports such as Scarborough, Grimsby, Dartmouth, and many Cornish ports were so oriented towards the sea that they can easily be classified as truly

²⁴ Dugdale, *The History of Imbanking and Drayning of Divers Fenns*, passim; Turner, 'The Statutes of the Marshes of Pevensey and Romney'; *The Records of a Commission of Sewers for Wiggshall*, ed. by Owen, pp. 13–15, 51–53.

²⁵ Kowaleski, 'Port Towns', pp. 468–70. Two London aldermen were so moved by the suffering of poor fishermen and ploughmen on the Sussex coast from French raids that they bequeathed them £100 in relief; Thrupp, *The Merchant Class of Medieval London*, p. 178.

²⁶ See Cabantous, *Les Citoyens du large*, pp. 70–71, 95–100, on this point.

²⁷ *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, I, 162; II, 461, 509–10.

²⁸ *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, I, 247; Winchester, *Landscape and Society in Medieval Cumbria*, p. 66.

²⁹ Historians of later port towns (though more in France than in Britain) are sensitive to this difficulty as well, but their fuller sources (particularly parish registers) allow them to single out the waterfront parishes in the larger port towns; see, for example, Cabantous, *Les Citoyens du large*, pp. 70–71, 95–100.

maritime communities. A prosopographic study of the 1377 population of Dartmouth, for instance, indicates that almost forty per cent of the male householders at one time ventured overseas as a mariner, shipowner, or merchant.³⁰ The impressive shipping capacity of Dartmouth, which in the early fourteenth century provided more ships for the war effort than any other port in England, is also noteworthy.³¹ But other officially designated port towns cannot be considered true maritime communities. Exeter, for example, despite its status as a staple port and head of a customs jurisdiction, was so far from the sea that all of its shipping went through Topsham, four miles (6 km) to the south. Similarly, Colchester operated mainly through its out port of Hythe.³² London was the country's largest port but was located well inland and protected from the worst sea storms; its occupational structure was so complex that the shipping and fishing industries played a very small role in the urban economy. By the late Middle Ages, in fact, most of the Thames-side maritime industries (like shipbuilding) had moved to estuarine settlements such as Greenwich, Erith, and Deptford. The position of Bristol and Hull is harder to determine since both were highly maritime economies and home to many mariners who clustered in particular waterfront neighbourhoods, such as Marsh Street in Bristol.³³ Isolating these neighbourhoods in the medieval documentation is virtually impossible, although it has been done for later centuries when parish records improve.

Many seafarers in coastal villages were also farmers, while those in port towns sometimes practised other occupations in addition to going to sea.³⁴

³⁰ Kowaleski, 'The Port Towns of Fourteenth-Century Devon', p. 68.

³¹ Runyan, 'Ships and Fleets in Anglo-French Warfare'; Kowaleski, 'Shipping and the Carrying Trade'. The shipping capacity of individual ports is also a rough guide to the intensity of their maritime involvement; see Kowaleski, 'Port Towns', pp. 488–90.

³² The particular accounts of the lay subsidy for Colchester also indicate that it was not a port town per se; see n. 45 below. In contrast, thirty-seven of the two hundred and eighty-nine households taxed in 1282 Ipswich owned ships or shares in boats. See Powell, 'The Taxation of Ipswich'.

³³ Sherborne, *The Port of Bristol*, p. 17. See also Childs, 'Irish Merchants and Seamen', p. 43, who singles out the concentration of Irish seamen and merchants in St Michael and St Stephen parishes in Bristol, and an Irish neighbourhood known as the 'Irish Mead'. Even York appears to have had clusters of mariners. The 1381 poll tax records four mariner households in St Mary Castlegate, six in St Michael Spurriergate (along with fourteen fishmongers), and four shipwrights in St Clement; see *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, III, 140–41, 155.

³⁴ But see also the Essex fishers who claimed that they 'only work at sea and fishing' in their complaint against justices of the peace trying to compel them to serve as agricultural labourers; *CPR: Edward III*, x: 1354–58, p. 580.

Most maritime historians consider fisher-farmers as part of the maritime world, but the question of whether their identity was more bound up with fishing or farming is problematic because fishing was a highly seasonal occupation that in some communities largely attracted young men for mostly brief periods before they inherited land and settled down to farm.³⁵ This pattern of life-cycle service is evident in the fifteenth-century estuarine village of Woodbury in Devon, where a surviving series of fish-tithe accounts shows the rapid expansion of the local fishing industry from eight men in the first decade of the fifteenth century to eighteen in the 1440s, when the annual number of fishing voyages had risen from seven to fourteen.³⁶ Among these young fishers were Thomas Townyng, the son of William Townyng, who after fishing for a few years appeared in the Woodbury records as a landowner and part-time tailor, suggesting that his fishing stint was part of a youthful period of service before he became a full member of the village community.³⁷ Henry Westcote is another example. He fished for two or three years before settling down to farm on a full-time basis.³⁸ But in many other communities, maritime pursuits took up more time than farming. Edward Berne of Dawlish, for instance, made close to twenty pounds a year from his fishing boat, which had a crew of four.³⁹ Berne's boat may have been the *Nicholas* of Kenton (the manor abutting Dawlish); he mastered it on a voyage to ship wine to Exeter, probably via the coast from Dartmouth or Southampton.⁴⁰ Berne also farmed lands for which he paid a rent of over

³⁵ Fisher-farmers were ubiquitous and are usually considered part of the maritime world. See, for example, Cabantous, 'Des paysans pour la mer'; Pawley, 'Lincolnshire Coastal Villages', pp. 58–59; *Farmers and Fishermen*, ed. by Ambler, Watkinson, and Watkinson.

³⁶ Kowaleski, 'The Commercialization of the Sea Fisheries', pp. 207–09. For the prevalence of cabin boys in medieval commercial and naval shipping, see Kowaleski, 'Working at Sea', pp. 910–11. Such life-cycle service was also evident in nineteenth-century Norwegian fishing villages; Dyrvik, 'Farmers at Sea', p. 287.

³⁷ Exeter Cath. Libr., V/C, 3364 and Exeter Cath. Libr., V/C, 3366. His father was a farmer who never fished.

³⁸ Based on the tithe records, he earned a bit over four shillings in 1424/5 and almost seventeen shillings in 1426/7 from fishing, the same year he began to lease pasture land with William Chapelyn; could he have used fishing profits to help fund this lease? Subsequently he paid calf and other farming tithes and continued to lease additional farming land; see Exeter Cath. Libr., V/C, 3358–66.

³⁹ Exeter Cath. Libr., D&C, 957; he made five pounds a term from fishing or twenty pounds over the course of the year if four terms are figured in a year.

⁴⁰ Exeter DRO, PCA 1449/50 (April 1450). For the coastal transport of wine to Exeter, see Kowaleski, *Local Markets and Regional Trade*, pp. 224–32.

nine shillings (s.) a year.⁴¹ He employed, moreover, a French man servant and an Irish woman, attesting to the strength of his overseas connections.⁴²

In addition to the occupational activities of fishing, farming, and coastal shipping, the demands of the Crown for experienced seamen also helped to define maritime communities. These demands — which can be traced through Crown ship calls and accounts — reveal much about the size and distribution of maritime labour. The siege of Calais in 1346, for instance, drew over 15,000 mariners and 720 ships, while expeditions in the mid-1370s involved another 14,000 sailors.⁴³ A survey of mariners available for naval service in 1372 named 417 mariners eligible for service in Essex.⁴⁴ Harwich recorded seventy-six mariners, while the next biggest provider of mariners was the village of Fobbing at the mouth of the Thames, which listed fifty mariners at a time when its total tax-paying population was only two hundred and twenty-five. Another small Thames community, Stanford le Hope, was able to muster forty-four sailors, while Colchester, the largest town in the region, only recorded thirty-five mariners, and most of them appear to have come from small estuarine ports outside Colchester.⁴⁵ Rural maritime settlements like the estuarine villages of Fobbing and Stanford, or the manors of the Exe and Dart estuaries, may not have had ships plying the overseas routes, but they were the real ‘nurseries of seamen’ in medieval England. They served as dormitory communities of labour for port towns, even though the mercantile capital, ships, and commercial opportunities were centred in the urban ports.

Coastal and estuarine communities in medieval England were thus home to a pool of maritime labour that had experience in a range of seagoing activities, including fishing, commercial shipping, and naval service, along with occasional forays into privateering and even piracy.⁴⁶ Given the striking similarity of these

⁴¹ Exeter Cath. Libr., D&C, 946, and Exeter Cath. Libr., D&C, 959 (residence and lands at *Cokton*), Exeter Cath. Libr., D&C, 955 (lands at *Estdoune*).

⁴² Kew, TNA, E179/95/100, m. 6d.

⁴³ Lambert, *Shipping the Medieval Military*, p. 140. See Kowaleski, ‘Working at Sea’, pp. 908–09; for the changing geographic distribution of shipping, see also Kowaleski, ‘Port Towns’. To put these numbers in perspective, the only town in 1377 with over 14,000 residents was London; Dyer, ‘Ranking List of English Medieval Towns’, p. 758.

⁴⁴ Kew, TNA, C47/2/46/6–14.

⁴⁵ In addition to place-name surname evidence, see also the concentration of sailors in West Donyland and Myland compared to their scarcity in Colchester in the 15th of 1301; Rickword, ‘Taxations of Colchester’.

⁴⁶ For privateering and piracy, see Kowaleski, ‘Working at Sea’, and Kowaleski, ‘Shipping and the Carrying Trade’.

activities to those conducted by mariners in later centuries, did medieval coastal settlements exhibit any of the demographic characteristics identified by scholars in modern maritime communities? There is certainly abundant anecdotal evidence that medieval seafarers were away from their homes for such long periods of time that male absences were a regular feature of medieval as well as later maritime communities. Although inshore fishers only left home for a day or so, the better herring fishing at night and the intensity of effort expended during the time when shoals came close to shore meant that even they had unusual work rhythms. Inshore fishers also constructed seasonal settlements, sometime some distance from their home base, as Harold Fox has outlined for south Devon and Mark Gardiner for Dungeness.⁴⁷ These temporary beach camps with flimsy cabins for shelter and storing tackle were set up during fishing seasons that lasted anywhere from one to three months. These all-male seasonal settlements must have had an entirely different social structure and cultural identity than their home villages; also significant was the relative equality among fishing crews who all shared in the profits of the common enterprise.

In the late Middle Ages, English fishers began going even further afield. Devon and Cornish fishers, for instance, regularly worked off the coasts of Yarmouth, Kent, Sussex, Dorset, and Wales and occasionally ventured as far as Scarborough and Norway.⁴⁸ By the late fourteenth century, they were also travelling to the south Irish coast with salt, returning six to eight weeks later with lightly cured fish. Deep-sea fishing in the Dogger Banks, which had probably begun in earnest by the late twelfth century, required even longer absences, while the exploitation of the Icelandic fisheries in fifteenth century entailed round-trip voyages lasting two to three months.⁴⁹

Medieval mariners were away from home even more often than fishers. The annual voyages from England to Bordeaux for wine took from one to three weeks depending on weather conditions; the shortest round-trip lasted at least three weeks and usually more since most ships stopped along the way home.⁵⁰ The shorter hauls across the Channel or along the coast may only have taken a few days, but they were repeated week after week, building up to substantial

⁴⁷ Fox, *The Evolution of the Fishing Village*; Gardiner, 'A Seasonal Fisherman's Settlement at Dungeness'.

⁴⁸ See Kowaleski, 'The Expansion of the South-Western Fisheries', for this and the following.

⁴⁹ Kowaleski, 'The Seasonality of Fishing'; Heath, 'North Sea Fishing'; Childs, 'England's Icelandic Trade'.

⁵⁰ James, *Studies in the Medieval Wine Trade*, ed. by Veale, pp. 123, 134–35, 170; Chaplais, *English Diplomatic Practice*, p. 149.

absences in the long run. Naval service, which was frequent from the 1290s on, also removed men from their homes for weeks and months at a time.⁵¹ Shipmasters like Thomas Gille of Dartmouth, who regularly plied the Gascon and Breton trade routes, received a licence for privateering, represented his port in Parliament, and were often employed by the Crown to provide naval service, must have been away more often than they were at home.⁵² A glance at the court rolls for ports such as Scarborough or Yarmouth, moreover, reveals the impressive range of visitors from ports all along the English and European coasts.⁵³ Clearly, therefore, in the Middle Ages as later, many of the men in maritime communities were regularly absent from their homes.

While we have no firm statistics over time about male mortality in maritime communities, the anecdotal evidence suggests it was just as substantial as it proved to be in later centuries. The risks of drowning and shipwreck are apparent to anyone who reads the long lists of victims in the eyre rolls, which recorded these problems in some detail because of the value of the deodands and salvage owed to the Crown.⁵⁴ Sometimes the losses were so dramatic that they were noted by chroniclers, as when a sudden gale destroyed twenty-five English ships and their crews on their way to Iceland in 1419.⁵⁵ The naval service required of so many mariners and fishers also took its toll in deaths at the hands of the enemy or pirates, in long captivities, and in large ransoms that took months if not years to collect. The small fishing port of Budleigh in east Devon claimed in 1347 that continual service to the king had cost its residents three ships, twelve boats, and one hundred and forty-one men.⁵⁶ When a Sandwich ship on coast guard duty was attacked at sea by a small fleet of Flemish ships, it lost two crewmen at the scene and another eleven who even-

⁵¹ The length of service is specified in the Kew, TNA, E101 naval accounts.

⁵² For Gille, see Kleinecke, 'English Shipping to Guyenne'.

⁵³ For example, entries in the Scarborough court rolls for the fifteenth century show maritime disputes involving mariners and others from Newcastle, Hull, York, Whitby, Selby, Filey, Flamborough, Sisterkerkes, Ipswich, Boston, St Oysth, Orford, Bristol, as well as Norway, Holland, and even Gdańsk, to name only a few; see Northallerton, NYorksRO, Scarborough Corp., MIC 1355 (items 10, 11, 16, 29, 1098, 1102, 1120, 1147, 1175, 1270, 1283).

⁵⁴ See, for example, *Crown Pleas of the Devon Eyre*, ed. by Summerson, passim; *The Havener's Accounts*, ed. by Kowaleski; Kew, TNA, JUST1/112, mm. 1–18d. and Kew, TNA, JUST1/118, mm. 49d–69d.; see also Mollat de Jourdin, *La Vie quotidienne*, pp. 199–211.

⁵⁵ Marcus, 'The First English Voyages to Iceland', p. 315. See also Carus-Wilson, 'The Iceland Venture', pp. 110, 119 for the life-threatening disasters on this voyage.

⁵⁶ *Rotuli parliamentorum*, II, 203; *CPR: Edward III*, VII, 467–68; *CIM*, II, no. 2026.

tually died of their injuries.⁵⁷ All the fishers and mariners on board four dogger boats of Simon Lambright of the small Norfolk port of Heccham were killed by German pirates, who also took away the ships and their cargo.⁵⁸ The tendency to be drowned or killed at sea is also reflected in the ordinances of several mariners' guilds and fraternities in coastal towns, which included special arrangements for burying seamen who died far away from home.⁵⁹ Even in port, sailors' fondness for drink and consorting in taverns with shady characters often led to violence and even death.⁶⁰

This analysis has thus far relied on anecdotal data to measure medieval maritime communities against the standards of their more modern cousins. What quantitative evidence survives? The best medieval demographic data can be found in the surviving poll tax returns, although there is, unfortunately, only one set of returns extant for 1377 (the best data for demographic purposes) that covers what can be considered true coastal communities in a rural setting — Skirbeck Wapentake in Lincolnshire.⁶¹ A comparison between Skirbeck's three villas and a large sample from inland villages does provide some suggestive data (Table 1).

⁵⁷ *CIM*, II, no. 2105.

⁵⁸ *CCR: Edward III*, VIII, pp. 241–42. Coastal settlements also suffered from enemy raids which may have killed more male than female residents since the men often put up some resistance; see n. 25, above. See also Blaauw, 'Remarks on the Nonae of 1340', p. 63, who quotes the references in the *Nonarum inquisitiones* to the destructiveness of French raids, including Patcham and Seaford where 'men of the parish' were singled out as being wounded or killed. Although the Black Death first entered England via its ports, it is impossible to know whether coastal residents' early exposure caused higher mortality — which in any case would presumably have affected men and women equally. It is perhaps noteworthy, however, that when Edward III wrote to the Governor of Jersey about the high mortality caused by the plague, he singled out 'the fishing folk of this island', whose rents he would not insist upon collecting so as not to excessively oppress 'those fishers still left'; Ziegler, *The Black Death*, p. 122.

⁵⁹ Riley, 'The Records of the Corporation of Bridport', p. 479; *The Little Red Book of Bristol*, ed. by Bickley, II, 186–92.

⁶⁰ See examples of this problem and those of shipwreck and captivity that mariners faced in Kowaleski, "Alien" Encounters.

⁶¹ Although the 1377 poll tax is the most reliable source of demographic data for medieval England, it still under-represented teenagers (particularly servants and women) and the very poor (many of whom were unmarried). Scholars debate the extent of this under-representation, offering figures of between five per cent and twenty five per cent, but it was probably around ten to fifteen per cent. For recent discussions of these issues, see *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, 'Introduction', pp. xxiii–xxv; Hinde, *England's Population*, pp. 68–73. What is significant for this essay is that a certain proportion of young, single, and mobile crewmen were likely to be in the under-represented group.

Table 1. The size and composition of inland and maritime households (HH) in 1377 and 1379

	Nos	Date	Total sex ratio (no. of men to 100 women)	Single	HH headed by women	Mean HH size
Rural Inland Communities						
Oxfordshire, 11 vills	438	1377	119.0	34.9%	8.3%	3.74
Northumberland, 38 vills	1276	1377	107.5	25.7%	10.6%	3.50
Rutland, 41 vills*	3595	1377	103.0	33.5%	14.5%	3.53
Rural Maritime Communities						
Lincolnshire, 3 vills (Skirbeck Wapentake)	602	1377	94.8	39.2%	21.5%	4.02
Urban Inland Communities						
Carlisle	661	1377	89.7	41.6%	23.9%	
Northampton*	672	1377	—	40.8%	8.0%	4.18
Oxford, St Mary parish	295	1377	98.0	38.3%	8.9%	3.96
Oxford, St Peter parish	177	1377	98.9	44.6%	16.7%	4.10
Sheffield	527	1379	96.3	33.2%	21.8%	
Pontefract	908	1379	92.8	32.8%		
Urban Maritime Communities						
Hull	1557	1377	92.7	42.1%	23.4%	3.71
Dartmouth	512	1377	—	32.8%	15.4%	3.76
Chichester*	331	1377		36.3%	11.9%	
Lynn*	1154	1379	92.9	32.6%		

Notes: Data for 1377 are more accurate than for 1379.

* = includes partial or damaged returns.

For rural vills, only fully nominative returns were employed.

'Single' means not-married.

The mean household size has been calculated by using a multiplier of 1.65 to account for children and others who evaded the tax.

I have omitted towns that might display characteristics of inland *and* maritime settlements.

Sources: Data for 1377 rural households calculated by M. Kowaleski from poll tax returns in *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, II, 4–6 (Lincolnshire, including Freiston, Skirbeck, and Butterwick), 316–20 (Oxfordshire), 267–71 (Northumberland), and 355–73 (Rutland). For the urban households, I used the data in Goldberg, 'Urban Identity and the Poll Taxes', pp. 199, 200; Goldberg, *Women, Work, and Life-Cycle*, pp. 306, 310, 315, 370–73. Blank spaces mean the measure cannot be accurately calculated, a dash means that this figure could not be calculated because the servants were not identified by gender.

Two measures point to the possibilities of high male mortality or absences: the quite low sex ratio for the three Lincolnshire villages (94.8 compared to over 100 for the non-maritime communities) and the high per cent of households headed by women (over twenty per cent, compared to only nine to fifteen per cent for the inland villages). The relatively high percentage of single people in maritime communities could also be interpreted as a reflection of male absences, especially given the low sex ratios.⁶² The fourth measure — the high mean household size in the Lincolnshire maritime villages — could be construed as an indication of early marriage (leading to larger families), but in this instance it could also be a reflection of the prosperity of this region of Lincolnshire since we know that richer households were larger than poorer ones.⁶³ These somewhat unusual conditions for coastal Lincolnshire, where salt marshes were more common than sandy beaches suitable for landing fishing and commercial craft, means we need to look further for quality data.⁶⁴

We have a bit more evidence when comparing port towns with inland towns, although here the occupational diversity of even heavily sea-oriented ports like Hull and Dartmouth needs to be taken into account. As a result, the comparisons are not conclusive, and, indeed, they tend to emphasize the differences from town to town more than any significant disparities between inland towns and seaports (the bottom half of Table 1). The only measure that might reflect significant difference is the mean household size, which at first glance appears to be smaller in the ports of Hull and Dartmouth (although not as small as the northern inland town of Carlisle), which could possibly reflect the truncation of families by male mortality and migration. Further data are needed before we can make any concrete conclusions.

Other types of tax data can also provide some hints about the demographic structure of coastal communities. Many of the southeastern ports of England,

⁶² It does not reflect a high percentage of servants in these Lincolnshire villages; only 6.85 per cent of households had servants, lower than for any of the inland counties analysed.

⁶³ For the prosperity of Skirbeck Wapentake in the 1332 lay subsidy (which is inflated by Darby's inclusion of the town of Boston), see Darby, *The Medieval Fenland*, pp. 137–38. I thank Steve Rigby for pointing out the inclusion of Boston (which paid £61 of the almost £159 paid in the wapentake) in Darby's figures. For the correlation between wealth and household size, see Phythian-Adams, *Desolation of a City*, pp. 238–43.

⁶⁴ The 1379 returns survive in greater quantity than the 1377 returns for maritime communities; they are not exploited here because of their many problems, including under-enumeration of key populations, especially servants and the unmarried; see *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, 'Introduction', pp. xiv–xvi, xxiii–xxvi, xxxiv–xxxv. For a defence of the 1379 returns, see Goldberg, 'Urban Identity and the Poll Taxes'.

for example, had regular assessments (called a 'cess') based on the value of householders' movable property, hearth taxes based on their immovable property, and maltots, a tax on the income of particular occupations (such as fishers and rippers, but also butchers and shoemakers). Together these tax sources can illuminate the occupational structure of a coastal community such as Hythe (Kent), a small seaport borough in the Cinque Ports confederation, where fishing and coastal shipping predominated in the late Middle Ages.⁶⁵ Around 1413, it had about one hundred and seventy households and a population that was just under seven hundred.⁶⁶ Based on tax assessments and the maltots paid on fishing, at least twenty-one per cent of the households had direct ties to fishing, although it is likely that many of those too poor to pay maltot or hearth tax found work as crewmen aboard fishing and sea-going vessels.⁶⁷

Only nine per cent (eleven) of the maltot payers were women, and none of them shows any evidence of being involved in the fish trade.⁶⁸ Indeed, the maltots, tax assessments, and the many entries in the town court rolls and accounts about fishing offer very little evidence that Hythe women were involved in any aspect of fishing, in stark contrast to what later historians have found for the nineteenth and early twentieth centuries, when women in British coastal villages

⁶⁵ Overseas traffic through Hythe was relatively sparse and concentrated on short trips across the Channel, especially to Calais in the later Middle Ages; Kew, TNA, E122, passim; Carus-Wilson and Coleman, *England's Export Trade*. It was one of the original members (and thus a head port) of the Cinque Ports confederation, which speaks to its prominence in the Anglo-Saxon period. It suffered a series of disasters in the later Middle Ages, including a French raid in 1341, and substantial silting that choked its harbour despite extensive efforts at dredging; see Murray, *The Constitutional History of the Cinque Ports*, pp. 1, 4–5, 13–14, 47, 215, 233–34; *CCR: Edward III*, vi, 263.

⁶⁶ The household numbers are based on a tax assessment to help fund repair of the harbour and ship service for the king in 1412/13 in Dover, EKentArch., H1052, fols 30–43. There were one hundred and fifty-four tax-paying households (including eleven in the suburb of West Hythe, but excluding sixteen advocants, who were freemen but did not reside in Hythe); using a multiplier of 4.5, the total population would have been six hundred and ninety-three; with a multiplier of 4.0 it would have been six-hundred and sixteen.

⁶⁷ The maltots for 1412/13 are listed for one hundred and sixteen households, twenty-three of whom either were assessed on specific fishing voyages (eleven) or on inventory that included fish (twelve); see Dover, EKentArch., H1052, fols 1–15^v.

⁶⁸ They included a dressmaker, a water carrier, a retailer, and three brewsters (all of whom were also involved in cloth making). Based on their names, three were widows, two were wives, and the others may have been single women since they were not named in relation to any man. A further group of five women appeared in the tax assessments but not the maltots; one of these women paid taxes on rents, but the others were all very poor with nil values recorded for their goods.

Table 2. Maritime bequests in medieval (and some early modern) wills

Place	County	Dates	Total Wills	(No.) % with Maritime Bequests	(No.) % of Maritime Wills with Maritime Bequests to Women
Bristol	Gloucestershire	1382–1508	296	(11) 4%	(3 of 13) 23%
Cornwall	Cornwall	1401–1531	77	(8) 10%	(3 of 8) 38%
Hythe	Kent	1443–1520	205	(58) 28%	(24 of 58) 41%
Lydd	Kent	1400–1600	451	(74) 16%	
Folkestone	Kent	1400–1600	237	(44) 19%	
Lowestoft	Suffolk	1560–99	117	18%	(6 of 27) 22%
Lowestoft	Suffolk	1660–99	312	16%	(7 of 58) 12%
Lowestoft	Suffolk	1700–30	178	15%	(0 of 27) 0
Maritime Wills	Various	1382–1531	166	(136) 82%	(49 of 136) 36%
Mariners & Shipmen			22	(1) 5%	0
Shipwrights			4	(1) 25%	0
Fishers			109	(103) 94%	(38 of 103) 37%
Shipowners			32	(32) 100%	(11 of 32) 34%

Notes: Clerical wills have been excluded. Maritime bequests include ships (and shares of ships), ship equipment (oars, ropes, sails, anchors, capstans, windlass), fishing equipment (nets, lines, hooks, knives for fishing), fishing cabins, weirs, and sea gear (including clothing and sea chests). Maritime wills are those that either contain bequests of maritime equipment (such as ships) or were left by shipowners, mariners, shipmasters, fishers (but not fishmongers), and shipwrights; the percentage of these men who left maritime bequests is noted under All Ports: Maritime Wills, col. 5.

Sources: Wadley, *Notes or Abstracts of Wills*, pp. 5–177; *Cornish Wills*, ed. by Orme, pp. 26–187; Hussey, 'Hythe Wills: First Part', pp. 27–56; Hussey, 'Hythe Wills: Second Part', pp. 87–121; Hussey, 'Hythe Wills: Third and Final Part', pp. 27–65; Sweetinburgh, 'Strategies of Inheritance among Kentish Fishing Communities', p. 94; Butcher, *The Ocean's Gift*, pp. 39–40, 63–64, 101–03; counts based on fishing boats and gear and curing materials. The total wills includes wills and inventories, but Butcher does not make clear whether the inventories refer to surviving wills as well, and only gives percentages of maritime bequests, not the total numbers.

The Maritime Wills sample includes wills from Bristol, Cornwall, and Hythe (see above for sources), as well as: York, Borthwick Institute, Probate Registers 1–4, passim (for Filey, Hull, Scarborough, and York); Norwich, NorfolkRO, Rye MSS, 134 (Shipden); Hussey, 'Herne Wills: Abstracts.— I'; Hussey, 'Herne Wills: Abstracts.— II'; Hussey, 'Reculver & Hoath Wills'; Hussey, 'Milton Wills (Next Sittingbourne).— I'; Hussey, 'Milton Wills (Next Sittingbourne).—II'; Arnott, *Alde Estuary*, p. 52; 'Medieval and Tudor Kent, C.C.C. Wills, Book 58', transcr. by Duncan.

played a key role in a variety of tasks associated with preparing for the fishery and processing and selling the catch. The wills of Hythe, however, tell a different story from the maltots. Two hundred and five wills from before 1520 survive for the port, twenty-eight per cent of which contain maritime bequests of high-value items such as ships, boat shares, and fishing cabins, as well as fishing gear, nets, hooks, ropes, and other items associated with seafaring and fishing (Table 2).⁶⁹ An extraordinarily large percentage — forty-one per cent — of the wills with maritime bequests gave them to women, particularly widows, who accounted for just under twenty per cent of the legatees. This figure almost exactly matches that found for widows in Sheila Sweetinburgh's analysis of six hundred and eighty-eight wills from Hythe's neighbouring ports of Lydd and Folkestone, although wills here had a slightly lower percentage of maritime bequests: about eighteen per cent compared to twenty-eight per cent for Hythe.⁷⁰

Also striking is the contrast between the wills of these Kentish fishing ports, and the larger seaports such as Bristol and Hull (Table 2). An analysis of almost three hundred wills from late medieval Bristol, for example, shows that only four per cent left maritime bequests (and one-third of these had no bequests of equipment, but only small cash legacies to dock-side workers). These urban testators tended to be wealthier than the Kent fishers, and were more often shipowners, shipmasters, mariners, and shipwrights than fishermen. Only the shipowners, about one-quarter of whom left shares in their ships to widows and daughters, ever left the tools of their trade to their female kin. Most of the women in the larger ports who did inherit ships and boat-shares co-owned their vessels with sons or with their husbands' partners, suggesting that these maritime bequests

⁶⁹ These are in the Canterbury Cathedral Archives Probate Registers, but I used English abstracts printed in Hussey, 'Hythe Wills: First Part'; Hussey, 'Hythe Wills: Second Part'; Hussey, 'Hythe Wills: Third and Final Part'. To check the accuracy of his transcripts, I compared twenty original wills with twenty randomly selected wills in the first fifty years of his abstracts; it is clear that Hussey's summaries of bequests and legatees are accurate and that he was particularly careful to include all maritime bequests, and, indeed, most bequests, omitting mainly longer descriptions of some of the bequests. In my calculations, bequests of groups of items (such as two boats or ten nets or two maunds of hooks) were counted in each bequest type for each testator's heir. If the testator named more than one heir for a maritime bequest, each heir was counted. Reversions of items (two for boats, one for sea gear, one for nets) were also included. But the analysis also calculated figures in which each bequest (including bequests to one heir of multiple items of the same sort, such as five shot-nets and two flew-nets) only once.

⁷⁰ Sweetinburgh, 'Strategies of Inheritance among Kentish Fishing Communities', p. 94; her wills cover the period from 1400 to 1600. What remains to be explored is whether the percentage of seacraft-related items bequeathed to women in these small ports was higher than bequests of work-related equipment in the wills of those who did not go to sea.

were meant to represent forms of easily liquefied capital for widows and dependents. In contrast, the frequency with which fishing equipment was bequeathed to family members in the fishing ports and the high percentage of items that went to women reflect inheritance strategies that emphasized a shared identity and common investment in the maritime enterprise. The joint ownership of capital assets such as fishing cabins, boats, capstans, windlasses, and even nets also points to the collective nature of risk management in these fishing communities.

The relative frequency with which women received bequests of nets and fishing hooks — and even on occasion, bequeathed them — supports evidence for later centuries that women's maritime labour within fishing households was oriented in large part towards making and repairing nets and baiting hooks for long-line fishing.⁷¹ Both tasks could be done on shore close to home and required skills — such as spinning and twisting fibers, threading, and knitting — that were usually associated with women. Nets in particular were capital assets which could make the daughter a more attractive marriage prospect, especially if her husband was a fisherman. Indeed, this sharing of assets with daughters would be typical of endogamous marriage systems in which marriages were made within fishing families.

Although women in the smaller fishing communities received a high proportion of bequests of maritime equipment, male heirs, particularly sons, were still favoured over female heirs. Thus, a hefty percentage of the Hythe widows receiving maritime bequests, were guardians of minor sons, and when older sons were around, widows' share of these bequests tended to be lower. Male kin were also usually favoured over female kin.⁷² Male servants and fishing partners were also beneficiaries, although sustaining the family enterprise seems to have been para-

⁷¹ Nets accounted for just under half of maritime legacies in Hythe (wives and widows received twenty of these bequests, daughters fifteen), compared to twenty-five per cent for boats and boat shares. Hythe wives and widows received two bequests of hooks, sons two bequests and daughters four. Daughters in Lydd and Folkestone were named less often as legatees than in Hythe, though as in Hythe, nets represented the bulk of their bequests; see Sweetinburgh, 'Strategies of Inheritance among Kentish Fishing Communities', pp. 98, 101. For women's work mending nets and baiting hooks in maritime communities, see Thompson, 'Women in the Fishing', pp. 8–9; Kirby and Hinkkanen, *The Baltic and North Seas*, pp. 237–38; Blaikie, 'Coastal Communities in Victorian Scotland', p. 16.

⁷² Wives and widows in Hythe received 17.8 per cent of the bequest; sons got 29.9 per cent, daughters 12.1 per cent, grandsons and nephews each received 2.3 per cent, but granddaughters and nieces received nothing. Sisters received 1.1 per cent and brothers 0.6 per cent but the numbers of bequests are so small (two and one respectively) that it is dangerous to make too much of this comparison. Non-related men received 6.3 per cent of the bequests (especially nets) and non-related women only 1.7 per cent.

mount. A number of the wills, for example, make clear that whoever of several sons pursued fishing was to get the testator's boat, or nets and hooks. Others gave first crack at buying their boats and nets to brothers.⁷³ Although it is impossible to value the bequests in the absence of inventories, the initial impression is that male heirs received the higher-value items more often than did female heirs, although a surprisingly large percentage of testators gave their widows considerable control over fishing assets, perhaps a reflection of the business acumen the wives had accrued helping to manage the family business while their husbands were away.

The tax assessments and wills of Hythe and other coastal communities give us a picture of the middling and upper ranks of these settlements, but it is much harder to find out anything about the common seamen and fishermen who did not own property. The itinerant nature of maritime occupations also makes many of them hard to track. Taxes that assess aliens offer some insights, however, into the poorer and highly mobile community within coastal settlements. A 1522 list for the small port of St Ives in Cornwall, for instance, records twenty-three aliens, of whom eight were fishers from Brittany; five of the eight were said to be paupers, too poor to pay the tax.⁷⁴ This type of emigration by poor, probably young fishers and mariners likely worked in reverse as well, with Englishmen leaving their home ports for foreign coastal settlements and thus contributing to the demographic absence of men in so many maritime communities. Some of these seafaring Englishmen brought back foreign wives; in 1483 Suffolk, the sailor John Carr of Shottisham had a Scottish wife, while John Sencler, seaman of Thorpeness, John Heyles, shipman of Walberswick, and Henry Hall, roper of Walberswick, also had foreign wives.⁷⁵ Likewise, marriage to a local English woman could accelerate the integration of foreign mariners into their new English community, where their skill set was in demand in the local economy.

The migration that was a hallmark of many maritime communities, particularly the larger seaports, is especially evident in the alien subsidies of the 1440s, a tax in which alien householders had to pay 16d. and non-householders 6d.⁷⁶ As Sylvia

⁷³ Hussey, 'Hythe Wills: First Part', p. 128.

⁷⁴ Whitley, 'A Valuation of the Lands and Goods', p. 237. For the southwest of England's long-time links with Brittany, see Touchard, *Le Commerce maritime breton*, pp. 237–57.

⁷⁵ Kew, TNA, E179/180/111; I am grateful to Jim Bolton for allowing me access to his transcript of this account.

⁷⁶ See Thrupp, 'A Survey of the Alien Population'. Exemptions were given to denizens, the Welsh, foreign wives of Englishmen or Welshmen, those under twelve, and members of religious orders.

Thrupp long ago pointed out, the largest communities of aliens were in England's seaports, particularly Bristol, Southampton, some of the Kentish ports, and London.⁷⁷ An analysis of two particularly good alien tax subsidies from the 1440s, for the counties of Suffolk and Devon, reveals something of this sub-population within English maritime communities. In Suffolk, about fifty-four per cent of the alien population lived in coastal settlements, with almost nine aliens per settlement, far higher than the 1.85 aliens who lived in the 129 inland locations in the county (Table 3). These higher figures for coastal communities reflected the size of the settlements, including sixty aliens in Ipswich, thirty-two in Lowestoft, thirty in Dunwich, and twenty-four in Southwold which together represented over half of the aliens in coastal Suffolk. Women migrants from Scotland or overseas were also slightly more likely to live in coastal settlements. Though this pattern was also likely a function of the urban nature of many of the seaports, it is also true that coastal settlements as the first port of call would have been easier for female emigrants, an important factor given the difficulties that women faced in traveling. Finally, several of the measures in the Suffolk analysis point to the often less prosperous status of the mobile sector of maritime populations. Aliens residing in coastal settlements, for example, were more likely to be non-householders, and over one-third of them could not be located to pay their tax since they had the notation 'moved' next to their name (Table 3).⁷⁸ This contrast between coastal and inland settlements was less marked in Devon, where the county town, Exeter, was inland, and where a larger number of places could not be identified, most of which were probably coastal. If the unknown aliens are added to the coastal group, the demographic profile for aliens in the Devon coastal settlements would be very similar to that for Suffolk.

In addition to showing significant differences between coastal and inland settlements, this analysis of the alien subsidies points to the migratory patterns of different ethnic groups (Table 4). The home country of aliens was not as often recorded in Suffolk as in Devon, but slightly over half of alien migrants to Suffolk were from the Low Countries, right across the English Channel. Another one-

⁷⁷ Thrupp, 'A Survey of the Alien Population', pp. 270–72. Note that the problems with the alien subsidies, including the exclusion of the wealthier merchants, the servants of noble households, and foreign women with English husbands, would not greatly skew his analysis of the alien maritime populations.

⁷⁸ Thrupp, 'A Survey of the Alien Population', p. 264, suggests that this official formula could also be interpreted as 'passive resistance' by taxpayers too poor to pay or anxious to avoid the tax. Note too that it was not always maritime towns that had the most non-householders; the returns for the Cinque Ports tend to show a greater percentage of 'stable' householders than seen elsewhere; Thrupp, 'A Survey of the Alien Population', p. 270.

Table 3. Alien residents by coastal or inland location, 1440

	Total Aliens	No. of Settlements & Avg. No. of Aliens	House-holders	Non-House-holders	Servants	Women	Moved
Suffolk	(512)						
Coastal	(274) 53.5%	(31) 8.84	(119) 43%	(155) 57%	(35) 13%	(27) 10%	(94) 34%
Inland	(238) 46.5%	(129) 1.85	(125) 52%	(113) 48%	(38) 16%	(18) 8%	(60) 25%
Devon	(679)						
Coastal	(313) 46.1%	(45) 6.96	(187) 60%	(126) 40%	(73) 23%	(11) 4%	(93) 30%
Inland	(313) 46.1%	(96) 3.26	(153) 49%	(160) 51%	(81) 26%	(18) 6%	(94) 30%
Unknown	(53) 7.8%		(7) 13%	(46) 88%	(33) 60%	(1) 4%	(24) 45%
Exeter	(68)	(1) 68.10	(39) 57%	(29) 43%	(18) 27%	(1) 1.5%	(35) 51%

Sources: Kew, TNA, E179/180/92 (Suffolk); I am grateful to Jim Bolton for allowing me to use his spreadsheets of the Suffolk alien subsidy. The Devon alien subsidy is Kew, TNA, E179/95/100. Internal evidence, such as the placement of the 'Unknown' communities in the tax roll, suggest that most of the Unknown communities in Devon were coastal.

Table 4. Alien residents by ethnicity in coastal settlements, 1440

	French	Norman	Breton	Flemings	LC/Dutch	Irish	Scots	Iberians	Other	Known	Unknown	Total
Suffolk	(35)	(2)	(2)	(3)	(66)	—	(5)	(1)	(4)	(118)	(156)	(274)
	30%	2%	2%	3%	56%						57%	
Devon	(30)	(176)	(18)	(9)	(12)	(47)	(2)	(2)	(2)	(298)	(15)	(313)
	10%	56%	6%	3%	4%	15%					5%	

Sources: Kew, TNA, E179/180/92 (Suffolk); I am grateful to Jim Bolton for allowing me to use his spread sheets of the Suffolk alien subsidy. The Devon alien subsidy is Kew, TNA, E179/95/100.

third came from France, also a quick sea trip away. The Devon alien migrants came from a much wider range of foreign countries, probably a reflection of the increasingly diverse trade of southwestern England in the late Middle Ages.⁷⁹

⁷⁹ Kowaleski, *Local Markets and Regional Trade*, pp. 235–46; Williams, 'Medieval Foreign Trade'.

Over half of the aliens in mid-fifteenth-century Devon were from Normandy, followed by fifteen per cent from Ireland, ten per cent from 'France', and six per cent from Brittany, an ethnic distribution that very much reflects the overseas trading patterns of late medieval Devon.

Finally, what can the sources tell us about the mariners themselves, particularly their demographic structure aboard ship where so many seafarers spent the bulk of their time? Fishing, commercial, and naval voyages were all-male environments, though mariners aboard pilgrim ships and passenger ships would have encountered women. Three sources reveal more about these male crews aboard ships in fourteenth-century Devon: first, an agreement between the city of Exeter and five shipowners in 1310 (to hire their ship the *St Mary* to fulfil the city's naval obligation to the Crown) that lists a crew of twenty-eight (column 1 in Table 5); second, sixty-three mariners singled out in the 1305–20 local port customs accounts of Exeter because they claimed portage (column 2);⁸⁰ and, third, a series of depositions by seventy-eight mariners who testified about a charge of piracy by Dartmouth ships at Brest in 1386 (column 3).⁸¹ Most of the sailors on the *St Mary* hired by Exeter were from the estuarine villages of the Exe River, an indication once again that the smaller coastal settlements hosted large reserves of maritime labour (Table 5). The large percentage of mariners on the 1386 Dartmouth ships who actually resided in the town reflects Dartmouth's role as a true sea port. Even so, one-quarter of the 1386 Dartmouth mariners came from outside the town.⁸² The bulk of these non-Dartmouth mariners originated from within a twelve-mile (20 km) radius of the port, but some came from farther away, including Barnstaple in north Devon, Southampton, Cornwall,

⁸⁰ Portage, a privilege allotted to virtually all mariners on commercial ships, allowed mariners to ship their own goods at free or reduced freightage in lieu of full wages; port towns recognized the privilege by not charging custom on a certain amount of cargo shipped this way. The Exeter accounts are unusual in recording all these exemptions under portage, which enables us to identify mariners aboard ships coming into the port.

⁸¹ For the 1386 allegations of piracy, see also Gardiner, 'John Hawley of Dartmouth', and Jones, '*Roches contre Hawley*'. Identifications of residence were sometimes given in these sources, but some were derived from a large prosopographical database of borough and manorial records, charters, wills, and port customs accounts for late medieval Devon. For the methodology employed in name linkage and identification, see Kowaleski, *Local Markets and Regional Trade*, pp. 334–47.

⁸² In the inquisition of the activities of Dartmouth ships at Brest in 1386 (in Kew, TNA, C47/6/4), there were five mariners from Stoke Fleming, four from Kingswear, two from the Dart estuary, and one each from Dittisham, Brixham, Teignmouth, Newton Abbot, Barnstaple, Southampton, and Cornwall.

Ireland, Wales, and even the continent.⁸³ On occasion, mariners could also come from land-locked areas, as indicated in the case of Thomas Knollyng, a villein of Ashburton manor on the edge of Dartmoor, who in seeking manumission from his lord claimed that he was aged fifty and childless and had been a sailor since youth, indicating the typical pattern of recruitment in this industry.⁸⁴

The depositions by Dartmouth mariners questioned about alleged piracy in 1386 also provide data on the age and by-occupations of mariners, since they were required to give this information as part of their testimony. Prosopographical analysis allows us to determine how many of these men eventually served as shipmasters, or conducted trade as merchants; a similar analysis of the seamen who served on the Exeter ships hired to serve the king in 1310 also reveals something of their occupational background (Table 5). The majority were common seamen, but a fair portion went on to become masters themselves within ten years, so that their service as common seamen represented a type of apprenticeship for future shipmasters. The Dartmouth crews, who declared their occupations in their depositions, also included eighteen artisans: four tailors, two barbers, and a carpenter, armourer, plumber (from Cornwall), cutler, skinner, goldsmith, baker, mason, and a common labourer. How are we to interpret the presence of these artisans on what started out as a privateering and trading venture and ended up with accusations of piracy? Obviously some of them could have been aboard to service the needs of the ship and the crew on a long voyage, particularly the carpenter and baker, but perhaps the barbers and cutlers as well. Alternatively, these men could have been co-opted because of the heavy demand for naval manpower during the Hundred Years War or they could simply have wanted a share of the booty that the Dartmouth ships were licensed to collect as privateers. Perhaps Charles Kingsford was right to argue that it was the West Country's notorious privateering and piracy that was the real 'school for seamen' in the fifteenth century.⁸⁵

The Dartmouth inquisitions also hint at the ages and types of work careers that men aboard these ships had. In 1386 when the alleged piracy had occurred, Richard Bonenfant of Dartmouth would have been twenty-nine years old, around the average age (thirty) of the Dartmouth mariners involved in the incident at Brest (Table 5). We know that he was still active as a mariner in 1390, but in 1394, when the depositions were taken, he declared himself a skinner.⁸⁶ It is

⁸³ Kowaleski, "Alien" Encounters.

⁸⁴ *The Register of John de Grandisson*, ed. by Hingeston-Randolph, p. 1159.

⁸⁵ Kingsford, *Prejudice and Promise*, pp. 78–106, 177–203.

⁸⁶ Exeter DRO, PCA 1390/91.

Table 5. Residences, occupational status, and ages of Devon mariners in the fourteenth century

Crews of:	1 <i>St Mary cog of Exmouth in 1310</i>	2 <i>Exmouth ships at port of Exeter, 1305–20</i>	3 <i>Dartmouth ships at Brest in 1386</i>
(Total number of mariners:)	(28)	(63)	(78)
Residence			
Main port town (Exeter for 1 & 2, Dartmouth for 3)	0	0	60
Estuarine villages (Exe estuary for 1 & 2, Dart estuary for 3)	28	60	8
Port towns within 12 miles (19.3 km)	0	0	5
Port towns over 12 miles away (19.3 km)	0	1	3
Inland settlements	0	2	1
Occupational status			
Common mariner	25	42	41
Artisan/mariner			15
Artisan/mariner/shipmaster			3
Mariner/shipmaster	1	14	7
Mariner/merchant			1
Shipmaster		5	10
Shipmaster/shipowner	2	2	1
Age			
Under 20			1
20–30			33
31–40			27
41–50			7
51–60			2
Average age:			30.2

Sources: Exeter DRO, M/214 (1310), printed in Jones, 'Two Exeter Ship Agreements'; *The Local Customs Accounts of the Port of Exeter*, ed. by Kowaleski, pp. 91–192 (for 1305–20); Kew, TNA, C47/6/4 (for 1386). The latter consists of depositions in which mariners stated their residence, occupation, and age. I added five years to those who declared their age as 'x and more years', when the age was rounded off as twenty, thirty, or forty, and two years when the age was not rounded off (as in twenty-three, thirty-one, or forty-four, for example). The ages were then reduced by eight years so that the average age represents their age in 1386, not 1394 when the depositions were taken. For the Exmouth mariners, information about residence and shipmaster status was largely gathered from a prosopographical database of deeds, customs accounts, account rolls, and court rolls for medieval Devon.

entirely possible that he had 'retired' from the seafaring life by 1394 (when he was thirty-seven years old) and taken up another craft (or one in which he had also dabbled while also serving as a mariner). Almost half of the 1386 sailors were in their twenties, and only nine of the mariners were in their late forties or older (and only four of these were common seamen — the rest were shipmasters or artisans by 1394). As he aged, perhaps Bonefant decided to get out of what early modern and modern historians have characterized as a young man's game. Certainly it can be argued that the adventure of seafaring and the possibilities of career advancement and quick profit from prizes taken at sea may have lured many youths into shipboard life, only to leave for the safer if duller life ashore as they aged. Richard Bonefant's switch from seafarer to skinner as he grew older suggests that life-cycle service was an important aspect of the maritime labour market, particularly during the late Middle Ages when the demand for seafaring labour was very high due to naval requirements. As noted earlier, this same pattern of life-cycle service is evident in the Exe estuary village of Woodbury, where fisher-farmers often spent their early years at sea, but concentrated on farming when they were older and had inherited the family holding.

In conclusion, although the medieval evidence does not provide the firm statistical data that would definitively corroborate the existence of the demographic characteristics identified as typical of most seventeenth- to early twentieth-century maritime communities, it does suggest some useful parallels. In the percentage of maritime occupations; in the prevalence of fishing combined with farming; and in the combination of maritime activities such as fishing, commercial shipping, naval activity, privateering, and piracy, medieval coastal communities were very like their more modern counterparts. The medieval anecdotal evidence for male absences and high male mortality is also very strong, while the poll tax data on low sex ratios, high percentages of single people, and large numbers of households headed by women in maritime communities also point to a shortage of men. The will evidence from Hythe, moreover, reinforces studies of later centuries that have outlined how male absences and mortality increased female autonomy and fostered inheritance strategies that kept assets — especially fishing tackle — in the family. The alien subsidies allow us to focus on the high rates of migration within coastal settlements, in which even small fishing villages attracted foreigners — while also providing a profile of overseas migrants in terms of status, gender, ethnicity, occupation, geographic distribution, and stability of residence that adds to our understanding of the peculiar demographic features of coastal communities. There is less evidence of early marriage and endogamous marriage in the medieval records although surname studies of thirteenth- and early fourteenth-century material might be worth pursuing. And

while no medieval source throws any light on the seasonality of conceptions and marriages, the strongly seasonal nature of maritime work plus the regular absences of fishers and mariners certainly suggests that such patterns would have been present. Finally, the prosopographical data on the Exmouth and Dartmouth mariners give us some idea of the demographic structure of the mariners themselves, particularly in terms of their age, by-occupations, length of service, occupation, and residences.

Medievalists lack the hard demographic data enjoyed by early and late modern scholars, but by combining insights from scarce and recalcitrant sources and by employing a prosopographical methodology to stand in for the fuller data available from parish-register analysis in later centuries, it is possible to draw some comparisons between the populations of medieval and later coastal communities. The number of striking similarities noted here in the demographic features of medieval and later coastal communities strongly suggests that the marine environment and the occupations it shaped could produce continuities across centuries rather than an abrupt rupture between the late medieval and early modern periods.

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Part II
Landlords and Peasants

GRAIN YIELDS ON ENGLISH DEMESNES AFTER THE BLACK DEATH

Bruce M. S. Campbell*

The Black Death of 1348–49 constitutes proportionately the single greatest demand-side shock in English agricultural history. At a stroke, it reduced by at least forty per cent the size of the population to be fed and delivered windfall gains in living standards to those who survived, enabling them the better to indulge their dietary preferences.¹ On the supply side, it transformed factor costs, raising the price of labour but reducing the prices of land and, as money supply *per capita* increased, capital.² Rarely, if ever, have agricultural producers been challenged by such profound and rapid economic changes. Moreover, the prolonged postponement of any sustained demographic recovery ensured that these changes endured long after the original precipitating event had passed.³

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¹ For an extensive review of the English evidence of mortality in the Black Death and the conclusion that 'the general population mortality in England appears to have been of the order of magnitude of 62.5 per cent', see Benedictow, *The Black Death*, pp. 342–79 (p. 377). Hatcher, 'England in the Aftermath', pp. 8–9, favours a more modest excess mortality rate of between forty and fifty per cent, while Aberth, *From the Brink of the Apocalypse*, pp. 127–28, plumps for forty to sixty per cent. For post-plague dietary developments see Dyer, *Standards of Living*, pp. 158–60, and for the production response, Campbell, 'Matching Supply to Demand'.

² Clark, 'Long March of History', pp. 99–100; Clark, 'The Cost of Capital'; Epstein, *Freedom and Growth*, pp. 61–62.

³ Hatcher, *Plague, Population, and the English Economy*, describes the one hundred and fifty years which followed the Black Death as 'the longest period of declining and stagnant population in recorded English history' (p. 11).

At the same time, husbandmen had to contend with significant shifts in growing conditions, as the agriculturally benign conditions of the Medieval Warm Period gave way to the cooler, stormier, and more variable weather of the Little Ice Age.⁴ According to a recent reconstruction by C. Loehle and J. H. McCulloch, global temperatures cooled from the 1250s to the 1350s, briefly recovered during the second half of the fourteenth century (when temperatures were temporarily restored to levels not experienced since the mid-thirteenth century), and then cooled again during the first half of the fifteenth century to a marked low point in the 1450s (fig. 13A). After a further brief respite, temperatures plunged to their Little-Ice-Age minimum from the 1590s to the 1690s. World tree growth, which has been reconstructed by M. G. L. Baillie at a far higher level of chronological resolution, echoed these trends, as warmer temperatures boosted growth and cooler temperatures depressed it (fig. 13A). Thus, the 1250s witnessed a notable temporal peak in tree growth, the 1290s and 1350s pronounced troughs, the 1380s a lesser peak, and the 1460s a further trough.⁵

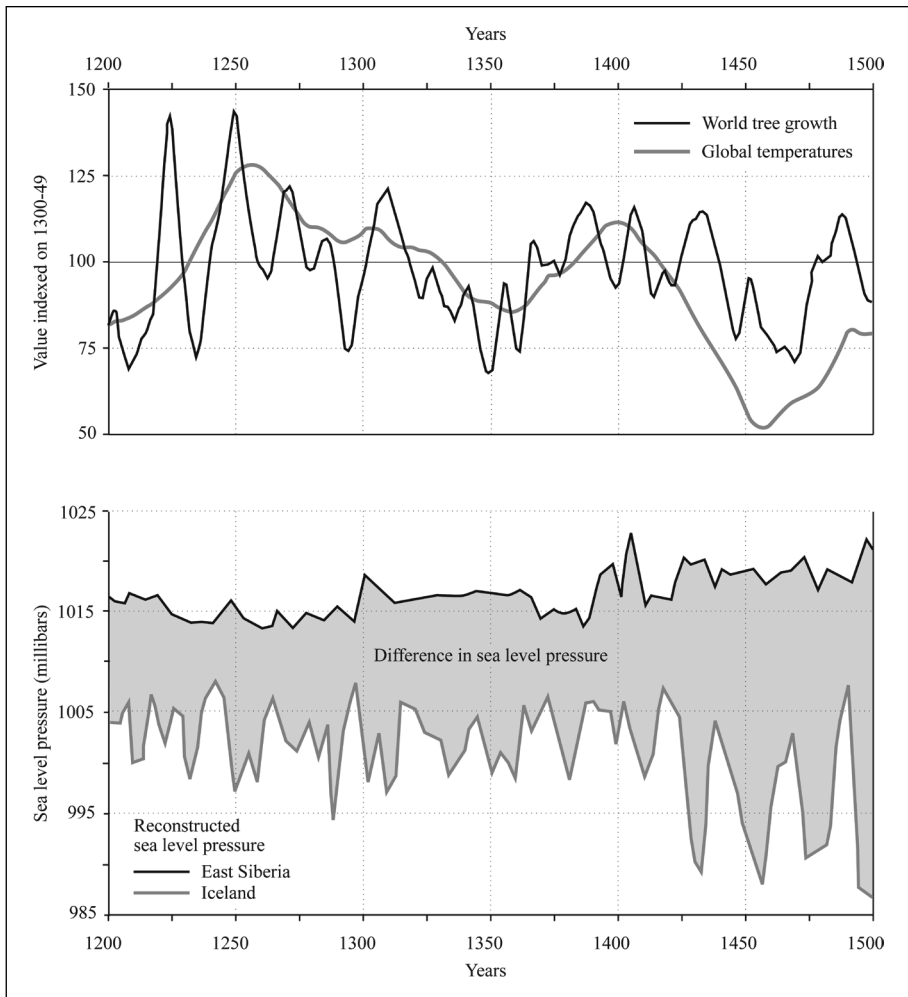
The first half of the fifteenth century seems to have been a negative tipping point for both temperatures and trees (fig. 13A) and this coincided with a major shift in the sea-level pressure gradient between Iceland and eastern Siberia. The advent of lower pressure over Iceland and higher pressure over Siberia (fig. 13B) generated more intense atmospheric circulation over the North Atlantic, resulting in colder and more unsettled winter conditions over northwestern Europe. Growing conditions for grain consequently became both less favourable and more unstable. L. D. Meeker and P. A. Mayewski consider this to have constituted 'the most rapid onset of any such event recorded in the North Atlantic region over the last 10,000 years.'⁶

The economic and environmental contexts of grain production thus altered in fundamental ways following the Black Death. An earlier generation of historians, lacking the insights into changing environmental conditions since provided by scientists, tended to couch discussion of late medieval grain yields in terms of land availability and quality, soil nutrient levels, technology, investment, and

⁴ The literature on the transition from the Medieval Warm Period to the Little Ice Age is large and fast expanding; see for example, Grove, *The Little Ice Age*; Pfister, Schwarz-Zanetti, and Wegmann, 'Winter Severity in Europe'; Higgitt, 'A Brief Time of History'; Meeker and Mayewski, 'A 1400-Year High-Resolution Record'; Cook, Esperb, and D'Arrigo, 'Extra-Tropical Northern Hemisphere'.

⁵ For a fuller discussion of the dendrochronological evidence as it relates to the fourteenth century, see Baillie, *New Light on the Black Death*, pp. 15–39.

⁶ Meeker and Mayewski, 'A 1400-Year High-Resolution Record', p. 263.



Figures 13A and 13B. Evidence of macro environmental changes *c.* 1200 to *c.* 1500: world tree growth, global temperatures, and sea level pressure in Eastern Siberia and Iceland

Sources and methods:

World tree growth (five-year smoothed trend): master chronology which combines ‘national’ chronologies for the Aegean, Polar Urals, Fennoscandia, temperate Europe (oaks), North America (bristlecone pine), Chile and Argentina, Tasmania, and New Zealand (data supplied by Mike Baillie).

Global temperatures (thirty-year smoothed trend): Loehle and McCulloch, ‘Correction to: “A 2000-Year Global Temperature Reconstruction”’ (data available at <<http://www.econ.ohiostate.edu/jhm/AGW/Loehle/LoehleMcC.txt>> [accessed 23 July 2009]).

Sea level pressure (three-year resampled GISP 2 ssNa and log(nssK) series calibrated with and extending the instrumental record 1899–1986): Meeker and Mayewski, ‘A 1400-Year High-Resolution Record’, p. 261.

labour inputs.⁷ Drawing upon the copious statistical information contained in many thousands of extant manorial accounts, they demonstrated that following the Black Death demesne managers progressively reduced the amount of tillage kept in cultivation and removed a good deal of inferior land from grain production, so that the average quality of land under crop should have risen. Some of this former arable was laid down to grass, so that (except when dairies were leased out and sheep flocks centralized) most demesnes maintained and even increased the numbers of animals stocked, as was consistent with a strengthening relative demand for pastoral products. Stocking densities consequently rose, to the ecological benefit of the balance struck between horn and corn production and on-the-farm recycling of nutrients.⁸

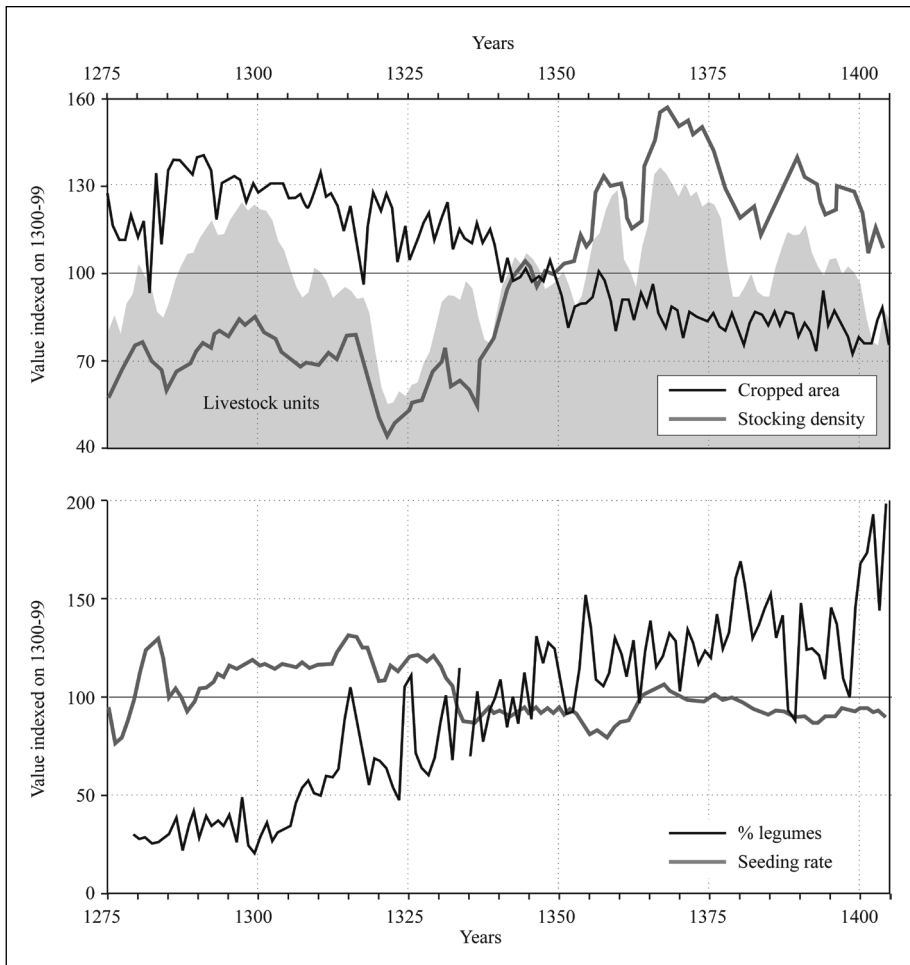
These developments were accompanied by changes in the production mixes of crops and livestock and modifications to rotations, as producers responded to changing consumer preferences and production costs. There was a retreat from the more capital and labour intensive forms of husbandry, as witnessed by the fact that seed was often sown more thinly and such manually demanding tasks as weeding, manuring, and marling were either scaled down or abandoned. Customary labour services (already of marginal importance on many demesnes) became harder to collect and probably were more grudgingly performed, especially following the Peasants' Revolt of 1381, so that within a generation of the Black Death there was a general substitution of hired for servile labour by all but the most conservative of landlords.⁹ Thereafter, as higher wages and lower prices squeezed profit margins ever harder, so demesne managers did all they could to economize on labour.

If worsening worker : employer relations and reduced labour inputs per unit area are likely to have had an adverse effect upon grain yields, withdrawing cultivation from inferior soils, stocking more livestock, and reforming rotations should have worked to the ecological advantage of arable production and benefit of *average* grain yields. Which of these countervailing tendencies prevailed?

⁷ As most notably and influentially in the case of Postan, *The Medieval Economy and Society*, pp. 41–72, Brenner, 'The Agrarian Roots of European Capitalism', pp. 232–36.

⁸ Fullest documentation of these developments was provided by David L. Farmer, see n. 11 below.

⁹ For the limited importance of labour services before the Black Death see Campbell, 'The Agrarian Problem', pp. 36–39. For their subsequent decline the classic study is Hilton, *The Decline of Serfdom in Medieval England*. The relative efficiencies of waged and servile labour in the late fourteenth century are evaluated in Stone, 'Productivity of Hired and Customary Labour'. An example of the replacement of servile with waged labour is Dyer, *Lords and Peasants*, pp. 120–21, 140–43.



Figures 14A and 14B. Westminster demesnes: indexed trends in cropped area, livestock units, stocking densities, percentage legumes, and grain seeding rates, 1275–1404

Sources and methods: Based on David L. Farmer's transcripts for the demesnes of Turweston (Buckinghamshire); Birdbrook, Feering, Kelvedon (Essex); Bourton-on-the-Hill, Sutton-under-Brailles, Toddenham (Gloucestershire); Aldenham, Kinsbourne, Stevenage, Wheathampstead (Hertfordshire); Westerham (Kent); Ashford, Eye/Eybury, Hendon (Middlesex); Islip (Oxfordshire); Pyrford (Surrey) preserved in Saskatoon, USaskArch, 'The Papers of David Farmer'. The assistance of the archivists at the University of Saskatchewan is gratefully acknowledged. Intermittent data series for these seventeen demesnes of have been combined into single continuous series for the estate as a whole using a logged regression method recommended by Gregory Clark. All series are indexed against their respective means for the period 1300–99. Livestock units have been calculated using the following weights: horses \times 1.0; bulls, oxen and cows 1.2; immature cattle \times 0.8; sheep \times 0.1 (but note that Farmer's transcripts exclude swine).

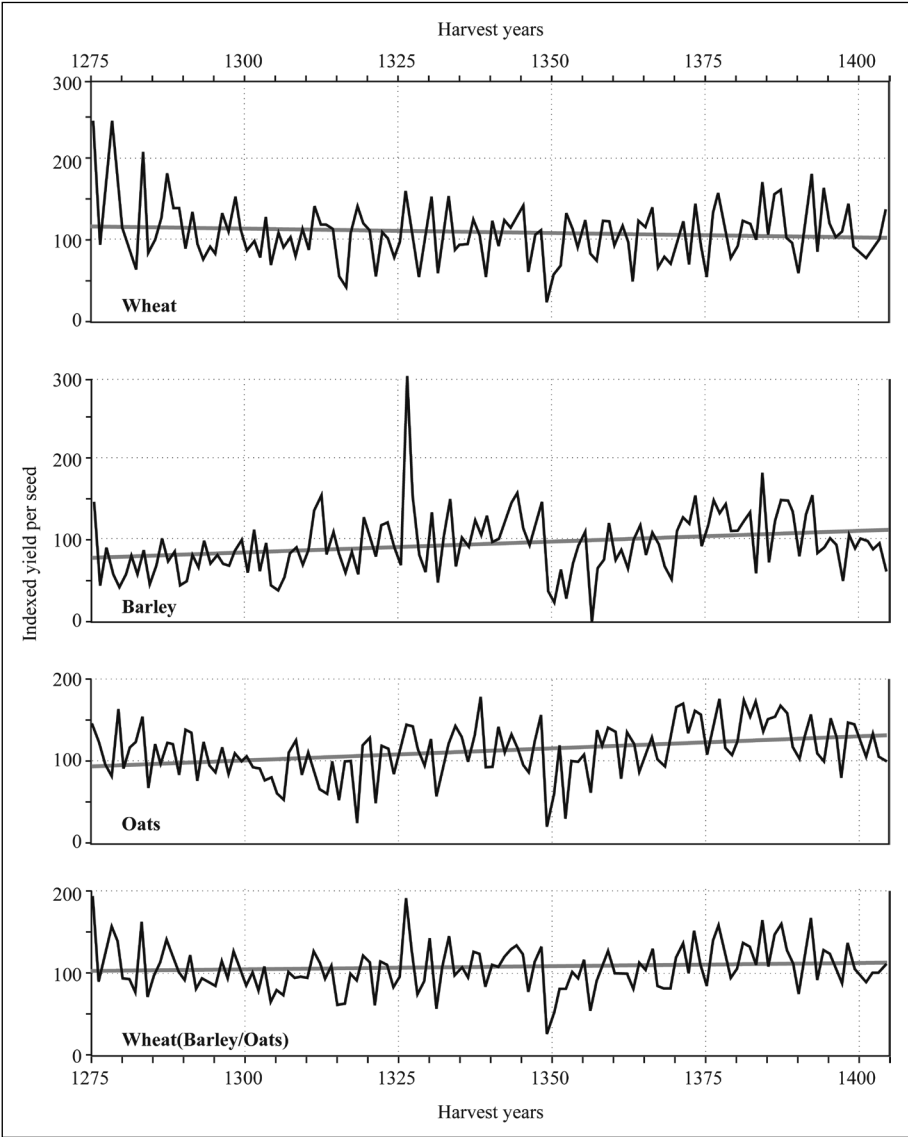
No one has considered this issue more carefully or brought more data to bear upon it than the late David Farmer, who painstakingly extracted and analysed 7760 yield observations from the pipe rolls of the bishopric of Winchester for the period 1349–1453 and a further 4080 yields from the manorial accounts of Westminster Abbey for the years 1274–1404.¹⁰ Nevertheless, the results obtained by these protracted labours perplexed him. Thus, in the case of the Westminster estate, its seventeen manors were adopting a whole raft of practices, which, other things being equal, should have improved their grain yields. The monks reduced the sown lands of their demesnes by expanding fallows, converting some of the more marginal land to pasture, and letting out portions to tenants. By 1348 they already had twenty-five per cent less land under crop than *c.* 1290 and by 1400 this area had shrunk by a further twenty per cent (fig. 14A). Over the same period they expanded the share of the cropped acreage sown with nitrifying legumes, from barely five per cent *c.* 1290, to fifteen per cent by 1348, and eventually over twenty per cent by 1400 (fig. 14B). Meanwhile, from the 1330s modest economies were made in the rate at which seed was sown per acre (fig. 14B) and this policy was maintained more-or-less for the rest of the fourteenth century. The estate had been badly hit by the great cattle plague of 1319–20 but following that disaster flocks were expanded and herds patiently reconstructed so that by the eve of the Black Death livestock numbers had been returned to their pre-pandemic levels (fig. 14A). Subsequently they were raised still higher so that at their peak in the 1360s and 1370s the ratio of livestock to sown acres was double that prevailing when arable cultivation had been at maximum stretch in the late thirteenth century (a period when Farmer believes soil-nutrient deficiency arising from under-manuring had become a problem on many of these demesnes). To counter losses from fraud and embezzlement, the monks also instituted stricter accounting and auditing practices, demanding more detailed information and fuller explanations of any shortfall in output.¹¹

Yet, to Farmer's surprise, all that happened as a result of these not inconsiderable adjustments was that wheat yields per seed emerged a little lower at the end of the fourteenth century than they had been during the intensive cultivation of a century earlier, while barley yields improved by around a fifth and oats yields by about a third (fig. 15).¹² Overall, there was a gain of approximately ten per cent in

¹⁰ Farmer, 'Grain Yields on the Winchester Manors'; Farmer, 'Grain Yields on Westminster Abbey Manors'; Farmer, 'Crop Yields, Prices and Wages'.

¹¹ Stern, *A Hertfordshire Demesne*, ed. by Thornton, pp. 181–83.

¹² Farmer, 'Grain Yields on Westminster Abbey Manors', p. 343.



Figures 15A–15D. Westminster demesnes: yields per seed of wheat, barley, oats, and wheat (barley/oats) gross of tithe and net of seed, 1275–1405

Sources and methods: Estate-level trends have been derived using the sources and method specified in Figure 14. Tithe is assumed to have comprised one-tenth of the total harvest, gross of seed. Wheat (Barley/Oats) yield = (Wheat yield × 0.5) + (Barley yield × 0.25) + (Oats yield × 0.25). All series are indexed against their respective means for the period 1300–49. Linear regression lines are added to show trends across the period as a whole.

grain yields per seed on the Westminster demesnes over the course of the fourteenth century, a far from impressive improvement given the magnitude of the changes that had been made to the scale and composition of production (fig. 14). Indeed, at the opening of the fifteenth century, in the final years of direct management on this estate, yields actually sank below the average for the previous century. Across this entire period yields per seed were decidedly 'sticky' and neither at the level of the individual demesne nor the estate as a whole did adoption of more beneficial husbandry practices necessarily translate into better yields per seed.

Developments on the estate of the bishops of Winchester were broadly similar, apart from the lack of any marked expansion in legume cultivation.¹³ Arable production steadily contracted. The mean sown acreage per demesne fell from a maximum of over two hundred and sixty acres (one hundred and five hectares) in the 1230s, to around two hundred acres in the 1290s, one hundred and forty-five acres on the eve of the Black Death, one hundred and five acres at the opening of the fifteenth century, and, eventually, ninety to ninety-five acres in the 1450s and 1460s.¹⁴ Since there was little corresponding reduction in livestock numbers until the fifteenth century (when across the estate as a whole livestock numbers trended gently downwards, falling by approximately a third between the mid-1390s and mid-1430s), stocking densities rose significantly. By 1362–64 the ratio of livestock to cropped acres had risen to almost double its immediate pre-Black Death level and by 1395–97 it was one hundred and thirty per cent above that level; in the 1430s it was still well above the level of a century earlier.¹⁵ The potential for enhanced cycling of on-the-farm nutrients to the benefit of soil fertility and crop yields was therefore considerable, especially as sheep (extensively used for folding and thereby manuring the arable) were the principal beneficiary of these pastoral gains.¹⁶ Yields per seed of wheat, the most commercialized and valuable

¹³ Farmer, 'Crop Yields, Prices and Wages', p. 132; Farmer, 'Grain Yields on the Winchester Manors', pp. 564, 566.

¹⁴ Calculated with the kind permission of Jan Titow from the transcripts and tabulations contained in Winchester, HantsRO, 97M97 ('Titow Research Papers').

¹⁵ Livestock units per one hundred cropped acres per Winchester demesne were: 1300–24, 46; 1325–49, 43; 1362–64, 84; 1377–79, 96; 1395–97, 100; 1409–11, 96; 1420–22, 91; 1433–35, 82. The livestock units are those employed by Jan Titow and David Farmer, i.e. *equines* and *bovines* 1.00 units each, *ovines* 0.25 units each (*porcines* are excluded), and have been calculated from Titow, *Winchester Yields*, pp. 136–39; Farmer, 'Grain Yields on the Winchester Manors', p. 563.

¹⁶ In the 1330s there had been around 15,000 demesne sheep on the episcopal estate; by

crop, nevertheless registered no sustained improvement. On the contrary, from the close of the fourteenth century, they drifted steadily downwards to a level in the mid-fifteenth century a third lower than that achieved in the late thirteenth century. Barley yields initially fared better and rose by approximately twenty per cent over the course of the fourteenth century, only to subside and return to their late thirteenth-century level by the mid-fifteenth century. Oats yields alone displayed a significant and sustained improvement and over this same period gained by an impressive seventy-five per cent.¹⁷ That, however, was insufficient to offset the erosion of wheat and barley yields, so that across the two-hundred-year period 1270–1470 the combined yield of these three principal grains varied within ten per cent of the long-term mean and was no better in the 1450s than it had been in the 1320s.¹⁸ In Farmer's opinion 'the yield ratios and the yields per acre remained pitifully meagre'.¹⁹

How is the paradox of improved mixed-farming methods but scarcely improved grain yields to be explained? Did reductions in labour inputs (a variable not considered by Farmer) inhibit any recovery in yields? Did worsening weather — as the medieval Warm Period receded and the Little Ice Age advanced — offset the improved farming methods? Or was the seed sown botanically incapable of delivering better returns? Did higher yields, in fact, have to await the biological transformation of seed stocks? Moreover, just how representative are the Westminster and Westminster estates of the seignorial sector as a whole?

Levels and Trends in Grain Yields post-1340

Drawing on a national database of demesne yields, Tables 6 and 7 provide outline statistics of yields per seed, gross of tithe (estimated at one-tenth of the original harvest) and seed, for the four main crops of wheat, rye, barley, and oats for the successive fifty-year periods 1300–49, 1350–99, and 1400–49. Summary information is also given for yields on the Winchester and Westminster estates (the two main estates studied by Farmer). These are crude statistics, which have not

1369 there were almost 35,000 and the number of sheep per sown acre had increased fivefold: Stephenson, 'Wool Yield in the Medieval Economy', pp. 385–88.

¹⁷ Farmer, 'Grain Yields on the Winchester Manors', p. 565.

¹⁸ Aggregate trends calculated from the year-by-year and manor-by-manor yield data contained in Titow, *Winchester Yields*, and Saskatoon, USaskArch., 'The Papers of David Farmer'. For the individual yield observations, see Campbell, *Three Centuries of English Crop Yields*.

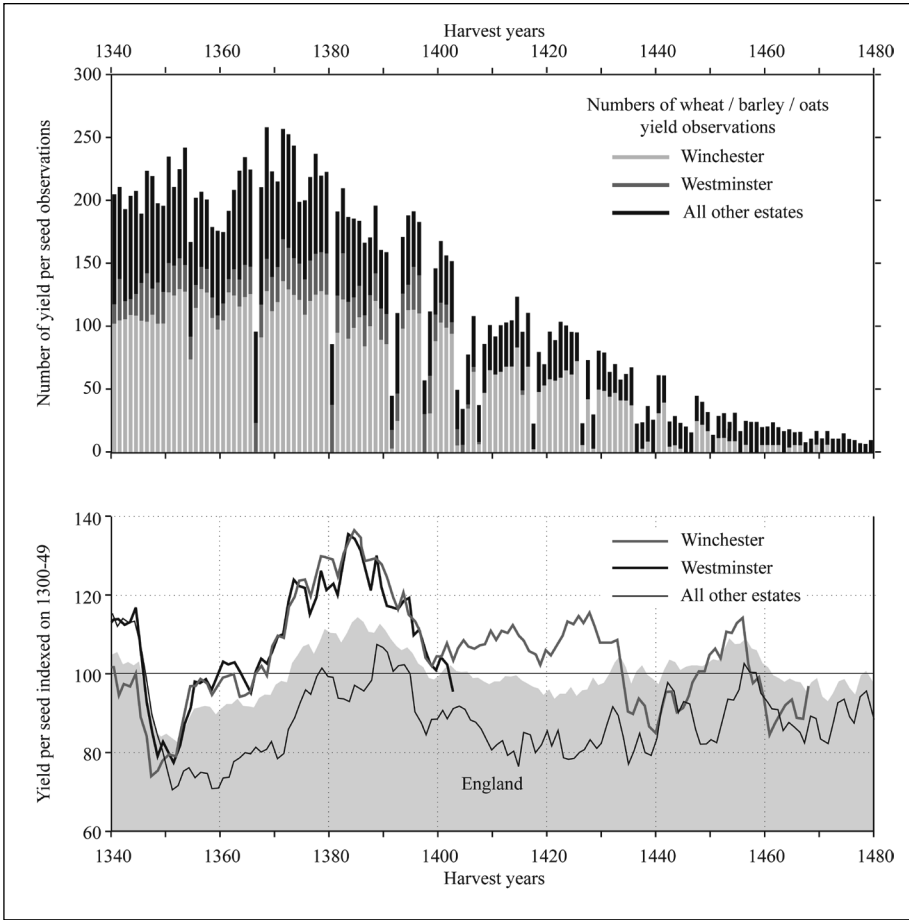
¹⁹ Farmer, 'Grain Yields on the Winchester Manors', p. 566.

been weighted by manor, county, region, or year, and are thus in part a function of the uneven geographical and chronological coverage of the data (fig. 16A).²⁰ Ninety-five per cent of these yield observations derive from demesnes in episcopal, conventual and collegiate ownership, for the simple reason that these estates are represented by the largest collections and longest runs of extant manorial accounts. Although 250 demesnes are represented in the database, less than half of these have data spanning more than twenty-five years. More useful for the purpose of constructing long-term chronologies of yields are demesnes with substantial runs of accounts: seventy-one demesnes have yield observations spanning at least fifty years and, of these, thirty-four have observations extending over more than a hundred years. All the best-documented demesnes belonged to the bishop of Winchester and, with the exception of Ebbesbourne in neighbouring Wiltshire and Brightwell in adjacent Berkshire, all (East Meon, Mardon, Ecchinswell, High Clere, Bishops Waltham, Overton, and Hambleton) were in Hampshire. Consequently, Hampshire eclipses all other counties in the quantity and chronological range of its recorded yields. Norfolk, the next best-represented county, has only a third Hampshire's number of yields. In descending order, Kent, Wiltshire, Hertfordshire, Berkshire, Suffolk, Essex, Buckinghamshire, and Somerset, are also reasonably well represented, largely reflecting the distribution of estates with the best collections of extant manorial accounts — the bishopric and cathedral priory of Winchester, Westminster Abbey, Canterbury Cathedral Priory, Norwich Cathedral Priory, Battle Abbey, Glastonbury Abbey, and the Abbey of Bury St Edmund's. Geographically, therefore, the yield data come almost exclusively from England's arable heartland, south of a line from the Wash to the Severn and east of the Exe.

As Tables 6 and 7 demonstrate, low to modest yields of two- to five-fold were the norm for all crops. Yields were consistently higher for winter-sown wheat and rye (Table 6) than spring-sown barley and oats (Table 7), with yields of wheat and oats diverging most, especially before the Black Death. Yields on the Westminster demesnes (which account for ten per cent of total observations — fig. 16A) were not significantly different from those in the country as a whole, except that wheat yields were below and barley yields above their respective national averages.²¹ The failure of the estate's wheat yields to improve following the Black Death was repeated at a national level, as was the modest but real improvement in the yield

²⁰ See Campbell, *Three Centuries of English Crop Yields*, for the scope and coverage of these yield observations by manor, estate, and county.

²¹ On the often striking differential between wheat and barley yields see, Farmer, 'Grain Yields on Westminster Abbey Manors', pp. 337–38.



Figures 16A and 16B. Winchester demesnes, Westminster demesnes, and all English demesnes: annual numbers of grain yield observations and trends in grain-yields per seed, 1340–1479

Sources and methods: The individual yield observations are those given in the database Campbell, *Three Centuries of English Crop Yields*. The Westminster, Winchester, all other estates, and English trends are seven-year moving averages indexed on their respective means for 1300–49 and have been derived using the logged regression method specified in figs 14A–14B. The national trend is the product of the eight regional sub-trends shown in figs 18A–18B. The indexed annual values for England, Westminster, and Winchester are given in Appendix 1.

of oats. Yields on the far larger and better documented Winchester estate (which accounts for fifty-one per cent of total English yield observations — fig. 16A) also display much the same size range and lack of any dramatic change of level or

Table 6. English wheat and rye gross yields per seed 1300–49, 1350–99, 1400–49
(with summary statistics for yields on the Winchester and Westminster estates)

Yield per seed (YPS) gross of tithe and seed	Wheat YPS 1300–49	Wheat YPS 1350–99	Wheat YPS 1400–49	Rye YPS 1300–49	Rye YPS 1350–99	Rye YPS 1400–49
< 1	0.3	0.2	0.2	1.0	1.3	2.0
1 – < 2	5.0	4.6	1.9	4.9	7.6	2.0
2 – < 3	17.2	22.9	15.0	13.5	21.3	19.4
3 – < 4	28.5	27.8	34.0	24.8	26.8	20.4
4 – < 5	22.5	22.0	27.3	24.3	22.0	26.5
5 – < 6	13.9	12.8	13.2	16.7	13.9	12.2
6 – < 7	6.7	6.1	5.2	8.0	3.0	7.1
7 – < 8	3.1	2.5	2.5	3.6	1.5	7.1
8 – < 9	1.5	0.7	0.5	2.3	1.3	1.0
9 – < 10	0.7	0.2	0.2	0.6	0.5	1.0
10	0.5	0.1	0.1	0.4	0.8	1.0
9+	1.2	0.3	0.2	1.0	1.3	2.0
England N	3226	3460	1221	905	395	98
<i>Winchester N</i>	<i>1553</i>	<i>1962</i>	<i>779</i>	<i>108</i>		
<i>Westminster N</i>	<i>406</i>	<i>409</i>		<i>116</i>	<i>14</i>	
England median	3.94	3.90	3.94	4.22	3.78	4.41
<i>Winchester median</i>	<i>4.22</i>	<i>4.15</i>	<i>3.93</i>	<i>4.74</i>		
<i>Westminster median</i>	<i>3.22</i>	<i>3.21</i>		<i>3.83</i>	<i>4.29</i>	
England mean	4.18	4.09	4.11	4.35	3.88	4.40
<i>Winchester mean</i>	<i>4.36</i>	<i>4.29</i>	<i>4.09</i>	<i>4.76</i>		
<i>Westminster mean</i>	<i>3.23</i>	<i>3.36</i>		<i>4.23</i>	<i>4.09</i>	
England Coef Var	38.37	35.45	31.54	39.09	41.35	11.60
<i>Winchester Coef Var</i>	<i>34.88</i>	<i>32.60</i>	<i>28.81</i>	<i>29.30</i>		
<i>Westminster Coef Var</i>	<i>34.97</i>	<i>34.35</i>		<i>54.69</i>	<i>22.08</i>	

Source: Campbell, *Three Centuries of English Crop Yields*.

frequency following the 1349 watershed, other than a similar improvement in the yield of oats. Farmer's conclusion that yields per seed changed little following the Black Death is therefore confirmed, and holds as valid for the second half-century following the plague as the first. Since yield observations are as abundant for the period 1350–99 as they had been for the years 1300–49, comparison between the two halves of the fourteenth century is statistically well founded: after 1400, however, the number of observations falls off dramatically, so that generalizations

Table 7. English barley and oats gross yields per seed 1300–49, 1350–99, 1400–49
(with summary statistics for yields on the Winchester and Westminster estates)

Yield per seed (YPS) gross of tithe and seed	Barley YPS 1300–49	Barley YPS 1350–99	Barley YPS 1400–49	Oats YPS 1300–49	Oats YPS 1350–99	Oats YPS 1400–49
< 1	0.3	0.7	0.3	1.5	1.1	0.4
1 – < 2	4.7	5.0	1.8	21.6	13.1	5.7
2 – < 3	22.3	18.0	15.3	47.4	39.0	30.1
3 – < 4	31.4	29.9	35.8	21.9	34.2	40.9
4 – < 5	23.1	25.4	31.8	5.7	9.4	15.9
5 – < 6	11.2	13.9	11.8	1.5	2.3	4.5
6 – < 7	3.7	4.0	2.7	0.5	0.7	0.8
7 – < 8	2.2	2.3	0.3	0.1	0.1	0.8
8 – < 9	0.6	0.6	0.2	0.0	0.1	0.6
9 – < 10	0.2	0.1	0.0	0.0	0.1	0.2
10	0.2	0.1	0.0	0.0	0.0	0.2
9+	0.4	0.3	0.0	0.0	0.1	0.4
England N	2919	2897	1072	3188	3218	1133
<i>Winchester N</i>	<i>1436</i>	<i>1683</i>	<i>670</i>	<i>1477</i>	<i>1881</i>	<i>683</i>
<i>Westminster N</i>	<i>286</i>	<i>384</i>		<i>419</i>	<i>431</i>	
England median	3.69	3.89	3.89	2.51	2.90	3.28
<i>Winchester median</i>	<i>3.86</i>	<i>4.16</i>	<i>4.13</i>	<i>2.36</i>	<i>2.96</i>	<i>3.27</i>
<i>Westminster median</i>	<i>4.46</i>	<i>4.21</i>		<i>2.51</i>	<i>2.87</i>	
England mean	3.88	3.99	3.94	2.63	2.98	3.42
<i>Winchester mean</i>	<i>4.03</i>	<i>4.18</i>	<i>4.16</i>	<i>2.47</i>	<i>3.02</i>	<i>3.31</i>
<i>Westminster mean</i>	<i>4.53</i>	<i>4.52</i>		<i>2.58</i>	<i>2.96</i>	
England Coef Var	36.23	35.32	26.44	34.94	33.80	33.96
<i>Winchester Coef Var</i>	<i>35.07</i>	<i>31.01</i>	<i>24.98</i>	<i>33.58</i>	<i>32.42</i>	<i>23.35</i>
<i>Westminster Coef Var</i>	<i>43.59</i>	<i>45.35</i>		<i>37.25</i>	<i>33.71</i>	

Source: see Table 6.

about the period 1400–49 are perforce based upon only a third the number of observations (Tables 6 and 7).

Trends over time and annual variations in the numbers of available wheat, barley, and oats yield observations are shown in Figure 16A, which differentiates between the available yield information for the Westminster estate, Winchester estate, and all other estates. In the case of Westminster, the yield data extend without a break until 1407 and then effectively cease. On this estate, although there is

no single year with full documentation for all of the abbey's demesnes, there is no year without at least some information. This contrasts with Winchester, where yield data are typically available for all demesnes or for none. The Winchester yield data constitute the single most substantial body of yield information available for any estate in the country, with three to five times as many observations in any given year as the Westminster estate. The chronological span of the Winchester data is also exceptionally long, since direct management continued until 1471.²² Leasing nevertheless began to make inroads into the number of demesnes kept in hand from the start of the fifteenth century, so there is a progressive diminution in the number of available observations from 1401 and especially 1430, while from 1456 data are restricted to the two last directly managed demesnes of Ecchinswell and Mardon. The one major weakness of the Winchester yield series is the gaps which occur whenever an enrolled pipe roll is missing.²³ Fortunately, data for a wide range of other estates bridge all these gaps and provide continuous data coverage until 1481.²⁴ Especially valuable are the yield series for Battle Abbey's Sussex demesnes of Alciston (1336–1492), Appledram (1321–89 and 1422–64), Barnhorne (1332–1493), and Lullington (1327–1466), and Glastonbury Abbey's Wiltshire demesnes of Monkton Deverill (1280–1427 and 1451–79) and Longbridge Deverill (1277–1374 and 1420–80), all of which extend into the second half of the fifteenth century and, in the case of Alciston and Barhorne, until almost the close of that century. Of course, all of these yield series are less than complete in their chronological coverage.

Combining the data for the Westminster estate, Winchester estate, and all other estates provides 13,438 wheat, barley, and oats yield observations for the period 1349–1479, an average of one hundred and three per year (fig. 16A). For the first thirty years after the Black Death there are typically more than double this number of observations, with a maximum of two hundred and fifty-six in 1368. Numbers then remain more-or-less consistently above average until 1402. Thereafter, coverage dwindles and becomes increasingly thin from 1435 and especially 1461. Chronologies derived from these data for the fourteenth century are therefore empirically more robust than those for the fifteenth century and particularly the second half of that century. This reflects the waning and then demise of direct demesne management and its associated system of manorial

²² Campbell, 'A Unique Estate', pp. 32–33.

²³ After the Black Death yield observations are lacking for 1366*, 1380, 1397, 1404*, 1436, 1439, 1445–46*, 1450, 1455, 1457–58, 1463, 1467–68, 1470 (* denotes the end of an episcopacy and corresponding absence of either harvested information or an enrolled pipe roll).

²⁴ Campbell, *Three Centuries of English Crop Yields*.

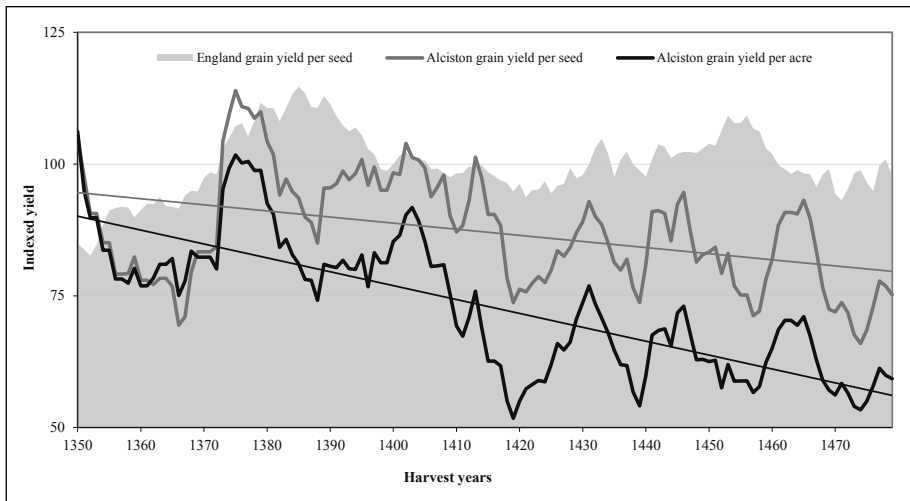


Figure 17. English grain yield per seed and Alciston, Sussex, grain yields per seed and per acre, 1350–1479

Sources and methods: English yields from Figure 16B. Alciston yields calculated from Lewes, ESusRO, SAS/G44/1–137 (I am grateful to Anne Drewery and Christopher Whittick for transcribing these data and to the Sussex Archaeological Society for funding their work). All trends are seven-year moving averages, those for England indexed on the mean for 1300–49, those for Alciston indexed on the mean for 1336–50. For Alciston, linear regression lines are added to show trends across the period as a whole. The Alciston yields are gross of tithe and net of seed.

accounting.²⁵ Undoubtedly, there is more material awaiting discovery in the archives that might be used to amplify yet further this dataset, although it is improbable that it would do much to alter this chronological pattern.²⁶

²⁵ For a discussion of the economic incentives which promoted a switch from direct management to the leasing of demesnes, see John Munro's article in this volume, below.

²⁶ Although there are many runs of mid- to late fifteenth-century manorial accounts, few are for manors with demesnes still managed directly; nor do record office catalogues normally note whether accounts are for demesnes that were in hand or at farm. Examples of lay manors managed directly include Walterstone, Dorset (1435–50), and Mote, Sussex (1472–80). On ecclesiastical estates, direct demesne management seems to have lingered longest on Benedictine and episcopal estates in southern England, notable those of Battle Abbey, Glastonbury Abbey, Tavistock Abbey, and the bishops of Winchester. The Battle accounts are mostly preserved in The National Archives, the East Sussex Record Office, and in The Huntington Library at San Marino, California. The main collection of Glastonbury accounts is at Longleat House, Wiltshire, see Harris and Smith, *Glastonbury Abbey Records at Longleat House*. For the Tavistock material see, Finberg, *Tavistock Abbey*, and, for the Winchester material, *Winchester Pipe Rolls*, ed. by Britnell.

Table 8. Alciston, Sussex: grain yields, seeding rates, cropped acres, and real expenditure on hired labour per 100 acres (0.404 km²) cropped, 1335 to 1489

Indexed value (1360s = 100):					
Decade	Grain yield per seed	Seed sown per grain acre	Grain yield per acre	Total acres cropped	Labour units hired per 100 acres (0.404 km²)
1340s	139	91	147	112	
1350s	116	95	111	125	
1360s	100	100	100	100	100
1370s	133	92	123	117	89
1380s	121	86	105	140	100
1390s	114	82	96	141	89
1400s	121	80	99	124	101
1410s	120	68	83	109	129
1420s	102	68	71	109	122
1430s	113	66	77	100	129
1440s	115	71	84	94	129
1450s	105	72	77	86	131
1460s	115	75	89	84	128
1470s	97	74	74	73	159
1480s	106	73	79	79	156

Sources and methods: Yields, seeding rates, and cropped areas calculated from Alciston manorial accounts, Lewes, ESussRO, SAS/G44/1–137 (I am grateful to Anne Drewery and Christopher Whittick for transcribing these data and to the Sussex Archaeological Society for funding their work). Labour inputs are calculated from Wooldridge, 'Alciston Manor', pp. 12–13, 62–64, 73–84.

Figure 16B charts the trend of the combined grain yield per seed (indexed on the mean for 1300–49) on the Westminster estate, Winchester estate, and on all estates between 1340 and 1479.²⁷ Each aggregate chronology has been reconstructed from the component manorial chronologies using a regression method formulated by Gregory Clark. To take account of changes in geographical coverage, the national trend is the product of eight regional trends (fig. 18). The brevity of the Westminster chronology relative to the Winchester and national chronologies is immediately apparent. So, too, is the close correspondence of yield trends on the Westminster and Winchester estates from 1340 to 1400 (correlation coefficient +0.78), notwithstanding that these are based on completely independent datasets and relate to demesnes under entirely separate

²⁷ The combined grain yield has been calculated by giving equal weighting to the winter- and spring-sown grains (as also, within the spring-sown sector, to barley and oats), using the formula: $[(\text{wheat yield} \times 0.5) + (\text{barley yield} \times 0.25) + (\text{oats yield} \times 0.25)]$.

administrations, located, for the most part, in different parts of the country. Correlations between the yield series for the Winchester and the Westminster estates and that for all other estates are weaker, but still strongly positive (respectively, +0.47 and +0.61). Correlations with the national trend are the strongest (all other estates +0.72; Westminster +0.90; Winchester +0.93), although this is partly because the estate and national series are not statistically independent of each other.

All four chronologies (fig. 16B) are characterized by exceptionally depressed yields during, and in the immediate aftermath of, the Black Death. Recovery thereafter was slow although it was stronger on the Westminster and Winchester estates than in the country as a whole. In fact, on most other estates yields remained seriously depressed until the early 1370s, when yields rose strongly throughout the country to levels that at least matched and in many cases eclipsed those prevailing before the Black Death. Yields reached a peak in the mid-1380s, when they far exceeded the long-term average for the period 1340–1479. In the closing years of the fourteenth century yields fell back and remained significantly below the peak level of the 1380s for the rest of the period for which observations are available. Yields continued to sag until the 1420s, recovered slightly to a minor fifteenth-century peak in the 1450s, and then declined again to the depressed level of a hundred years earlier in the 1460s and 1470s (by which time the available data are thin and unrepresentative, fig. 16A). On this evidence, yields at the end of the fifteenth century (when agricultural resources were available in abundance) were below those achieved in the first half of the fourteenth century (when the arable area was at its maximum extent and the pressure to grow bread grains was most acute).

Because seed was invariably sown more thinly at the end of the fifteenth than the beginning of the fourteenth century, the decline in yields per acre was significantly greater than that in yields per seed.²⁸ For example, on Battle Abbey's exceptionally well-documented home farm of Alciston in east Sussex a cumulative thinning of seeding rates by one-fifth over the course of the late fourteenth and fifteenth centuries magnified a modest reduction in yields per seed into a substantial reduction in yields per acre (fig. 17 and Table 8). This progressive erosion of yields is all the more striking given that real expenditure on labour per cropped acre rose by fifty per cent, as comparatively fixed quantities of hired labour were applied to a shrinking area under tillage (Table 8).²⁹

²⁸ This is examined and illustrated in Campbell, *English Seigneurial Agriculture*, pp. 330–34.

²⁹ For a detailed discussion of labour on this demesne, see Wooldridge, 'Alciston Manor'. Cropping changed more in scale than composition over the fifteen decades spanned by the accounts: Brandon, 'Arable Farming in a Sussex Scarp-Foot Parish'.

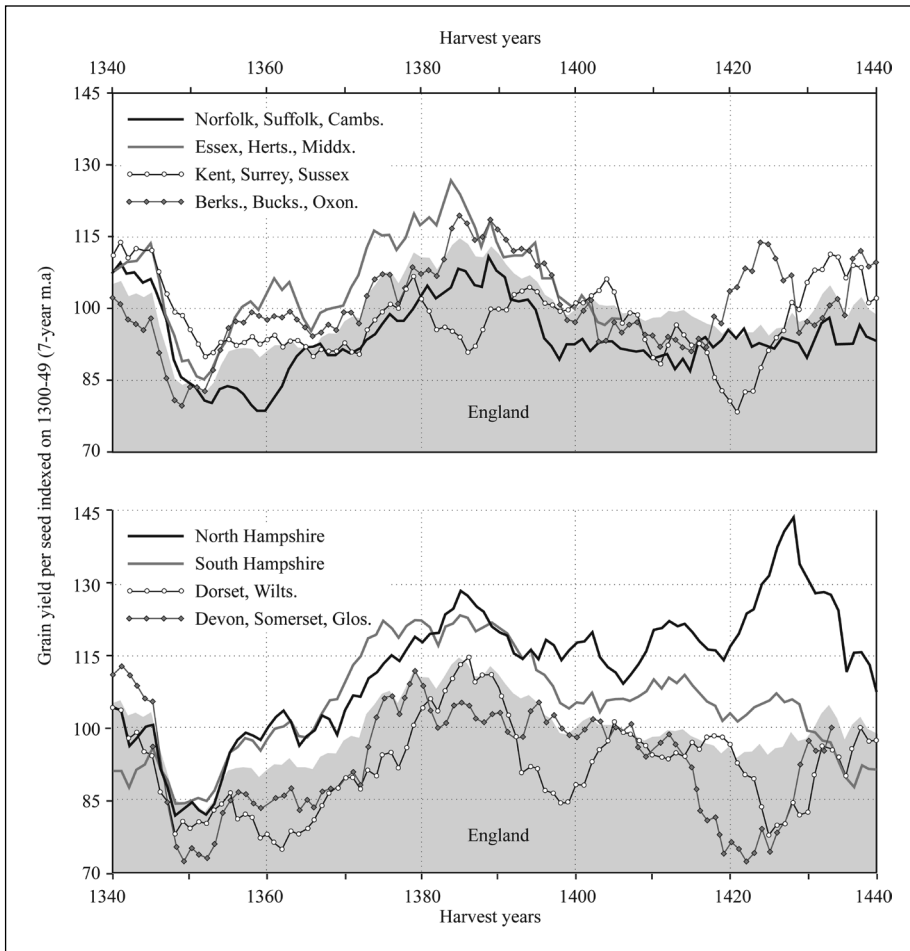
Variations by Region and by Crop

Severely inclement weather greatly compounded by the mass mortality of managers and workers together account for the massive yield reduction which accompanied and immediately followed the Black Death.³⁰ Figure 18 demonstrates that nowhere escaped unscathed. The abrupt fall in yields was, however, more pronounced in the central and southwestern counties than those in the east and southeast, and was twice as great in Somerset and its neighbouring counties as in Kent, Surrey and Sussex. In Hampshire (north and south) and the counties of the Thames Valley the productivity crisis seems to have passed fairly quickly. In contrast, recovery was long delayed in East Anglia, the southeast, and the southwest, where yields remained depressed until well into the 1360s and did not regain their pre-Black Death level until the late 1370s.

With the exception of Sussex, the 1380s stand out as a decade of good harvests almost everywhere, especially in Essex, Hertfordshire, Middlesex, and Hampshire (north and south). The productivity recovery of these years was weakest in the southwest of England, as also in East Anglia, whose once high-yielding and labour-intensive cropping methods were in full-scale retreat by this time.³¹ Nor were these post-1375 gains in yields sustained. From the 1390s yields fell almost everywhere, and nowhere more steeply than in Wiltshire. In Essex, Hertfordshire, and Middlesex the yield decline continued into the opening decade of the new century, in East Anglia and the counties of the Thames Valley into the second decade of that century, and in the counties of the southeast and southwest into the 1420s. Only on the chalk-land demesnes of north Hampshire, whose distinctive sheep-corn husbandry was undergoing a process of expansion, did a contrary trend prevail, insofar as here yields rose to a peak in the late

³⁰ On the Winchester estate the grain harvests of 1349 and 1350 were both over a third below average and, by a significant margin, are the worst on record between 1349 and 1453; the harvests of 1351, 1352, and 1356 also stand out as seriously deficient (Farmer, 'Grain Yields on the Winchester Manors', pp. 557–58). Poor yields on the Westminster demesne of Kinsbourne, Hertfordshire, from 1349 to 1353 were the product of a combination of weather and labour supply problems (Stern, *A Hertfordshire Demesne*, ed. by Thornton, pp. 164–66, 178–79). Benedictow, *The Black Death*, nevertheless emphasizes the latter: 'Dearth and famine were a usual consequence of the Black Death (and later plague epidemics), because normal work in agriculture and urban industries tended to grind to a halt under the impact of the epidemic onslaught, with severe consequences for production and income' (p. 351). For a case analysis of the massive production shock experienced during these years within a single distinctive region, see David Stone's chapter in this volume.

³¹ Campbell, 'Agricultural Progress in Medieval England', pp. 38–39.



Figures 18A and 18B. Regional trends in English grain-yields per seed, 1340–1439: (A) eastern and southeastern England; (B) southern, south-central, and southwestern England

Sources and methods: See Figure 14. All trends are seven-year moving averages indexed on their respective means for 1300–49.

1420s.³² Thereafter, these Hampshire yields slid downwards again while those in many other counties made a modest recovery and for a time, in the southern counties of Sussex, Hampshire, Dorset, Wiltshire, and the Thames Valley, even

³² Campbell, Bartley, and Power, 'The Demesne-Farming Systems', pp. 163–67.

regained the average level obtaining before the Black Death. Everywhere else, however, yields remained below that standard of excellence.

Except when harsh environmental conditions limited cultivation to oats, producers always sowed a mix of grains. Wheat, rye, bere (i.e. winter barley), and various mixtures of the three were sown in the autumn, whilst spring barley, oats, and dredge (a barley / oats mixture) were sown in the spring. Beans, peas and vetches usually added further variety to the cropping mix. Each grain had differing growing requirements and met alternative consumption needs hence sowing a combination of them served to mitigate weather and market uncertainties and helped to avert the risk of outright harvest failure.³³ Only exceptionally, as in 1349 and 1350, did all three grains return seriously deficient yields.³⁴ In 1351 wheat yields were again poor, but barley and oats yields were marginally better, and then in 1352 wheat yields were good but barley and oats yields bad.³⁵ For wheat to succeed and the spring grains fail was anomalous and there would not be another instance until 1464. For wheat and even barley to do badly but oats to do well, as in 1438, 1445, 1458, 1465, 1471, and 1477, was less unusual. In fact, after 1400 yields of wheat and oats ceased to be positively correlated (1340–99 coefficient of correlation +0.33; 1400–79 coefficient of correlation -0.06), which implies that the chance of a simultaneous failure of both grains was diminishing.

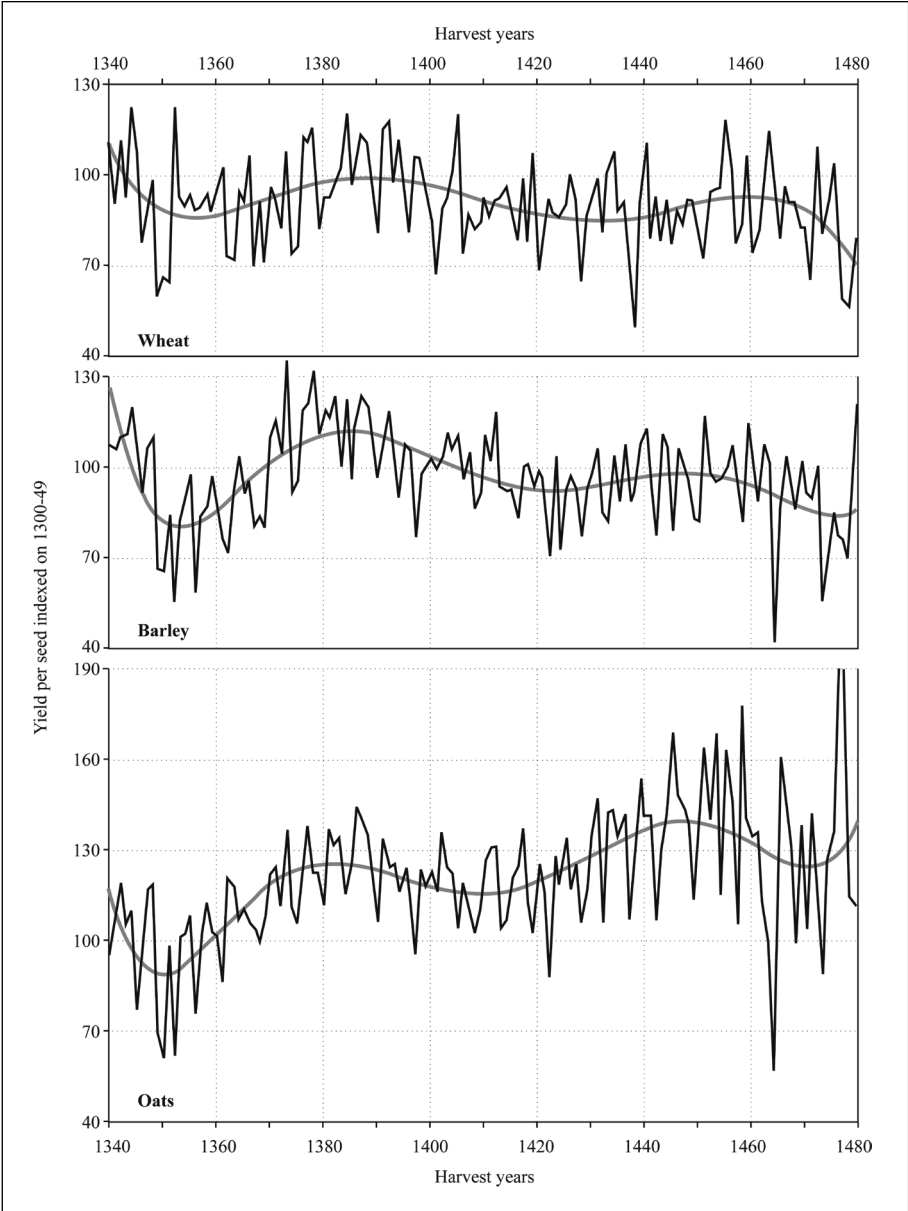
For large-scale producers hoping to sell surpluses for profit, bumper harvests posed a different kind of problem, since prices slumped when markets were glutted with grain.³⁶ Years when wheat, barley, and oats all yielded abundantly were, however, rare: 1376, 1377, and 1378 stand out in this regard as the three most bountiful years of all, closely followed by 1386–88 (fig. 19). The generous yields of these years are all the more striking given the consistently poor returns that wheat and barley had delivered throughout the 1350s and 1360s (figs. 19A

³³ The main types of demesne cropping combinations are discussed in Campbell, *English Seigneurial Agriculture*, pp. 275–302.

³⁴ The years 1349 and 1350 stand out in this respect in the table entitled 'Harvest Successes, 1349–1453' in Farmer, 'Grain Yields on the Winchester Manors', pp. 557–58. At Wisbech Barton, Cambridgeshire, 'all crops yielded poorly in the aftermath of the Black Death' (Stone, *Decision-Making in Medieval Agriculture*, pp. 101–02).

³⁵ Farmer, 'Grain Yields on the Winchester Manors', p. 559, attributes this anomalous outcome to the fact that 'all available labour was used first to get in the more valuable wheat, to the detriment of other grains'. In contrast, Mate, 'Agrarian Economy after the Black Death', pp. 342–43, stresses the adverse effect upon harvests of a series of excessively dry years in the early 1350s.

³⁶ For an elucidation of the relationship between farm size, prices, and profits, see Overton, *Agricultural Revolution in England*, pp. 19–22.



Figures 19A–19C. English wheat, barley, and oats yields per seed, 1340–1479

Sources and methods: See Figure 14. All national trends are the product of eight regional sub-trends (Figure 18). Yields are indexed on their respective means for 1300–49. Sixth-order polynomials show trends across the period as a whole.

and 19B). Indeed, wheat yields had been seriously deficient in 1374 and 1375. The sudden improvement in yields from 1376 is therefore as remarkable as it must have been unexpected, the more so as, for the next twenty years, abundant yields, especially of the spring grains and above all of barley, became the norm rather than exception.³⁷ It was a phenomenon which, at least over the next ninety years, would never be repeated.

From the mid-1390s yields of wheat and barley drifted downwards again and for much of the fifteenth century were more likely to be deficient than abundant. For wheat, poor yields outnumbered good yields by five to one, and, on the scanty available evidence, yields in 1438 and 1477–78 are the worst on record (fig. 19A). In the case of barley, poor yields and good yields were more evenly matched, although most of the best yields occurred before 1460 and the bulk of the worst after 1440, with 1464 and 1473 the worst of all (fig. 19B). From 1340 to 1479, in fact, yields per seed of wheat and barley both tended to decline, with many of the most deficient yields of all occurring towards the end of this period. For oats the story is happier, with conspicuously more good than bad years and a strong tendency for yields to improve rather than deteriorate (fig. 19C). Presumably this was because oats were grown on a diminishing scale, as pottage declined as a component of diets and brewers increasingly substituted malted barley for malted oats.³⁸ Probably, too, oats gained more than wheat and barley from the shortening of rotations and withdrawal of cultivation from the poorest soils and maybe also from the amalgam of changes taking place in temperature, precipitation, and seasonality which collectively determined growing conditions. Notwithstanding these gains in oats yields, three years alone (1405, 1440, and 1455) delivered ample yields of all three main grains, a far poorer record than that of the preceding century, whose historical reputation for inferior yields is far worse.

Towards a Chronology of Post-Black Death English Grain Yields

Figure 20 summarizes these trends in grain yields, subsuming the regional variations and differences between crops discussed above. As noted above, the results for the fourteenth century are soundly based (fig. 16A). Developments during the fifteenth century are less securely documented, especially after *c.* 1430. In

³⁷ Unlike much early modern social unrest, 'the great revolt occurred at exactly the time when the mass of the English commons could at last look forward to an improved standard of life'; Dobson, *The Peasants' Revolt*, pp. 122–23.

³⁸ Campbell, 'Matching Supply to Demand', pp. 832–39; Galloway, 'Driven by Drink?', pp. 96–100.

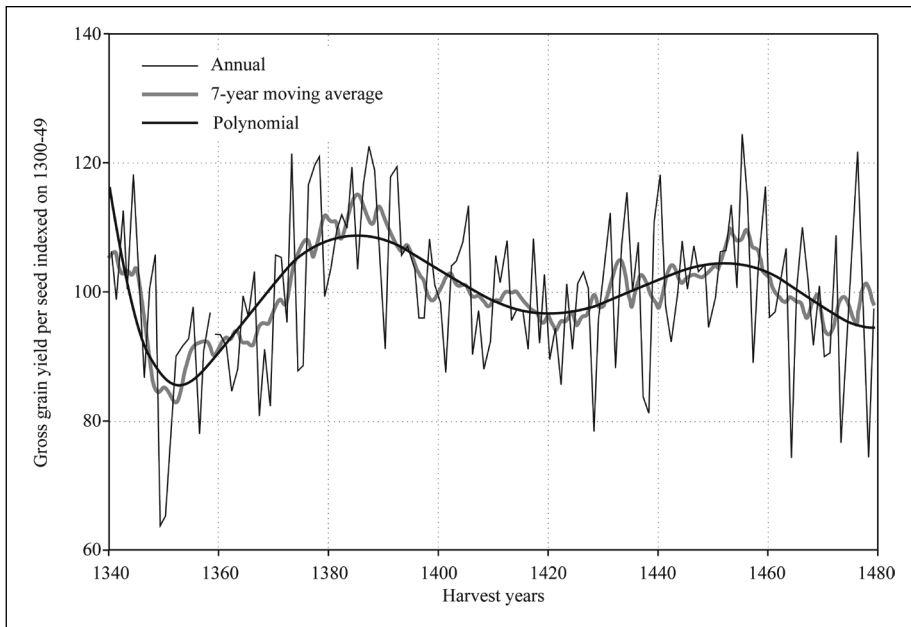


Figure 20. English grain-yields per seed, 1340–1479

Sources and methods: See Figure 14. The grain yield is the wheat (barley/oats) yield, i.e. (wheat yield \times 0.5) + (barley yield \times 0.25) + (oats yield \times 0.25). Yields are net of tithe and gross of seed and indexed on the mean for 1300–49. The sixth-order polynomial shows broad variations across the period as a whole. For the annual values see Appendix 1.

particular, the final decades of that century are a veritable dark age and are always likely to remain so given that direct management of seigneurial demesnes with its attendant production of annual manorial accounts had effectively ceased. Even on as conservatively managed an estate as Battle Abbey, which retained a few demesnes in hand until almost the close of the century, there are signs that the accounting process was becoming ossified with conventional rather than real figures recorded, so that the accounts themselves become less reliable.³⁹ Agricultural developments during the first hundred years after the Black Death will therefore always be clearer and more amenable to analysis than those during the second hundred years, from *c.* 1450 to *c.* 1550, when the long post-plague demographic

³⁹ At Lullington, Sussex, for example, the acreages sown and quantities seeded of each grain became conventionalized in the 1450s so that they cease to display the small changes from year to year which had hitherto been normal: Kew, TNA, SC6/1027/6–16.

malaise finally came to an end and both the population and agrarian economy at last began to expand again.⁴⁰

John Hatcher and Richard Britnell have both emphasized the episodic character of the economic history of the century and a half that followed the Black Death, and this is borne out by the chronology of yields (fig. 20).⁴¹ Six distinctive sub-periods may be distinguished. First, the disastrous harvests of 1349–51/52 which accompanied and followed the Black Death and constitute the sole example of a serious three-in-a-row yield failure on medieval record. Second, the persistently poor harvests of 1352 to 1369/1375, when recovery proved fitful and partial and yields on many demesnes remained well below their pre-Black Death level. Third, the dramatic improvement in yields from 1376 and the unprecedented and unparalleled run of bountiful harvests which then lasted until the mid-1390s. Fourth, the worsening harvests which followed and culminated in the depressed yields of the 1420s. Fifth, the heightened yield variability of the 1430s and 1440s, of which the major back-to-back harvest failures of 1437–38 and 1441–42 formed part. Sixth, following a respite in the 1450s (when, on the scanty evidence available, no serious harvest failures materialized), the return of dismal harvests in the final decades of the century, demonstrating a serious and recurrent failure of agricultural productivity more than a century after the Black Death had dramatically eased the pressure of population upon the land.

The Harvest Failures of 1349–52

Probably the single most arresting feature of this entire chronology is the profound failure of yields that accompanied the Black Death (figs 20 and 21A). That agricultural operations were badly affected by prolonged wet weather is attested by explanations and comments contained in manorial accounts.⁴² Chroniclers, too, observed that the plague was preceded and accompanied by wet

⁴⁰ For the problems of bridging this period see Clark, 'Long March of History', p. 101; Apostolides and others, 'English Agricultural Output'.

⁴¹ Hatcher, 'The Great Slump', p. 239: 'closer examination reveals that the fourteenth and fifteenth centuries experienced a succession of sub-periods each with its own distinctive characteristics'. Britnell, 'English Agricultural Output and Prices', p. 38: 'the history of output may be better told as a series of fluctuations, or phases, than as one of continuous trend'.

⁴² Autumn 1347 was wet, so, too, were winter and autumn 1348, the whole of 1349 was wet, and waterlogged soils were reported in winter and summer 1350: Titow, 'Evidence of Weather', pp. 401–03; Stern, *A Hertfordshire Demesne*, ed. by Thornton, pp. 100, 164–66.

and unseasonable weather.⁴³ Figure 13A also demonstrates that these years mark the culmination of a hundred years of global cooling. Summer temperatures in Holland were below average (fig. 21B) and extensive sea ice is recorded around Iceland in 1348–51.⁴⁴ Moreover, A. G. Dawson, K. Hickey, P. A. Mayewski, and A. Nesje have inferred from analysis of the Deuterium content of ice that in 1349–53 western Greenland experienced an episode of intense cold ‘rarely ever reached again during the later centuries of the Little Ice Age’ and colder even than the notorious 1690s.⁴⁵ These same years have been identified by Baillie as a time of depressed tree growth globally, which seems to have begun around 1342 and was at its most pronounced between 1345 and 1350 (fig. 13A).⁴⁶ Reduced levels of solar radiation are also consistent with the marked inflation in salt prices in 1350–52, with prices doubling in 1351, since much salt (both home produced and imported) was produced by evaporation (fig. 21B).⁴⁷

That English grain crops yielded badly during these years is therefore unsurprising (figs 18–21). Insofar as heavy plague mortality was a factor in depressing yields, this should have affected the oats harvest far more than the wheat, since the latter was the principal bread grain and of far greater value, whereas

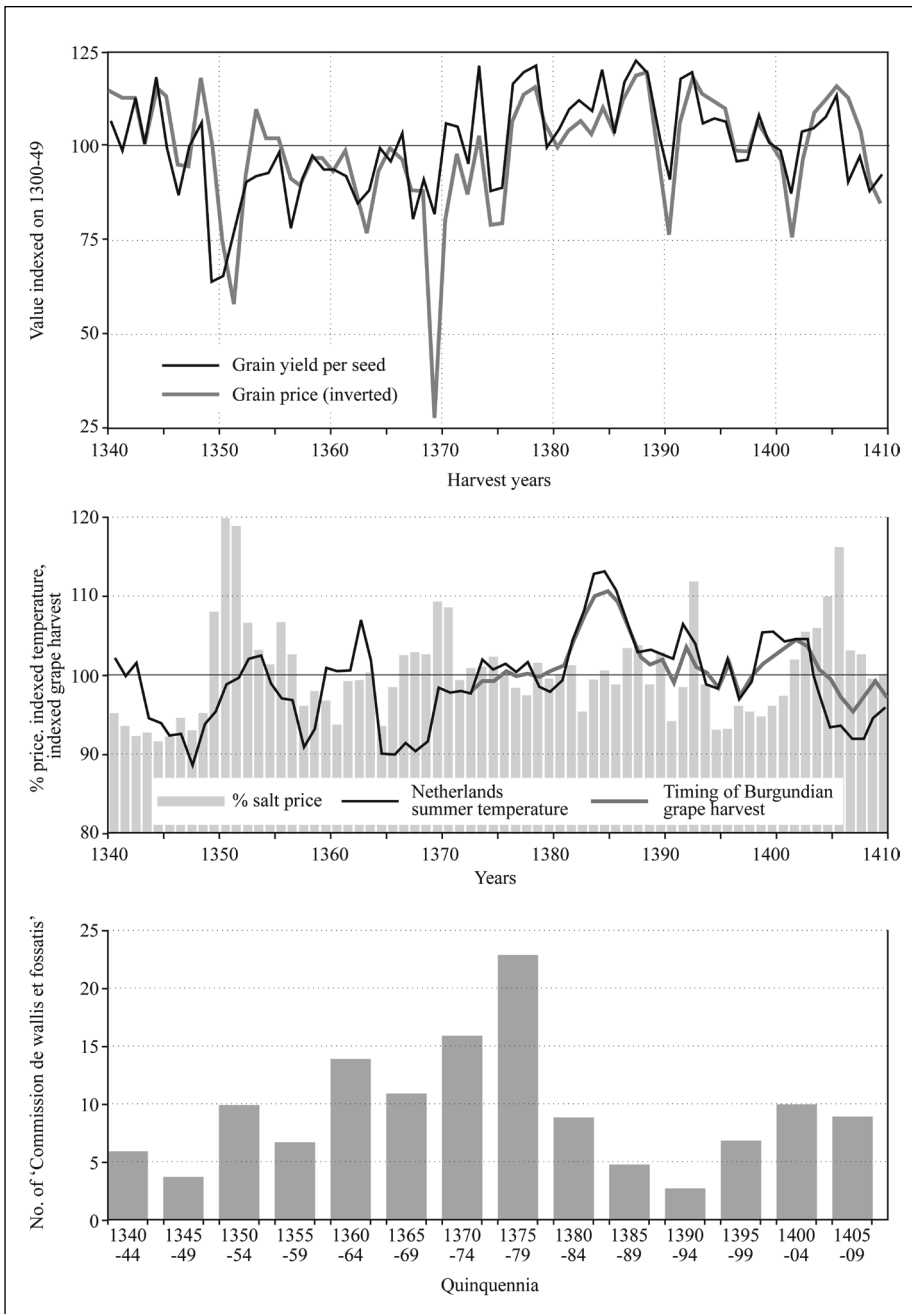
⁴³ England, Chester, 1348: ‘there was inordinately heavy rain between Midsummer and Christmas, and scarcely a day went by without rain at some time in the day or night’: *The Black Death*, ed. and trans. by Horrox, p. 62 (also pp. 54, 66, 74). France, Paris, 1348: ‘for some time the seasons have not succeeded each other in the proper way. Last winter was not as cold as it should have been, with a great deal of rain: the spring windy and latterly wet, Summer was late, not as hot as it should have been, and extremely wet — the weather very changeable from day to day, and hour to hour; the air often troubled, and then still again, looking as if it was going to rain but then not doing so. Autumn too was very rainy and misty. It is because the whole year here — or most of it — was warm and wet that the air is pestilential’: *The Black Death*, ed. and trans. by Horrox, pp. 161–62.

⁴⁴ Dawson and others, ‘Greenland (GISP2) Ice Core’, p. 432.

⁴⁵ Dawson and others, ‘Greenland (GISP2) Ice Core’, p. 428.

⁴⁶ Baillie, *New Light on the Black Death*, pp. 34–39.

⁴⁷ Significantly, the single greatest inflation in salt prices on record was in 1316, at the height of the Great European Famine and following a year of incessant rain: Campbell, ‘Physical Shocks’, pp. 20–21. One reason that the price inflation was less pronounced 1350–52 than 1315–17 is because during the interim England had swung from being a net exporter to a net importer of salt, with substantial supplies sent from France’s Bourgneuf Bay, where sea salt was cheaply produced by a process of solar evaporation: Bridbury, *England and the Salt Trade*, pp. 29–30, 46–47, 50, 95, 110–11, 151–52. Significantly, in 1350–51 excessive rain ruined harvests at Chartham, Great Chart, and Ickham in Kent: Campbell, ‘Agriculture in Kent’, p. 47, n. 80. Consequently, the high prices of 1350–52 probably had at least as much to do with the weather as with the sudden plague-induced scarcity of workers.



Figures 21A–21C. English grain yields and proxy indicators of weather variations, 1340–1409

Sources and methods for Figure 21: English grain-yields per seed — from Figure 20.

English grain prices: Farmer, 'Prices and Wages', pp. 794–95; Farmer, 'Prices and Wages, 1350–1500', pp. 502–05.

Combined Wheat (Barley/Oats) price indexed on 1300–49, inverted to adjust for the normally inverse relationship between prices and harvests, and advanced one year, to correct for the lag between harvests in year x and prices in year $x + 1$ (the correlation coefficient between yields and prices lagged one year is -0.66). English salt prices: Clark, *English Prices and Wages*.

Prices are expressed as a percentage of the twenty-five-year moving average ($\times 0.2$), and advanced one year to adjust for the influence of the weather in year x upon prices in year $x + 1$ (NB production of marine salt by solar evaporation was adversely affected by cloudy and rainy summer weather).

Netherlands summer temperatures: Van Engelen, Buisman, and IJnsen, 'A Millennium of Weather'. Mean June, July, and August temperatures ($\times 2$) are indexed on the mean for 1340–1459.

Timing of the Burgundian pinot noir grape harvest: Chuine and others, *Burgundy Grape Harvest Dates*. Dates are inverted and indexed on the mean for the period 1372–1459 (i.e. the higher the value, the earlier the grape harvest and therefore the warmer the summer).

Commissions of banking and ditching (*wallis et fossatis*) concerning the tidal reaches of the River Thames (east of London Bridge): Galloway, 'Storm Flooding, Coastal Defence, and Land Use' (data kindly supplied by James Galloway) (NB commissions were normally issued *in response* to problems of flooding).

the former occupied a lesser dietary niche and could be fed either un-threshed or un-harvested to livestock.⁴⁸ Oats, thus, ought to have borne the brunt of the sudden depletion in labour supplies and inflation in labour costs. Yet this is not what happened. Wheat yields were consistently more than a third below average in 1349, 1350, and 1351, faring little better than yields of oats and, if anything, worse than yields of barley (fig. 19).⁴⁹ This implies that the harvest failure owed less to labour-supply problems than the inclement weather.

The Inferior Harvests of 1352 to 1369/1375

Unlike the situation following the earlier disastrous harvests of 1315–17, yields did not bounce back to their former level once the immediate crisis had

⁴⁸ On the Kent estate of Canterbury Cathedral Priory in 1349 the reeves at Agney and Ruckinge complained, respectively, that peas and vetches and winter barley were left unharvested because of the lack of labourers; presumably for much the same reason, livestock were fed unharvested barley at Chartham and unthreshed wheat at Mersham; the following year there were still insufficient reapers to harvest all the vetches at Mersham: Campbell, 'Agriculture in Kent', p. 47, n. 79.

⁴⁹ Farmer, 'Grain Yields on the Winchester Manors', p. 557, reports mean yields of wheat, barley, and oats respectively 33.5 per cent, 28.2 per cent, and 46.2 per cent below average in the two harvest years 1349–50.

passed.⁵⁰ Instead, in large parts of the country they remained depressed and it took twenty-five years for yields of all three principal grains to regain their pre-plague levels on a majority of demesnes (figs 19 and 20). The years until 1376 have often been described as an ‘Indian summer’ for large-scale demesne producers, because grain prices remained high and, after the initial wage gains of the immediate plague years, nominal wage rates were slow to improve, so that arable farming remained profitable.⁵¹ Production was therefore able to continue much as before. Yet, as the close inverse correlation between yields and prices implies (fig. 21A), if grain prices were high it was because summers, and therefore harvests, during the so-called Indian summer were unfavourable.⁵² It can be no coincidence that at this time flooding appears to have become an increasing problem in the Thames estuary (fig. 21C), as wetter weather, storm surges in the North Sea and the neglect of sea defences and drainage systems exposed the region’s reclaimed marshlands to heightened risks of inundation.⁵³ Temperature reconstructions demonstrate that summers in Holland continued to be cool

⁵⁰ Indexed grain yields per seed 1314–23 and 1348–57 (source: Campbell, *Three Centuries of English Crop Yields*), showing the yield bounce-back that followed the three bad harvests of 1315–17 and the absence of any equivalent recovery following the three bad harvests of 1349–51:

Year	1314	1315	1316	1317	1318	1319	1320	1321	1322	1323
Yield	100	73	62	88	106	103	104	76	101	112
Year	1348	1349	1350	1351	1352	1353	1354	1355	1356	1357
Yield	100	60	61	73	85	87	87	92	74	86

⁵¹ Bridbury, ‘The Black Death’, pp. 583–84; Hatcher, ‘England in the Aftermath’, p. 6; Britnell, ‘English Agricultural Output and Prices’, pp. 21–25; Stone, *Decision-Making in Medieval Agriculture*, pp. 81–120.

⁵² Hatcher, ‘England in the Aftermath’, p. 8, was puzzled why ‘the Black Death, and the two succeeding epidemics of 1361–62 and 1369, resulted in only modest improvements in the standards of living of labourers and artisans’. Poor harvests arising from problematic weather provide at least a partial explanation. Fungal infestation of grain crops further aggravated the situation. In Kent, mildew (first recorded as having attacked the wheat crop on the Canterbury Cathedral Priory estates at East Peckham and Meopham in 1336–37) became an endemic problem in the 1360s and 1370s and was responsible for repeated major crop failures: Campbell, ‘Agriculture in Kent’, p. 47. Farmer, ‘Grain Yields on the Winchester Manors’, p. 561, nevertheless suggests that ‘the yield figures for the 1350s and possibly the early 1360s may say as much about the success of the reeves in recruiting harvesters as they do about the fertility of the arable or the kindness of the weather’.

⁵³ In 1350 the River Severn had burst its banks and caused extensive flooding on the Lordship of Berkeley’s home manor of Ham, Gloucestershire: Wells-Furby, *The Lay Estate in the Fourteenth Century*. I am grateful to Dr Wells-Furby for showing the manuscript of her monograph to me.

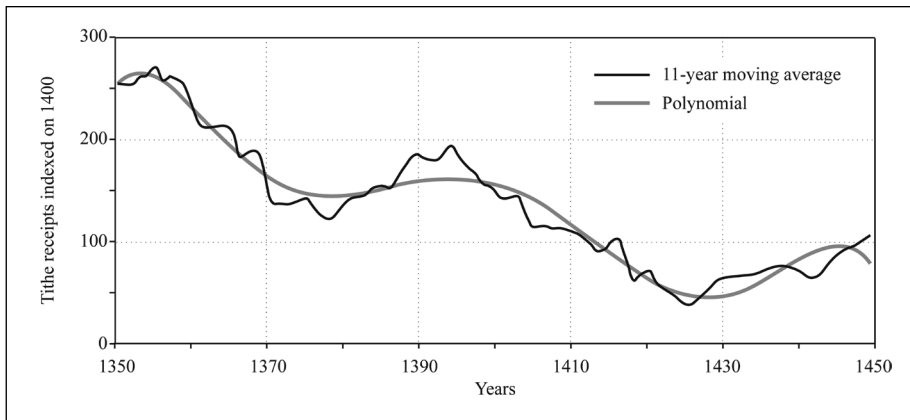


Figure 22. Dutch tithe receipts, 1350–1449

Sources and methods: Individual tithe series for Rijnland 1343–1415, Utrecht 1370–1454, and Maasland 1343–1454 kindly supplied by Jan Luiten van Zanden. Each series has been indexed on its value for 1400 and smoothed using an eleven-year moving average. The master Dutch series is the average of these three smoothed series. The sixth-order polynomial highlights the main temporal trends.

(fig. 21B). World tree growth also registered another major decline in the early 1360s (fig. 13A). Environmentally, therefore, these were difficult years for arable producers.⁵⁴ To compound matters, recurrent plague outbreaks in 1361, 1369, and 1375 will have disrupted markets and ensured that within the seigneurial sector managerial and manpower problems remained ongoing.⁵⁵

The Generous Harvests of 1376–95

Environmental and economic conditions changed abruptly in 1376 with the first truly generous harvest for fifty years, the first, in fact, of three.⁵⁶ Yields rose and prices fell, to the benefit of wage earners and disadvantage of those selling sur-

⁵⁴ For detailed case-studies see Mate, 'Agrarian Economy after the Black Death', pp. 341–54; Stone, *Decision-Making in Medieval Agriculture*, pp. 101–13.

⁵⁵ Hatcher, *Plague, Population, and the English Economy*, pp. 21–26.

⁵⁶ For the significance of the 1376 yield rise and price fall see Bridbury, 'The Black Death', pp. 584–85; Britnell, 'English Agricultural Output and Prices', p. 26. The sudden dramatic improvement in yields shows up clearly on the Winchester estate: Farmer, 'Grain Yields on the Winchester Manors', p. 557.

pluses on a market now glutted with grain.⁵⁷ Further abundant harvests over the next twenty years reinforced the trend towards price deflation (fig. 21A) and, as their purchasing power improved, so the expectations of wage earners rose.⁵⁸ These improved yields (not only were they better, they were also more reliable) had little to do with the enterprise and ingenuity of medieval husbandmen and a great deal to do with the weather.⁵⁹ In Holland grain tithe receipts, which had been in decline since the 1350s, rose steadily from the late 1370s to the mid-1390s (fig. 22). Over this period Dutch summer temperatures also improved progressively, to a peak in the 1380s (fig. 21B). In Burgundy there was a matching shift in the timing of the grape harvest (fig. 21B), as the vines responded to the warmer temperatures and ripened earlier. In the Thames estuary the hitherto mounting flood problem suddenly abated and in the 1380s commissions for ditching and dyking sank to a minimum (fig. 21C). A marked change in North Atlantic sea-surface temperatures also seems to have set in from c. 1378–80. ‘Before this time, episodes of cold water development were frequent and, in relative terms, long lasting. After this time, excursions of cold water were relatively rare and short-lived.’⁶⁰ Global temperatures actually improved during these final decades of the fourteenth century and the dendrochronological record shows that trees across the World responded with increased growth (fig. 13A).⁶¹ The worst of the great national plague epidemics had also passed.

Given that these happy environmental circumstances coincided with Chaucer’s composition of *The Canterbury Tales*, this benign climatic episode may be dubbed the ‘Chaucerian Anomaly’.⁶² Contrary to Malthusian logic, however,

⁵⁷ ‘In the mid-1370s [...] the era of expensive grain came to a sudden end, and prices tumbled. The slump in grain prices at a time when population may well have been continuing on a downward path finally undermined the value of land’, Hatcher, ‘England in the Aftermath’, p. 34.

⁵⁸ Clark, ‘Long March of History’, pp. 116–17, 133–34.

⁵⁹ In east Norfolk, for example, all the key innovations of its intensive mixed-farming regime had been made in the era of high farming well before the Black Death, and in the final decades of the fourteenth century lords were actually reducing the intensity of their husbandry: Campbell, ‘Agricultural Progress in Medieval England’, pp. 26–46. The annual variability of grain yields effectively halved between 1345 (coefficient of variation 1332–57 = 31.4) and 1382 (coefficient of variation 1369–94 = 16.3); the latter represents the single lowest point between 1275 and 1474: Campbell, ‘Physical Shocks’, p. 18.

⁶⁰ Dawson and others, ‘Greenland (GISP2) Ice Core’, p. 428.

⁶¹ The strong positive growth signal is apparent in the chronologies of both Old World and New World trees until the mid-1380s (coefficient of correlation 1350–86 +0.68): Baillie, *New Light on the Black Death*, pp. 36–38.

⁶² Geoffrey Chaucer (c. 1342–1400) is thought to have written *The Canterbury Tales* bet-

the population did not respond to the good harvests, abundant and cheap food, favourable real wage rates, and plentiful supply of holdings with a long-delayed surge of growth. Although ostensibly everything was propitious for a full-scale recovery of population, no such recovery was forthcoming.⁶³ Instead, all the available demographic indicators imply that the population continued to contract throughout this final quarter of the fourteenth century, for reasons about which there has been much speculation but for which there is frustratingly little direct evidence.⁶⁴ Conceivably, the post-Black Death institutionalization of servanthood had shifted marriage later, especially for women, and thereby depressed fertility. Perhaps, too, improved prospects for acquiring a land holding and a growing desire to pass holdings on intact to the next generation were privileging later (economic) over earlier (biological) marriage.⁶⁵ Imbalanced sex ratios arising from heightened local and regional migration may have reinforced this trend.⁶⁶ Almost certainly, as exemplified by the Worcestershire manor of Halesowen, recurrent plagues had transformed the age structure of the population, reducing the proportion of females within the reproductive age group and thereby depressing nuptiality.⁶⁷ More critically, it has long been speculated that background mortality, particularly of infants and children, remained high, shortening life expectancy at birth.⁶⁸ Significantly, with the fleeting exception of the quinquennium 1386–90, the replacement rate of male tenants-in-chief of the Crown (the most materially advantaged socio-economic group) remained stubbornly below unity until the late 1440s and much the same applied to several other demographic groups which have been similarly reconstituted.⁶⁹

ween 1386 and 1400. Note that the adverse weather event responsible for the Great European Famine of 1315–21 has been termed the ‘Dantean Anomaly’ (after the Italian poet Dante Alighieri, c. 1265–1321) by Brown, *History and Climate Change*, pp. 251–54.

⁶³ This contrasts with developments in Holland, where, notwithstanding the ecological disaster of rising water-table levels, the post-Black Death period witnessed significant population growth: Van Bavel and Van Zanden, ‘The Jump-Start of the Holland Economy’, pp. 505–07.

⁶⁴ For clear evidence of the downward trend in population, see: Raftis, ‘Changes in an English Village’; Poos, ‘The Rural Population of Essex’; Razi, *Life, Marriage and Death in a Medieval Parish*, pp. 114–17.

⁶⁵ For a sceptical review of the case in favour of fertility decline, see Bailey, ‘Demographic Decline’.

⁶⁶ Razi, *Life, Marriage and Death in a Medieval Parish*, pp. 117–24.

⁶⁷ Razi, *Life, Marriage and Death in a Medieval Parish*, pp. 131–35, 150–51.

⁶⁸ Hatcher, *Plague, Population, and the English Economy*, pp. 57–61.

⁶⁹ Hollingsworth, *Historical Demography*, pp. 378–79; Thrupp, ‘The Problem of Replacement Rates’; Thrupp, *The Merchant Class of Medieval London*, pp. 191–206.

The Worsening Harvests of the Early Fifteenth Century

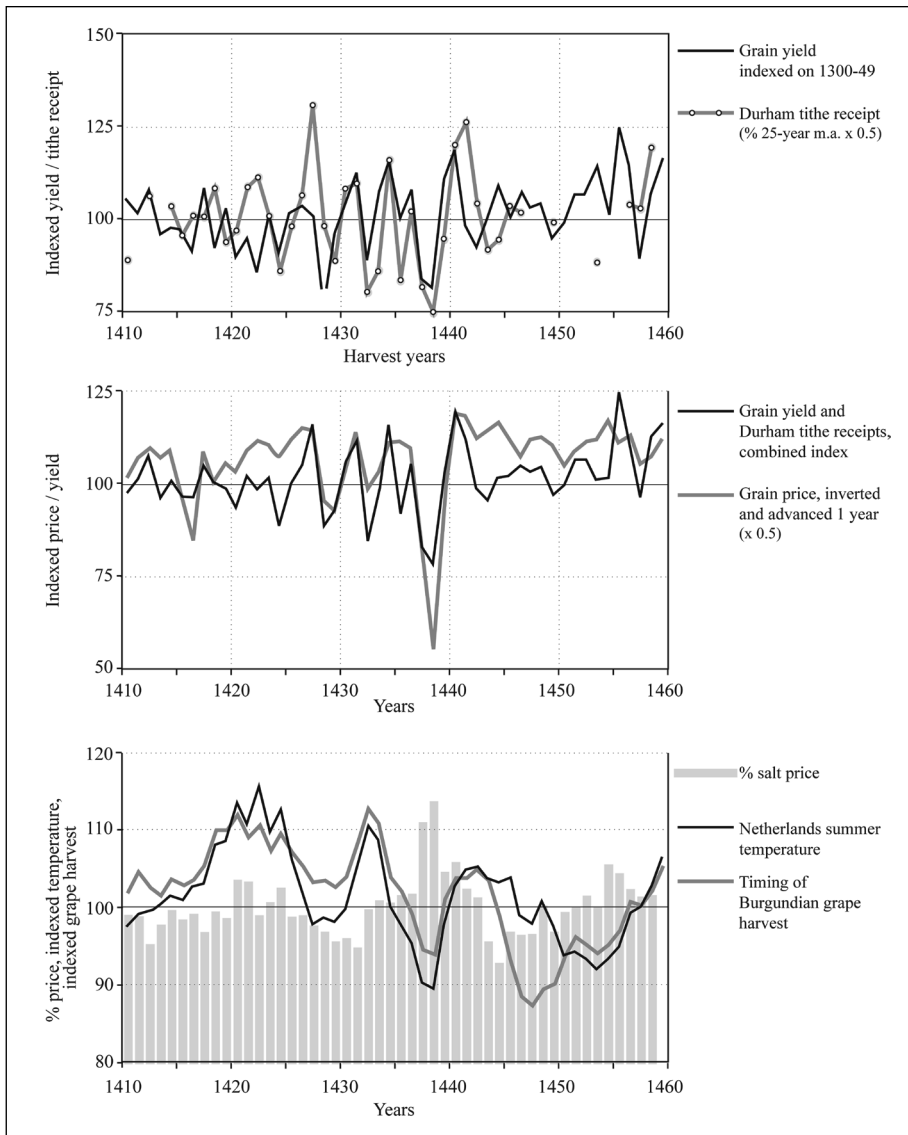
All good things come to an end, and in the closing years of the fourteenth century yields started to deteriorate once more, sinking to a level in the 1420s almost fifteen per cent below that of the 1380s (fig. 20). Economic conditions were hardly propitious for grain producers: demand was slack, prices were low, labour was scarce, and, since the revolt of 1381, workers had become increasingly indolent and truculent.⁷⁰ Making direct demesne management pay, especially in competition with smaller producers with lower overheads, was therefore becoming an exercise in cost cutting. Many landlords now found leasing a more attractive alternative proposition since it was far less trouble and guaranteed a more assured annual income.⁷¹ Direct management consequently became the exception rather than the rule and increasingly confined to home farms charged with the direct provisioning of substantial seigneurial households.

Meanwhile, growing conditions were also deteriorating. From the close of the fourteenth century the process of global cooling resumed as the transition to the Little Ice Age gathered momentum (fig. 13A). On the continent, the opening decade of the new century witnessed a run of cool summers, as dismal as those of the 1360s, and proved to be an augury of worse to come (fig. 21B). Dutch tithe receipts resumed their decline and shrank by two-thirds over the next thirty years to reach a new low point in the mid-1420s (fig. 22). In England during this opening quarter of the fifteenth century, although bountiful harvests may have been a thing of the past, poor harvests were at least mercifully rare: the worst were those of 1401, 1408 (the poorest of four indifferent harvests), and 1422. Such relative stability did not last. Throughout these years atmospheric pressure was falling over Iceland and building over eastern Siberia until, by the 1420s, the widening pressure gradient had initiated a profound shift in northern hemisphere circulation (fig. 13B).⁷² Henceforth climatic conditions became less stable, winters in particular became stormier, occurrences of extreme winter cold became more common, and, with some notable exceptions, summers tended to become cooler (fig. 23C).

⁷⁰ Rigby, *English Society in the Later Middle Ages*, pp. 124–27; Stone, *Decision-Making in Medieval Agriculture*, pp. 121–55. Workers' attitudes were the subject of much adverse contemporary comment, Hatcher, 'England in the Aftermath', pp. 11–12.

⁷¹ Campbell, *English Seigneurial Agriculture*, pp. 59–60, 234–35.

⁷² Meeker and Mayewski, 'A 1400-Year High-Resolution Record'; Dugmore, Keller, and McGovern, 'Norse Greenland Settlement', pp. 26–29.



Figures 23A–23C. English grain yields and proxy indicators of weather variations, 1410–59

Sources and methods: English grain-yields per seed — from Figure 20. Durham tithe receipts: Dodds, *Peasants and Production* (data kindly supplied by Ben Dodds). Annual deflated cash tithe receipts are expressed as a percentage of their twenty-five-year moving average. These percentages have then been indexed and averaged with the indexed grain yields to produce the combined index of grain yields and Durham tithe receipts. English grain prices, English salt prices, Netherlands summer temperatures, Timing of the Burgundian pinot noir grape harvest: see Figure 21.

The Harvest Failures of the Mid-Fifteenth Century

From the mid-1420s the heightened year-on-year variability of grain yields shows that uncertainty for arable producers was increasing (in the northeast of England the record of Durham Cathedral Priory's tithe receipts tells much the same story) (fig. 23A).⁷³ In 1428 the grain yield was the worst since 1356, yields were poor again in 1432, and then in 1437 and 1438 yields failed for two consecutive years, precipitating the single greatest harvest crisis and grain-price inflation of the fifteenth century (figs 20 and 23B).⁷⁴ The back-to-back shortfall was almost comparable in magnitude to that of 1315–16 and the lowered temperatures which prevailed over northwestern Europe from 1435 to 1438 very likely arose from a similarly powerful environmental forcing agent (intriguingly, in neither case is this likely to have been volcanic, since there are no corresponding sulphate spikes in the GISP2 Greenland ice cores).⁷⁵ Winters in these years, at least in the Netherlands, were unusually cold and summers were late and cool, delaying the grape harvest in Burgundy (fig. 23C).⁷⁶ On the Winchester estate sheep farming was adversely affected by the harsh winter conditions: expenditure on supplementary feeding increased, mortality rates soared, reproduction rates were depressed, and fleece weights are among the lowest on record.⁷⁷ Reduced levels of solar radiation are also reflected in the concurrent sharp inflation in salt prices, which implies that conditions were wet as well as cold (fig. 23C).

Nor was there any immediate and dramatic amelioration in these adverse conditions.⁷⁸ Unfavourable weather returned in 1441 and 1442, when yields at Alciston, Sussex, were worse even than those of 1437–38 and those at Walterstone, Dorset, were only marginally better.⁷⁹ It was not until the mid-1440s that this

⁷³ For the increasing difficulties experienced by demesne producers in the 1420s and 1430s, see Britnell, 'English Agricultural Output and Prices', pp. 34–35 (he characterizes the period c. 1435–65 as the 'mid-fifteenth-century slump', pp. 35–36).

⁷⁴ Hatcher, 'The Great Slump', p. 246.

⁷⁵ I am grateful to Frank Ludlow for this information. See <<http://www.gisp2.sr.unh.edu/>> [accessed 21 April 2010] for further information about the American GISP2 ice-core project.

⁷⁶ The winters of 1432–35 and 1437–38 were all well below average in the Netherlands; that of 1435 was one of the two coldest of the fifteenth century (1408 was the other), and 1437 was only marginally less severe: Van Engelen, Buisman, and IJnsen, 'A Millennium of Weather', pp. 101–24.

⁷⁷ Stephenson, 'Wool Yield in the Medieval Economy', pp. 383–84.

⁷⁸ Bridbury, *England and the Salt Trade*, pp. 152–53.

⁷⁹ Combined grain yields per seed were thirty-six and sixteen per cent below their twenty-five-year average in 1437 and 1438, compared with thirty-five per cent and thirty-six per cent

crisis had finally passed. This episode coincides with depressed temperatures and tree growth world-wide (fig. 13A).

The Depressed and Variable Harvests of the Late Fifteenth Century

From the 1450s the available yield data become increasingly sparse and unrepresentative, although most of the demesnes that are recorded do have the merit of being served by long runs of surviving accounts. Battle Abbey's home farm of Alciston in East Sussex is the best documented of them, and here yields continued to fluctuate around the level at which they had settled in the 1420s (fig. 17). On the same estate, at nearby Lullington and Barnhorne, yields likewise remained trend-less, if albeit marked by much annual variation.⁸⁰ On Glastonbury Abbey's twin Wiltshire demesnes of Longbridge Deverill and Monkton Deverill the variability of yields is similarly striking.⁸¹ On none of these demesnes did the third quarter of the fifteenth century bring any significant recovery or improvement of yields and on all of them it delivered some individually disastrous harvests, as bad as, and sometimes worse than, those of the immediate post-plague years. Grain yields at Alciston were seriously deficient in 1457 and 1471 and from 1475 to 1478 were consistently below their twenty-five-year average, with 1476 the worst year of the four; the harvest failed again in 1485 (fig. 17).⁸²

The 1470s were evidently an exceptionally difficult decade. Growing conditions for British Isles oaks were as variable as those for grain crops, although for the contrary reason that oaks thrived on cold winters and cool, moist summers and during the third quarter of the fifteenth century British Isles oaks put on some impressively wide rings. A range of indices imply that environmental conditions continued to present difficulties to grain producers, it is therefore tan-

below that average in 1441 and 1442: calculated from: Lewes, ESussRO, SAS/G44/73-109 (note that yields at nearby Barnhorne, Sussex, were thirty-nine per cent below average in 1441: San Marino, Hunt. Libr., HEH BA, 375-406). At Walterstone, Dorset, 1437 returned the single worst grain yield between 1435 and 1450, but yields in 1440 and 1441 were consecutively poor and only ten per cent better: Kew, TNA, SC6/833/24-36 and Kew, TNA, SC6/834/1-3. In contrast, whereas yields at Longbridge Deverill in 1441 were indifferent, those in 1437 had been poor and those in 1438 disastrous: Longleat Hse, GA, 9821-30.

⁸⁰ Lullington: Kew, TNA, SC6/1027/1-15. Barnhorne: San Marino, Hunt. Libr., HEH BA, 393-430.

⁸¹ Longbridge Deverill and Monkton Deverill: Longleat Hse, GA, 9837-9961 and 9715-9804.

⁸² Lewes, ESussRO, SAS/G44/102-37.

talizing that during the final quarter of the fifteenth century direct evidence of English crop yields finally peters out (fig. 16A).⁸³ It is also all the more intriguing that a century later, when annual yield data (derived from probate valuations) next become available, yields were clearly rising, notwithstanding that the adverse weather conditions associated with the Little Ice Age were approaching their most extreme.⁸⁴ Evidently, adverse weather conditions were not an insuperable obstacle to improved grain yields provided these were offset by powerful economic incentives to intensify, invest, improve, innovate, and specialize.⁸⁵ For English grain producers one of the key differences between the fifteenth and sixteenth centuries was that demand was slack and dispersed during the former and expanding and increasingly concentrated during the latter.⁸⁶ The growth of London, in particular, provided a powerful stimulus to farmers within a rapidly expanding hinterland to raise output and productivity.⁸⁷ In this scenario the challenge to historians is to establish exactly when and why stagnation gave way to recovery and growth.⁸⁸

Causes and Effects of Variations in Grain Yields

Following the Black Death, as Farmer correctly diagnosed, reductions in the cultivated area, higher stocking densities, improved rotations, enlarged sowings of legumes, thinner seeding rates, and stricter accounting and auditing failed to translate into any immediate, significant, or sustained rise in yield ratios. Only oats, the

⁸³ For evidence of heightened health hazards for humans at this time, see Richard M. Smith, 'Measuring Mortality in an Age of Plague: England, 1349–1540', this volume.

⁸⁴ Apostolides and others, 'English Agricultural Output'.

⁸⁵ Poor yields were nevertheless responsible for the return of near-famine conditions in 1555–56 and 1594–97: Campbell, 'Four Famines and a Pestilence', pp. 42–47.

⁸⁶ The national population shrank by a quarter between 1377 and 1450 and then more than doubled between 1450 and 1600; over the latter period London's population more than quadrupled to reach *c.* 200,000: Broadberry, Campbell, and van Leeuwen, 'English Medieval Population'; De Vries, *European Urbanization*, p. 270. Between 1377 and 1524 the urban share of the population may have been static or declining: Rigby, 'Urban Population in Late Medieval England'.

⁸⁷ Before 1500 London grew in importance but not in size: Keene, 'Changes in London's Economic Hinterland'. Thereafter, it grew in both size and importance: Wrigley, 'A Simple Model of London's Importance'. For the link between urban growth and agricultural improvement see, Allen, 'English and Welsh Agriculture'.

⁸⁸ Broadberry, Campbell, and van Leeuwen, 'English Medieval Population'; Apostolides and others, 'English Agricultural Output'.

hardest of grains but sown in diminishing quantities, showed an improvement in yield, but this was offset by a deterioration in the yield of the premier bread grain, wheat.⁸⁹ Collectively, grain yields per seed were marginally lower at the end of the fifteenth than they had been at the beginning of the fourteenth century. Because of thinner seeding rates, yields per sown acre were certainly lower at the end than the beginning of this period. With less intensive rotations and more frequent fallowing, yields per unit area of arable were probably lower still.⁹⁰ When grain yields eventually started to improve sometime in the sixteenth century they first had to recover to the levels attained before the Black Death when late medieval arable farming had been at fullest stretch.⁹¹

How is this lack of any post-Black Death yield dividend to be explained? It is tempting to presume that reduced labour inputs per unit area provide the key. Certainly, the Black Death and its subsequent outbreaks ministered a massive demographic shock, halving the available workforce within the space of thirty years and initiating the single greatest inflation in the wage rates of building workers and farm labourers in recorded English wage history.⁹² Confronted by a doubling in the cost of undertaking the most labour-intensive agricultural tasks (manuring, marling, weeding, multiple ploughings), demesne managers had little option but to curtail or abandon these practices.⁹³ Nor was customary labour a practical substitute for increasingly expensive waged labour, since plague mortality had thinned the ranks of villein tenants and those who survived strove to negotiate lower rents and liberate themselves from servile obligations. Works once performed conscientiously were now discharged grudgingly or not at all; many simply lapsed.⁹⁴ Inputs per demesne acre of servile labour therefore probably shrank even more than those of waged labour and by the fifteenth century

⁸⁹ Nationally, oats shrank from thirty-nine per cent of the cropped area in 1300, to thirty-two per cent in 1420, to twenty per cent in 1600: Apostolides and others, 'English Agricultural Output'.

⁹⁰ Campbell, *English Seigniorial Agriculture*, pp. 374–85.

⁹¹ Campbell and Overton, 'A New Perspective', pp. 66–76.

⁹² Campbell, 'Nature as Historical Protagonist', pp. 285–87; Phelps Brown and Hopkins, *A Perspective of Wages and Prices*, pp. 28–31, 44–58; Clark, 'Long March of History', pp. 130–34.

⁹³ On the bishop of Winchester's demesne at Rimpton, Somerset, twenty-two per cent less labour per sown acre was expended between 1350 and 1403 than between 1275 and 1324: Campbell, *English Seigniorial Agriculture*, p. 383. On the prior of Norwich's demesne at Martham, Norfolk, labour inputs per *arable* acre were at least thirty per cent lower at the beginning of the fifteenth as the beginning of the fourteenth century: Campbell, 'Agricultural Progress in Medieval England', pp. 38–39.

⁹⁴ Stone, 'Productivity of Hired and Customary Labour'.

had dwindled to insignificance.⁹⁵ Under these employment circumstances it is perhaps unsurprising that in the long-term yields tended to sag.

In once populous and intensively cropped East Anglia and the southeast, reduced labour inputs per unit area probably help explain why the post-Black Death decline in yields was so prolonged and the eventual recovery of yields weaker than in most other parts of the country (fig. 18A).⁹⁶ The traditional fabric of cultivation nevertheless held up remarkably well during the decades immediately following the Black Death. Instead, it was during the final decades of the fourteenth century (in the aftermath of the Peasants' Revolt, when residual labour services were being repudiated, the Statute of Labourers proved least enforceable, wage rates were rising strongly, and grain prices were depressed) that demesne managers made the most vigorous economies in the deployment of labour. Paradoxically, however, yields at this time rose rather than fell (fig. 18A), which implies that labour inputs are at best an incomplete explanation of trends in yields during the half-century that followed the Black Death. In fact, on Battle Abbey's home demesne of Alciston in east Sussex labour inputs appear to have had little bearing upon the long-term tendency for yields to decline (fig. 17 and Table 8): during the fifty-year interval from the 1370s to 1420s yields per acre fell by over forty per cent and the cropped area contracted by seven per cent, but in real terms the amount of labour hired per cropped acre rose by at least thirty per cent. On this demesne the monks did their best to maintain the demesne workforce and hold labour inputs steady, so much so that the progressive reduction of the area under crop effectively raised real labour inputs per unit area. Yet even this failed to arrest the relentless downward slide of yields.

Part of the problem at Alciston, as elsewhere, may have been that demesne managers typically sowed seed taken from the previous year's crop or transferred from elsewhere on the estate.⁹⁷ In the very long term, this probably resulted in a progressive depletion of the botanical quality of seed stocks, in terms of their resistance to disease, resilience to the weather, and capacity to reproduce. Such a hypothesis is certainly consistent with the long-term tendency for yields of wheat, the most valuable and widely traded of the grains, to diminish. Reversing this trend may therefore have been contingent upon emergence of a greater awareness of the critical importance of seed quality and, thus, the merits of systematic seed selection, exchange and importation of seeds, and the commercialization of seed

⁹⁵ As, for example, on the Westminster demesne of Kinsbourne: Stern, *A Hertfordshire Demesne*, ed. by Thornton, pp. 184–89.

⁹⁶ Campbell, 'Agricultural Progress in Medieval England', pp. 38–39.

⁹⁷ Campbell, *English Seigniorial Agriculture*, pp. 189–90, 414–15.

production and supply.⁹⁸ Economic conditions prevailing in land-abundant post-Black Death England, with its limited pockets of concentrated urban demand, were, however, hardly conducive to such developments, hence the continued reliance upon on-the-farm sources of seed with all their inherent and cumulative botanical limitations.

Although grain yields may have been essentially flat in the long-term, they were far from unvarying in the short and medium terms. Of particular interest are those variations replicated to some degree or other across the whole or greater part of the demesne sector, irrespective of estate or region, since they reflect the influence of over-arching factors. Few agencies had greater influence upon yields than the weather; of all the key agricultural inputs, it was the one over which producers had least control.⁹⁹ Nor, as has been demonstrated (figs 13, 21, and 23), was the weather stable during the century and a half that followed the Black Death. The first wave of plague itself coincided with the culmination of a prolonged secular decline in global temperatures which impacted negatively upon world tree growth (fig. 13A). Although the respective contributions of inclement weather and heavy plague mortality to the disastrous harvest of 1349 remain to be established, it seems certain that the ensuing bad harvests of 1350 and 1351 were both largely weather related since there is clear environmental evidence that these years were climatically anomalous.¹⁰⁰ Cooler, wetter, and stormier conditions persisted for the next twenty to twenty-five years and inhibited yields from recovering to their pre-Black Death average (figs 21B and 21C).

Conditions changed suddenly and dramatically in 1376 with the onset of a twenty-year growth bonanza: the 'Chaucerian Anomaly'. This coincided with significant increases in global temperatures and world tree growth (fig. 13A).¹⁰¹ Sustained episodes of cold sea-surface temperatures in the North Atlantic also came to an end.¹⁰² This reversion to benign environmental conditions nevertheless

⁹⁸ Buttress and Dennis, 'The Early History of Cereal Seed'; Allen, *Enclosure and the Yeoman*, pp. 206–07; Olmstead and Rhode, 'The Red Queen'.

⁹⁹ For a pioneering discussion of the relationships between weather and agricultural productivity, see Stern, *A Hertfordshire Demesne*, ed. by Thornton, pp. 21–37, 77–103.

¹⁰⁰ Baillie, *New Light on the Black Death*, pp. 197–98; Campbell, 'Physical Shocks', pp. 20–24.

¹⁰¹ The upturn in tree growth is apparent in both hemispheres and is especially pronounced in the records of European and British Isles oaks: Baillie, *New Light on the Black Death*, pp. 27–39. In Britain, weather that was good for oak growth was normally unfavourable for crop yields, but during the final quarter of the fourteenth century oaks grew vigorously and grain crops yielded heavily, which suggests that environmentally there was something quite unusual about this period.

¹⁰² Dawson and others, 'Greenland (GISP2) Ice Core', p. 429.

proved transitory. With the dawn of the new century growing conditions gradually deteriorated once more. Global cooling resumed and from the 1420s grain producers had to adapt to significantly less favourable and predictable weather conditions as atmospheric pressure gradients and circulation patterns shifted across the northern hemisphere (fig. 13B). In the second quarter of the fifteenth century bad harvests occurred with increasing frequency, climaxing with the back-to-back failure of 1437–38 (figs 20 and 23). Once again, prolonged cool, wet weather had spelled disaster for English grain producers, and the unfavourable weather continued into the early 1440s. The next decades brought some respite, insofar as yields apparently held up reasonably well. In the 1470s and 1480s, however, some of the individual harvests reported on those few southern English demesnes that remained in hand are the worst on record. Tantalizingly brittle as are the available yield data in this, the twilight of direct demesne management, they do hint at the possibility that weather-induced harvest failure was on the increase.

These weather-related developments are of interest in themselves and for the insight they provide into the major climatic transition taking place over these years, but they also shed fresh light upon several intriguing aspects of this enigmatic economic period. Note, in particular, the coincidence of plague and serious harvest failure in 1349–51 and the association of both with extreme weather.¹⁰³ This conjuncture of plague, adverse weather, and poor yields also raises fundamental and as yet little explored questions about the immediate direct and indirect impacts of plague mortality upon agricultural output and productivity.¹⁰⁴ Note, too, that the high grain prices which underpinned the ensuing so-called Indian summer of direct demesne production may have owed more to the depressive effect upon yields of the continuing poor weather than a mortality-induced inflationary increase in coin supply *per capita*.¹⁰⁵ Prices were high first and foremost because harvests were deficient and it was dear food which

¹⁰³ Campbell, 'Physical Shocks', pp. 20–24.

¹⁰⁴ The pioneering study of this issue is Levett, *The Black Death on the Estates of the See of Winchester*. For a recent review of the evidence see Braid, 'Economic Behavior, Markets and Crises', pp. 351–58.

¹⁰⁵ Farmer, 'Prices and Wages, 1350–1500', p. 441: 'the money supply increased both absolutely and *per capita* in the 1350s and 1360s. This was probably the principal reason for the continued high prices of the two decades after the Black Death'. Likewise, Britnell, 'English Agricultural Output and Prices', p. 24; Braid, 'Economic Behavior, Markets and Crises', pp. 356–57, 370–72. Munro, 'Money, Prices, and Wages in Fourteenth-Century England', pp. 348–49, notes that prices rose in Flanders as well as England and remained high for a generation following the Black Death.

underpinned the contemporary rise in the in the prices of other commodities.¹⁰⁶ These same poor yields and high food and commodity prices obstructed workers from making further significant gains in real wages for an entire generation after the Black Death.¹⁰⁷ True, the Statute of Labourers may have succeeded in placing some restraint upon wage increases, but the continuing high food prices were at least as great a brake upon purchasing power (although they will have raised the monetary value of food liveries which, of course, lay outside the purview of the Statute of Labourers).¹⁰⁸

The sudden improvement in yields that set in from 1376 was literally heaven sent, insofar as it sprang from transformed environmental conditions.¹⁰⁹ Bumper yields replaced scarcity with plenty, driving down prices to the benefit of consumers. Those employing waged labour to produce surpluses for sale found themselves squeezed hard, whereas workers experienced rising expectations.¹¹⁰ From this dichotomy sprang many of the social tensions that found violent expression in the Peasants' Revolt of June 1381.¹¹¹ Judged by yields alone, the thirty years from 1376 constituted a quite exceptionally successful agricultural episode, but these high yields, at a time of dwindling and weakening demand, created a crisis of over-production for large-scale arable producers which is why — viewed from their perspective — it is more usually regarded as a period of agricultural difficulty and recession.¹¹² Estate officials responded by diversifying

¹⁰⁶ Correlation coefficients for the yield per seed of wheat (the principal price maker) and price of wheat (advanced one year) are consistently strongly negative: 1275–1324, -0.71; 1300–49, -0.67; 1325–74, -0.66; 1350–99, -0.77; 1375–1424, -0.73; 1400–49, -0.69. The lack of any substantial or significant drop in the strength of the correlation across the watershed period 1325–74 is striking (note: the equivalent correlation for the one hundred-year period 1300–99 is -0.71). The implication is clear; between 1275 and 1449 variations in yields account for the bulk of all variation in grain prices.

¹⁰⁷ Hatcher, 'England in the Aftermath', p. 24: 'the extraordinarily sluggish behaviour of the real wage statistics which have been computed for the quarter-century after the Black Death is also due in major part to the high price of basic foodstuffs'. Also, Clark, 'Long March of History', p. 133; Munro, 'Revisions'; Munro, 'Money, Prices, and Wages in Fourteenth-Century England', pp. 348–57.

¹⁰⁸ The limited effect of the Statute upon wages in cash and, particularly, upon payments in kind is discussed in Hatcher, 'England in the Aftermath', pp. 20–23.

¹⁰⁹ Those who advance monetary factors as the primary cause of the post-Black Death price rise are more cautious in employing such factors to account for the timing and scale of the post-1376 price fall, Munro, 'Money, Prices, and Wages in Fourteenth-Century England', pp. 357–58.

¹¹⁰ Overton, *Agricultural Revolution in England*, pp. 19–22.

¹¹¹ Dobson, *The Peasants' Revolt*, pp. xix–xlv.

¹¹² Britnell, 'English Agricultural Output and Prices', p. 26: 'the movement of prices and

into livestock, scaling down their arable enterprise, or farming out their lands piecemeal or wholesale to tenants. A full-scale Malthusian recovery of population might have retrieved the economic situation for large-scale producers but was not forthcoming. In its absence, demand continued to wither and the crisis for demesne managers to deepen.

From the final decades of the fourteenth century, therefore, arable production settled into a low-level equilibrium characterized by relatively extensive methods of production which delivered modest levels of land productivity that were always more prone to fall than rise. Even in the land-rich fifteenth century, with its favourable ratio of grassland to arable and generous wage rates, serious harvest failure remained a real hazard and the occasional major back-to-back failure, as in 1437–38, could still bring the most vulnerable members of society to the brink of famine.¹¹³ London responded to that crisis by establishing its first public granary.¹¹⁴ More generally, the experience of these hard years and others which followed as the fifteenth century drew to a close served to heighten concern about poverty, vagrancy and public order and spur contemporary quests for improved social security and welfare, through the formation of guilds, fraternities, foundation of almshouses and charities, and institution of voluntary parish relief schemes.¹¹⁵ Many of the most abiding economic and social features of the long years of demographic decline and stagnation that followed the Black Death therefore sprang in part from the low, varying and uncertain yield of grain.¹¹⁶

wages from the mid-1370s compels us to consider the period 1376–89 as one of widespread agrarian recession.’

¹¹³ Campbell, ‘Four Famines and a Pestilence’, pp. 42–46.

¹¹⁴ Campbell and others, *A Medieval Capital*, p. 104.

¹¹⁵ Dyer, *Making a Living*, pp. 312, 355; Dyer, *An Age of Transition*, pp. 238–40; Holt, *Robin Hood*, pp. 195–96.

¹¹⁶ This essay is dedicated to John Hatcher with gratitude and admiration. Research for it was undertaken with support from the UK’s Economic and Social Research Council (Award RES-000–23–0645), British Academy, Sussex Archaeological Society, and Leverhulme Trust. Anne Drewery, Marilyn Livingstone, and Christopher Whittick assisted with data collection, Elaine Yeates and the staff of the Centre for Data Digitisation and Analysis, The Queen’s University of Belfast, with data inputting, and Bas van Leeuwen with data analysis. Ben Dodds and Jan Luiten van Zanden contributed tithe data. Mike Baillie gave advice and supplied data on dendrochronology. Gregory Clark gave statistical help and advice on the construction of time series. The figures were drawn by Gill Alexander. The text was much improved as a result of comments made by Mark Bailey and Steve Rigby. Any errors remain my own.

Appendix 1

Yields Per Seed (YPS) Net of Tithes and Gross of Seed on the Westminster Estate, Winchester Estate, and in England as a Whole, Indexed on their Respective Means for 1300–49

End year	Westminster		Winchester		England		Wheat YPS	Barley YPS	Oats YPS
	No.	W(B/O) YPS	No.	W(B/O) YPS	No.	W(B/O) YPS			
1	2	3	4	5	6	7	8	9	10
1300	27	85	102	92	208	94	91	93	101
1301	33	99	111	105	228	102	105	101	97
1302	36	77	108	100	223	97	98	95	97
1303	33	106	0		124	107	113	111	89
1304	36	65	0		130	86	83	86	92
1305	30	77	77	91	221	91	102	76	83
1306	24	72	103	93	206	93	101	84	85
1307	26	99	96	96	217	99	100	100	94
1308	25	93	99	114	204	101	96	102	112
1309	22	94	107	112	204	104	110	104	92
1310	19	93	106	90	182	99	93	111	100
1311	18	125	108	119	202	110	118	106	97
1312	22	112	104	108	214	104	111	111	84
1313	25	93	110	116	201	103	112	102	86
1314	19	108	104	104	177	101	107	99	94
1315	16	60	100	59	181	74	63	82	87
1316	5	61	94	39	161	63	50	74	77
1317	10	97	95	74	160	89	96	83	82
1318	11	90	100	126	203	107	121	95	90
1318	29	120	0		105	104	96	110	113
1320	23	112	91	106	225	106	100	106	116
1321	27	60	0		67	77	75	82	76
1322	30	113	0		90	102	95	110	108
1323	34	109	0		102	113	104	123	120
1324	38	83	91	101	225	99	94	103	105
1325	20	94	104	131	215	108	115	95	108
1326	15	189	108	131	218	117	123	119	102

End year	Westminster		Winchester		England		Wheat YPS	Barley YPS	Oats YPS
	No.	W(B/O) YPS	No.	W(B/O) YPS	No.	W(B/O) YPS			
1327	21	128	109	118	225	105	102	98	117
1328	24	75	101	96	181	91	89	85	102
1329	14	88	101	112	195	103	103	101	104
1330	25	140	94	98	201	105	108	102	104
1331	20	56	95	101	199	90	90	78	100
1332	10	107	88	113	169	107	112	98	107
1333	5	143	0		110	131	143	124	115
1334	8	96	0		84	110	115	100	112
1335	26	104	99	102	206	101	101	95	108
1336	7	95	104	107	198	105	103	101	115
1337	17	124	103	130	200	114	120	113	105
1338	23	122	106	135	220	121	120	124	122
1339	23	82	106	60	202	83	61	117	92
1340	15	108	103	99	203	106	111	107	96
1341	33	107	105	85	209	99	91	106	108
1342	14	119	106	116	192	113	111	110	119
1343	13	126	109	86	202	100	92	111	106
1344	17	132	109	130	206	118	122	119	110
1345	29	121	105	85	188	99	107	106	77
1346	38	76	104	78	222	87	78	92	100
1347	20	113	110	95	218	100	89	106	118
1348	32	129	103	105	196	106	98	110	119
1349	24	27	103	41	194	64	60	66	69
1350	23	49	127	50	233	65	66	66	62
1351	24	79	125	63	209	77	64	83	98
1352	25	80	130	94	223	90	122	56	62
1353	21	99	128	96	240	92	92	81	102
1354	18	94	74	106	165	93	90	88	103
1355	18	114	115	101	201	98	93	97	108
1356	18	55	130	75	205	78	88	59	76
1357	19	88	127	91	199	91	89	83	102
1358	16	109	107	114	177	97	94	87	112
1359	11	125	98	96	174	93	87	96	103

End year	Westminster		Winchester		England		Wheat YPS	Barley YPS	Oats YPS
	No.	W(B/O)	No.	W(B/O)	No.	W(B/O)			
		YPS		YPS		YPS			
1360	13	99	105	107	173	93	93	85	102
1361	11	99	127	100	190	92	102	76	87
1362	21	98	125	80	207	85	73	71	121
1363	21	80	116	89	222	88	72	91	118
1364	25	111	124	107	233	99	94	103	108
1365	22	104	126	115	223	96	91	91	111
1366	23	128	0		94	103	106	95	106
1367	24	82	92	74	209	81	69	81	104
1368	25	80	129	100	256	91	91	83	100
1369	26	80	113	84	221	82	71	80	107
1370	27	117	120	118	213	106	95	110	122
1371	33	133	137	117	255	105	92	114	124
1372	32	99	130	105	251	95	82	104	112
1373	29	148	126	148	242	121	107	135	136
1374	28	108	122	94	197	88	74	92	112
1375	28	84	110	98	198	88	76	96	106
1376	31	138	121	137	217	117	112	118	125
1377	31	155	126	137	235	120	110	121	138
1378	30	124	129	146	218	121	115	132	122
1379	32	95	126	106	221	99	82	111	122
1380	36	104	1		84	104	92	118	112
1381	29	135	96	127	189	109	92	116	137
1382	36	131	122	126	208	112	96	122	132
1383	29	109	91	136	185	110	102	100	135
1384	23	163	100	133	184	119	120	122	116
1385	25	108	108	123	182	104	96	96	125
1386	24	146	85	139	165	117	105	113	144
1387	24	158	101	147	169	123	113	123	141
1388	21	126	121	152	194	119	110	120	135
1389	24	110	90	114	159	104	94	109	118
1390	23	75	87	95	157	91	81	97	107
1391	15	128	3	135	43	118	115	108	133
1392	22	165	25	124	109	119	117	118	125

End year	Westminster		Winchester		England		Wheat YPS	Barley YPS	Oats YPS
	No.	W(B/O) YPS	No.	W(B/O) YPS	No.	W(B/O) YPS			
1393	27	91	99	128	169	106	98	103	125
1394	19	127	114	123	186	107	111	90	116
1395	33	122	114	117	189	106	96	108	125
1396	29	107	111	95	181	96	81	105	116
1397	30	87	0		55	96	106	76	96
1398	30	133	31	102	110	108	105	98	124
1399	20	103	89	114	144	101	93	100	119
1400	15	97	104	109	166	98	84	102	123
1401	17	90	100	84	154	88	67	99	117
1402	9	98	95	109	150	104	89	103	136
1403	12	99	6	107	47	105	92	111	125
1404	6	108	0		32	108	101	106	123
1405	3	121	35	122	76	113	119	110	105
1406	3	56	65	89	106	90	74	96	119
1407			6	126	36	97	86	104	111
1408			48	96	84	88	82	86	103
1409			66	100	99	92	84	92	110
1410			63	105	90	106	92	110	127
1411			65	111	99	101	86	102	131
1412			69	125	101	108	91	118	131
1413			69	112	103	96	92	93	104
1414			84	113	122	97	95	92	107
1415			46	109	94	97	87	92	121
1416			69	98	109	91	78	83	125
1417			3	115	21	108	98	100	137
1418			49	96	78	92	78	100	112
1419			54	114	68	103	107	94	103
1420			59	95	94	90	67	98	125
1421			57	107	87	94	82	96	116
1422			60	93	102	86	92	71	88
1423			66	119	99	101	87	103	127
1424			63	108	94	91	86	73	119
1425			59	112	93	101	90	93	134

End year	Westminster		Winchester		England		Wheat YPS	Barley YPS	Oats YPS
	No.	W(B/O) YPS	No.	W(B/O) YPS	No.	W(B/O) YPS			
1426			6	132	21	103	99	97	117
1427			43	121	72	101	92	93	125
1428			3	103	28	78	65	77	107
1429			51	105	79	96	86	93	118
1430			50	111	77	103	90	97	135
1431			45	122	62	112	98	106	148
1432			48	93	68	88	81	85	106
1433			42	102	56	107	101	83	143
1434			42	121	60	115	107	103	144
1435			38	103	66	100	88	89	135
1436			0		21	108	91	107	142
1437			3	58	21	84	70	88	107
1438			9	66	35	81	50	91	135
1439			0		24	111	91	107	154
1440			31	120	59	118	110	112	141
1441			40	111	59	98	79	92	141
1442			5	77	23	92	92	78	107
1443			6	78	27	99	78	110	130
1444			3	89	21	108	91	107	142
1445			0		18	100	77	79	169
1446			0		14	107	87	106	148
1447			25	96	43	103	84	100	144
1448			22	116	38	104	92	96	138
1449			17	90	30	95	91	83	114
1450			0		12	99	85	82	144
1451			12	101	27	106	73	116	164
1452			12	102	29	106	94	98	140
1453			9	124	22	114	95	95	169
1454			9	105	29	101	96	96	115
1455			0		15	124	117	99	163
1456			6	120	23	114	102	107	147
1457			0		22	89	77	96	106
1458			0		22	107	84	82	178

End year	Westminster		Winchester		England		Wheat YPS	Barley YPS	Oats YPS
	No.	W(B/O) YPS	No.	W(B/O) YPS	No.	W(B/O) YPS			
1459			6	106	18	116	106	113	140
1460			6	78	19	96	74	101	135
1461			6	87	21	97	81	88	136
1462			6	103	18	102	94	107	113
1463			0		15	107	114	101	98
1464			4	48	16	74	99	42	58
1465			6	101	13	101	79	86	161
1466			6	120	14	110	95	102	146
1467			0		6	102	91	93	132
1468			0		9	92	91	86	100
1469			6	85	15	101	82	101	138
1470			0		9	90	83	91	104
1471			6	80	15	90	65	89	142
1472					9	109	109	100	117
1473					9	77	81	56	89
1474					13	94	90	69	125
1475					9	107	103	84	136
1476					8	122	87	77	236
1477					5	94	59	76	183
1478					5	74	56	69	115
1479					8	97	79	120	112

Sources and methods: see the notes to Figures 13, 16, and 19.

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RISK AND CAPITAL FORMATION: SEIGNEURIAL INVESTMENT IN AN AGE OF ADVERSITY

Martin Stephenson*

Whilst the medieval political landscape is often seen as being dominated by members of the ruling class actively playing for very high political stakes, rather conservative and passive economic behaviour is often attributed to the same agents when it comes to their management of their estates, in particular to their approach to capital formation. Indeed, the elite's very pursuit of social status and political ambition has often been seen as inimical to developing an investment culture. Where investment did occur it has been argued that this was due to the propitious costs and prices of the thirteenth century and even then it was generally at a very low level.¹ Additionally most assessments of

* Martin Stephenson was awarded a doctorate at the University of Cambridge in 1986: 'Despite not being one of John Hatcher's graduate students he has over many years given generously of his time and advice which I have really appreciated. I am very grateful for the comments of Steve Rigby and Mark Bailey on the present text.'

¹ There is a consensus across two of the main theoretical frameworks used to study the medieval economy on the low level of capital formation on the great estates particularly in the period of high farming. The underlying reasons for this consensus are, however, very different. From a Marxist perspective those responsible for decision making are perceived as having a low propensity to innovate and accumulate with these behaviours being embedded within the attitudes and ideologies of the landlord class: Hilton, 'Rent and Capital Formation in Feudal Society', pp. 174–221. While the demographic model often assumes similarly low levels of investment, this is viewed in the context of the dominant influence of the relationship between land and labour coupled with supply side restrictions such as technical limitations imposing a low ceiling on capital formation: Titow, *English Rural Society*, pp. 49–50. Hilton also queried the assumption that the later Middle Ages was one of slackening capital formation and argued for a greater willingness for landlords to reinvest their profits than was the case in the thirteenth century: Hilton, 'Rent and Capital Formation in Feudal Society', pp. 194–96.

the quality of medieval estate management have tended to focus on the extent to which innovative agricultural practices were adopted and yields maximized. When, in the post-Black Death period, the economic circumstances were no longer conducive to easy profits, the subsequent widespread adoption of leasing the demesnes could be viewed as a rather passive strategy and the circumstances less conducive to investment.² However, if we take a managerial perspective, it is possible to reappraise the arguments that medieval landlords tended to be risk averse, rent-bound, and lacking in an investment mentality. Similarly the assumption that adversity tends to reduce risk-taking can also be challenged and the converse proposition used to examine the response of landlords to the impact of the Black Death.

Modern discourses about risk have become increasingly influential within the social sciences stimulating cross-disciplinary debates between sociology, criminology, politics, cultural studies, geography, and environmental studies.³ Yet, such ideas are rarely applied explicitly to economic behaviours in pre-industrial economies and even when they have been, rather simplistic and whiggish assumptions have often resulted. The evolution of risk as a social, economic, and cultural construct is often seen as a product of the principles and practice of scientific enquiry initiated by the Enlightenment. Accordingly medieval notions of risk have been discussed in relation to religious fatalism and to a passive acceptance of the consequences as the Wheel of Fortune inexorably revolved.⁴ It has been argued that without probability theory and actuarial methodology risk was unable to be assessed and managed.

It may be, however, that modern sociological references to 'risk societies' which are characterized by the ubiquitous nature and effects of perceived risks can be applied to the Middle Ages. Certainly, people at all levels of medieval society would have been only too well aware of the pervasive and to contemporary real threats to person, property and wallet. Despite a lack of actuarial techniques, they would often have been adept at weighing up the odds of differing courses

² Bridbury has argued that the 'hopeless inefficiency' of the great landlords was exposed by the impact of the plague and that these 'anachronistic leviathans' had never subscribed to the 'utopian [...] impracticability' of the treatises being massively indifferent to the improvement of their estates (Bridbury, *Medieval England*, pp. 164–65). In more measured terms Miller and Hatcher suggested that 'Capital investment usually depended on a combination of exceptionally favourable circumstances; where those circumstances ceased to exist or were undermined investment was curtailed, sometimes to vanishing point'; Miller and Hatcher, *Medieval England: Rural Society and Economic Change*, p. 232.

³ Mythen, *Ulrich Beck*, p. 4.

⁴ Bernstein, *Against the Gods*, pp. 3–4. Ferguson, *The Ascent of Money*, p. 184.

of action bringing success. Risk assessment has two aspects: the likelihood of an event occurring and the consequences if it does.

The approach of landlords to capital formation in the pre-Black Death period is initially assessed here by examining the perception and management of risks in agricultural decision-making as portrayed in the didactic treatises. The nature and level of capital formation is subsequently examined through several thirteenth- and early fourteenth-century case-studies. For the post-Black Death economy the attitude toward investment from the landlords of the great estates is discussed in terms of the capital formation opportunities during both the 'Indian summer' of direct demesne management and those facing rentier landlords in the late fourteenth and fifteenth centuries. The manor of Downton in Wiltshire is then used as a quantitative case-study supplemented by evidence from other manors on the bishop of Winchester's estates.

While medieval awareness of political, climatic, and physical vicissitudes must have often been very high and solace often sought in religious explanations, it does not follow that such misfortunes were passively accepted. It is interesting that Machiavelli, in discussing the role of fortune and providence in political affairs, not only rejected the notion that everything was governed by chance (he attributed half to fortune and half to human ability to control events) but also used an agricultural metaphor to illustrate the mitigation of risk: while fortune may act through a devastating flood, suitable provision could be made through dykes and embankments to prevent future flooding or at least restrict its damage.⁵ Capital investment is a risk behaviour in that it involves foregoing current economic consumption in order to achieve potentially, but not certain, greater future benefits and that the attendant decision-making is often on the basis of inadequate information. It therefore makes an interesting test case for examining to what extent medieval landlords were willing to take risks and had the capacity to manage them and to make forward-looking decisions and choices.

Agricultural Treatises

It is important not to underestimate the challenges and inherent risks of assuming direct management of estates. Certainly, such management involved assembling

⁵ Machiavelli, *The Prince and other Political Writings*, trans. by Penman, pp. 131–32. Machiavelli has often been credited with a very modern view of statecraft particularly for someone born in the third quarter of the fifteenth century but he combined this with the much more ancient belief in the role of Fortune as an important and active participant in human affairs very much in accord with the views expressed in the exordium to Walter of Henley's treatise. See n. 15 below.

a complex, time-consuming, and costly administrative apparatus. Controlling enterprises as diverse and dispersed as the estates of the bishop of Winchester with a vast number of inputs subject to unpredictable external influences such as weather, politics and disease would be a formidable management challenge even today. If management was ineffective then the switch to direct demesne management was not always worth it. At Canterbury Cathedral Priory for example cash receipts actually appear to have fallen after the move from leasing to direct management and it was not until Henry of Eastry introduced a more efficient approach to management that revenues increased.⁶

The didactic agricultural treatises of the thirteenth century were written in response to these significant management challenges presented by the move from leasing to the direct management of demesnes.⁷ Accordingly these treatises, in contrast to many of the classical texts or those of the sixteenth century, were all about management rather than agricultural lore or innovative technical practices in regard to animal and crop care.⁸ They are management tracts rather than veterinary manuals. In interpreting these treatises it is helpful to view them in their cultural context. While these texts are perhaps indicative of the rise of administrative and professional groups in thirteenth-century society, they also provide some insight into the wider seigneurial culture as a burgeoning bureaucracy drove lay literacy forward.⁹ As Beauroy argues through analysis of a unique poem based on the moral prologue to *Walter of Henley* which is contained in a cartulary from the Mohun estates in Somerset from about 1350, seigneurial culture was characterized by a morality based upon economic rationality and the expertise of landlords with a strongly pragmatic and utilitarian orientation.¹⁰ The agricultural treatises have not always been assessed so positively. Hilton believed that: 'all of the treatises are pervaded by an atmosphere of careful parsimony' and that they set out an administrative system designed to maintain the production status quo: 'the whole of the elaborate apparatus of control aims at defeating dishonesty rather than at promoting the expansion of production'.¹¹ This emphasis on pre-

⁶ Mate, 'The Farming out of Manors' p. 336.

⁷ Oschinsky, *Walter of Henley*, pp. 3–4.

⁸ Fussell, *The Classical Tradition in West European Farming*, pp. 65–98.

⁹ Clanchy, *From Memory to Written Record*, pp. 19, 198, 236, 276. Beauroy, 'Sur la culture seigneuriale en Angleterre', p. 347. I am grateful to Jacques Beauroy for bringing this important article to my attention.

¹⁰ Beauroy, 'Sur la culture seigneuriale en Angleterre', p. 347.

¹¹ Hilton, 'Rent and Capital Formation in Feudal Society', p. 178.

venting maladministration and dishonesty has been seen to negate the grander claims about achieving power and wealth with which the treatises often begin.¹² Even those historians with a more dynamic and optimistic view of the thirteenth-century economy can portray them as discouraging innovation and experimentation and encouraging a conservative approach.¹³ The technical knowledge displayed in these treatises has been contrasted unfavourably both with early fourteenth century Italian treatises and with classical works.¹⁴ Nevertheless, in terms of risk perception and risk management, these treatises offer interesting insights into the mentality of landlords. The exordium to Walter of Henley's treatise (which is expanded in the Mohun versified form) extends the image of the Wheel of Fortune to the problem of agricultural economic instability.¹⁵ While this is hardly an actuarial approach, neither is it the passive acceptance of fate as the prudent landlord is seen as being able to mitigate the effects of the wheel's downturn. Neither should these treatises be interpreted as risk averse. Many of the features of risk assessment and mitigation are contained albeit in nascent form. Medieval agriculturalists, at all levels had to contend with several kinds of risk and these can be grouped into four main categories: production, market, institutional, and human, each of which can be examined through the treatises.¹⁶

Production risk derived from the varying performance of livestock or crops, through, for example, the effects of diseases and pests. While the treatises are aimed at the highest levels of estate management and thereby focus on administrative and supervisory systems, the recognition of variation in yields is commonplace:

But lands do not yield equally well in every year nor do bad lands yield as much as good; also it often happens that the winter corn takes well and the spring corn fails while another time the spring corn takes well and the winter corn fails.¹⁷

The *Husbandry* for instance notes within year variations in milk yields whether through the quality of pasture or an animal's age.¹⁸ Similarly the *Rules of Robert Grosseteste* draw attention to the difference in the value of wool according to the

¹² Dyer, *An Age of Transition?*, p. 89.

¹³ Campbell, *English Seigniorial Agriculture*, p. 422.

¹⁴ Langdon, 'Was England a Technological Backwater?', p. 286.

¹⁵ Oschinsky, *Walter of Henley*, p. 309. Beauroy, 'Sur la culture seigneuriale en Angleterre', p. 351.

¹⁶ Hardaker and others, *Coping with Risk in Agriculture*, pp. 6–7.

¹⁷ Oschinsky, *Walter of Henley*, p. 419.

¹⁸ Oschinsky, *Walter of Henley*, p. 430.

quality of pasture¹⁹ and everyone would have been well aware of the consequences: 'if corne fayle or stock die or fier doe happen' as Walter of Henley warned.²⁰

Partly as a result of the unpredictable nature of agricultural production, there can be a considerable degree of market or price risk in agriculture as the prices of inputs and outputs are often not known for certain. Price variations can be a particular problem and the amplitude of annual prices could make certain producers more risk averse and less likely to adopt a strategy of specialization. Grain prices for the period 1280–1350, for example, fluctuated year to year by 26.6 per cent on average, which may have made them unreliable signals for producers.²¹ Extraneous events such as the lack of specie and general financial upset that was occasioned by the onset of the Hundred Years War could also seriously disrupt market signals. Given their scale of operations, the great estates could mitigate this risk by stockpiling produce either to release into the market at the most favourable times of the year or to carry over into the next year. In the face of slumping wool prices for example the bishop of Winchester's estates started to hold back substantial numbers of fleeces from immediate sale from the mid-1380s onwards. The treatises do make mention of varying selling points during the year in order to obtain the best prices. According to the *Rules of Robert Grosseteste*: 'if you want to sell oats you will be able to sell better and get more for them later in the year when everyone is forced to sow'.²² It is clear from detailed analysis at manorial level that market management was both sensitive and sophisticated as reeves managed the production and disposal of produce in order to maximize profits.²³

There was a range of institutional risks faced by landlords, including variations in taxation and duties. The maintenance of political stability was also a significant area of risk. Other threats from medieval government faced by the lords of the great estates included the management of vacancies for both episcopal and lay landlords. A sequence of vacancies could result in substantial disinvestment in the estate as the king's officials depleted the capital stock through asset-stripping principally through the removal of livestock: the six vacancies of the bishopric of Winchester in the first half of the fourteenth century resulted in the total loss of nearly 34,000 sheep alone, perhaps worth

¹⁹ Oschinsky, *Walter of Henley*, p. 399

²⁰ Oschinsky, *Walter of Henley*, p. 309.

²¹ Kitsikopoulos, 'Standards of Living and Capital Formation', p. 252.

²² Oschinsky, *Walter of Henley*, p. 397.

²³ Stone, *Decision-Making in Medieval Agriculture*, p. 189.

up to three thousand pounds.²⁴ The wool trade was particularly vulnerable to royal market manipulation through embargoes, seizures and duties as its scale and importance meant that it was both a ready source of war finance and a diplomatic lever. Equally royal taxation could absorb a significant proportion of profits. The ability to maintain peaceful conditions was also an institutional risk and livestock were particularly vulnerable in periods of conflict such as the baronial wars of the mid-1260s or the Scottish incursions of 1316.

Perhaps the area of greatest risk in the management of the great estates however was human risk, whether through carelessness, maladministration or the lack of staff that possessed the necessary skills and experience. This is a recurrent theme of all the agricultural treatises. They set out the optimal organizational and administrative arrangements for an estate, establishing the division of responsibility, setting output goals through expected yields and returns, highlighting practices that were profitable and above all else what officials and servants should not be doing. They are obsessive about control and rooting out those practices that could erode profits. Dishonesty and indolence were seen as pervasive threats: 'And bycause that servauntes customarily doe loyter in their woorke it is necessarie to lye in a wayte against their frawde.'²⁵ It can hardly be doubted that the potential for dishonesty was rife, as is illustrated by the frequent mentions of fines of manorial officials: 'pro conclamento in isto computo invento.'²⁶ *The Seneschaucie* runs systematically through the key posts from stewards, bailiffs, reeves, haywards, carters, plough-keepers, cowherds, swineherds, shepherds, dairymaids, and finally auditors. Each has their relevant duties and requisite character listed accompanied by a series of either effective or sharp practices to look out for.²⁷ While most of the treatises are prepared from the point of view of the landlord Robert Carpenter's extensive instructions are unusual in that they provide lessons in cheating for bailiffs.²⁸

All of the treatises focus on reducing costs in order to increase profits: 'And so he ought to reduce all unnecessary expenditure on the manors, which shows no profit and for which there is no good reason.'²⁹ They are not necessarily about maximizing yields but rather about maximizing profits by means of the necessary

²⁴ Stephenson, 'The Productivity of Medieval Sheep,' p. 18.

²⁵ Oschinsky, *Walter of Henley*, p. 317.

²⁶ Denholm-Young, *Seignorial Administration*, p. 121.

²⁷ Oschinsky, *Walter of Henley*, pp. 265–89.

²⁸ Denholm-Young, *Seignorial Administration*, p. 121. Oschinsky, *Walter of Henley*, p. 239.

²⁹ Oschinsky, *Walter of Henley*, p. 269.

investment. While the treatises clearly identify risks of production, market and human, they also each attempt to provide a framework for mitigating these risks.

One important dimension of risk that is not really dealt with in the treatises except by implication is the financial risks associated with the methods of financing agricultural operations. Walter of Henley warns against the dangers of borrowing but the treatises do not deal with the use of credit as their premise is that well-run estates would not require it in the first place. However, relatively sophisticated derivative instruments, including forward contracts and options, were in use, particularly in the wool trade.³⁰ Large-scale forward contracts for the sale of wool over many years in advance was a form of risk mitigation. Financial planning could be enhanced significantly as revenue would be known for several years into the future thus potentially reducing both production and market risks. The often substantial advance payments released large amounts of cash to be invested.

Unfortunately, if mishandled, such forward agreements introduced powerful countervailing risks that could bankrupt even quite large estates. Production risks such as sheep murrain were still a threat. If these agreements had not been negotiated conservatively as to an estate's potential to produce wool then any shortfall meant that the deficit would have to be made up through purchases on the open market. If the shortfall was caused by epidemic disease then the spot price for wool would be even higher thereby increasing the loss on the agreement. Given that the advance sums had often already been spent and not always wisely, some estates became seriously enmeshed in spiralling debts. A further risk was that the immediate advantage of forward agreements may have tempted those producers with a comparative advantage in wool production into even greater specialization which further increased the risks. The scale of financial hardship could be considerable even occasionally forcing the dissolution of monasteries. The sheep scab epidemic of the 1270s and 1280s for instance led several Cistercian houses into near bankruptcy.³¹ Through a combination of bad luck and inadequate decision-making regarding production and market risks, Pipewell abbey in Northamptonshire fell into serious indebtedness and was dispersed in 1323.³²

The widespread existence of an investment mentality amongst medieval landlords has been challenged particularly in the thirteenth century: 'the *idea* of

³⁰ Bell, Brooks, and Dryburgh, *The English Wool Market*, p. 4.

³¹ Bell, Brooks, and Dryburgh, *The English Wool Market*, p. 116.

³² Bell, Brooks, and Dryburgh, *The English Wool Market*, p. 149.

reinvesting profit for the purpose of increasing production seems to have been present in few minds if any.³³ In addition their devotion to excessive expenditure demanded by their position in feudal society has been seen as leading to chronic indebtedness leaving few savings to invest.³⁴ However research into household accounts indicates that there was often systematic management of expenditure to reduce debts.³⁵ Certainly the way to maintain and increase personal status for a member of the nobility was through lavish patronage and extravagant displays of social status. Equally, however, it could be argued that ruling elites in avowedly capitalist cultures have hardly shunned the ostentatious display of wealth and have also readily ploughed their money into projects that were about status rather than increasing productivity. Besides, medieval conspicuous consumption could also stimulate the lords to adopt a more efficient exploitation of their estates through the need for greater profits.

Certainly, now while the motto: 'foolish spending brings no gain' used by the author of the *Seneschaucie* is typical of much of the approach of these treatises; the landlord still had to be sensitive to opportunities for improvements.³⁶ According to the *Seneschaucie* the bailiff: 'ought to arrange that the lands are worked, folded, manured, improved and enriched so that his knowledge becomes evident in the improvements and progress on the manor'.³⁷ In the conclusion the landlord is advised:

to ascertain and inquire who acted well and loyally, who improved and enlarged, who made a profit and who made no profit but made a loss. Those whom he will then find good, honest, and making improvements he will retain for that reason.³⁸

Many of the measures advocated by these treatises would lead both directly and indirectly to the increase of yields and flocks, for example, the effective culling that is the essence of livestock husbandry.³⁹ Numbers of animals were to be kept at the maximum: 'And if you have land which ought to carry stock take care to stock it to capacity'.⁴⁰ There is abundant discussion of yields of both arable and

³³ Hilton, 'Rent and Capital Formation in Feudal Society', p. 213.

³⁴ Postan, 'Investment in Medieval Agriculture', p. 580.

³⁵ Dyer, *Standards of Living*, pp. 86–108.

³⁶ Oschinsky, *Walter of Henley*, p. 269.

³⁷ Oschinsky, *Walter of Henley*, p. 293.

³⁸ Oschinsky, *Walter of Henley*, p. 293.

³⁹ Oschinsky, *Walter of Henley*, pp. 275, 285.

⁴⁰ Oschinsky, *Walter of Henley*, p. 317.

stock farming.⁴¹ Walter of Henley for instance emphasizes the importance of manuring and of using new seed each year, and advises the reader to experiment with a strip sown with home-grown seed and one with imported grain.⁴² There is an emphasis on cutting costs which can be an important part of improving productivity and generating potential investment funds. All in all these treatises reflect a hard-headed approach, full of practical hints, cautious, but never begrudging expenditure where the health and yields of animals or productivity of the land were concerned.

The 'extent' has been portrayed as the practical expression of the basic assumptions of medieval landlords about their estates — that is, having surveyed their lands and rights they ran their farms only up to the levels fixed in their extent.⁴³ Here again, though, there is no conflict between thrift and investment. Given the rudimentary nature of accounting systems, it could just as easily be that extents were more ready-reckoners than rigid blueprints. For instance, one of Adam de Stratton's first measures on assuming control of the manor of Sevenhampton was to have an extent drawn up. This aided rather than hindered the remarkable expansion of the subsequent years as he was an absentee landlord and could better assess the potential of his lands by the use of an extent.

The treatises of the late thirteenth and fourteenth centuries can be viewed as early management manuals that urge the exercise of judgement about risks, their prevention and mitigation. Indeed, it could be argued that their premise is that demesne management is inherently riskier than a reliance on rent and customary payments. The burgeoning of account rolls and allied documents thus sprang directly from taking more not fewer risks. The involvement of auditors and accountants is in direct proportion to the level of risk involved in an undertaking. The fact that the earliest surviving account rolls focus on rudimentary control only underlines this.

It is perhaps to misunderstand the purposes of accounts and auditing in any age to argue that: 'It is assumed that accounting officials intend to cheat, so the whole of the elaborate apparatus of control aims at defeating dishonesty rather than at promoting the expansion of production.'⁴⁴ All accounting systems are more or less obsessed with minimizing the potential for dishonesty,

⁴¹ Oschinsky, *Walter of Henley*, pp. 325, 333, 335, 397, 399, 419–34.

⁴² Oschinsky, *Walter of Henley*, pp. 325, 327–329.

⁴³ Bridbury, *Economic Growth*, p. 87; Hilton, 'Rent and Capital Formation in Feudal Society', p. 178; Langdon, 'Was England a Technological Backwater?', p. 286.

⁴⁴ Hilton, 'Rent and Capital Formation in Feudal Society', p. 178.

maladministration and control of costs. They are an essential check on taking unnecessary risks but their existence is testimony to a risk taking culture. Rather than interpreting the accounting system and the treatises as symptomatic of a lack of the key attributes towards innovation and accumulation, they could be seen rather as indicative of an appreciation of risk. As Marx asserted: 'only capitalist agriculture produces the book-keeping farmer'.⁴⁵ An emphasis then on an evolving administrative apparatus of control is entirely consistent with an entrepreneurial approach.

Medieval Accounts

The rudimentary nature of medieval accounts has also been seen as an indication that medieval landlords were not profit-orientated. Certainly the primary purpose of accounts was not the determination of profit but rather establishing the liabilities of the accounting official and of those for whom he was responsible. In some ways many medieval accounts have more in common with a modern day book as lists of transactions rather than with a profit and loss account. Calculations of profit were clearly being made though and the use of account rolls in conjunction with the extent was a necessary if not sufficient part of this. In broad terms accounts contributed towards gaining certainty in unpredictable environments, provided mechanisms of control, and a basis for rational decision-making. While their most overt achievement was to curb fraud they also provided a check against error the potential for which was considerable in organizations with so many diverse transactions.

Nevertheless this system could also provide a general check on the efficiency of the demesne. Various items of income and expenditure were grouped together and annual variation both between and within manors could be compared over the years. Accounts could also be used to investigate ways of maximizing a surplus either through driving the income from customary payments harder or by raising output per acre or improving the yields of various livestock. Going further than this and calculating profit required additional work and the accounting system did not really facilitate this. Despite this, it is clear that relatively sophisticated calculations of profit were frequently made and may often have required the rather clumsy use of extents being compared to returns in account rolls.⁴⁶ This in a rather

⁴⁵ Britnell, 'Commerce and Capitalism in Late Medieval England', p. 366.

⁴⁶ Stone, 'Profit and Loss Accountancy', p. 27.

crude way could be seen as reconciling estimates with actual performance. One of the barriers to calculating profit in the accounts was that income and appropriate expenditure were not grouped together or sufficiently comparable so that the profitability of a particular herd or flock could not be easily ascertained. More significantly the treatment of capital expenditure as simply part of that year's outlay effectively prevented calculations regarding efficiency and profitability. Calculating precise returns on investments was often virtually impossible.

Despite the inherent weakness of the accounting system, decision-making about maximizing surpluses or profits was fundamental to the seigniorial economy. Clearly the lords' evolving system enabled them to grapple with the formidable control issues inherent in managing large-scale enterprise, often at a considerable distance. It is entirely reasonable to suppose that few new enterprises or major investments were undertaken without some sort of estimation of expected costs and income. Similar calculations had to be made in weighing up the risks around leasing versus direct management and examining the relative profits.⁴⁷ Such estimates are perhaps likely to have been made in a manner that would not produce records or at least less likely to survive such as cumulative series of accounts.

The inadequacy of medieval accounting practices and the rudimentary treatment of fixed capital could be seen as indicative of a lack of a profit-orientated mentality based partly on investment. However the fundamental weakness of accounting systems as direct aids to management and the confusion over fixed investments and current expenditure was prevalent throughout the eighteenth and nineteenth centuries in industries that were increasingly reliant on fixed capital. In fact accurate and effective methods of costing, forecasting, and production control may have postdated the industrial revolution.⁴⁸ Relatively easy margins coupled with the scarcity of capital allowed eighteenth- and nineteenth-century entrepreneurs to be relatively inefficient in pricing and financial planning.⁴⁹

Risk management was probably exercised at two levels of decision making: strategic and tactical. Clearly landlords, both lay and ecclesiastical, laid down plans for the exploitation of their estates that were to bear returns over many years, such as moving from demesne management to leasing or shifting the balance between pastoral and arable. Aggressive expansion involving considerable

⁴⁷ Postles, 'The Perception of Profit', p. 21.

⁴⁸ Pollard, *The Genesis of Modern Management*, p. 228.

⁴⁹ Pollard, *The Genesis of Modern Management*, p. 248.

capital expenditure over several years and, whether on the grand scale of Henry of Eastry, on royal demesne manors by Walter de Burgo or at a single manor by Adam de Stratton, were most probably undertaken according to some sort of plan. These plans must have involved a careful weighing of the risks involved relative to the potential returns. Unfortunately annual accounts and other standardized records whilst revealing local decision-making do not reveal strategic planning. The absence of household rolls prevents insight into decision-making on capital investment as they would contain the information on profits. It is likely that the systematic calculation and recording of manorial profits that occurred at Norwich Priory happened on many other estates.⁵⁰ Where records do survive, such as those relating to the work of Henry of Eastry, a clear and systematic approach is revealed.

Similarly the absence of central records prevents assessment of the balance between central and local decision-making on capital expenditure. Obviously this would vary to some extent depending on the level of trust given to local officials. However it would seem most likely that significant decisions such as major building works, land reclamation or a major change in the nature of the farming operations would be centrally directed. Estate-wide increases in expenditure on building or the growth of flocks and herds often appear associated with particular bishops or priors and indicate a coordinated approach to investment. For example at Rimpton on the bishop of Winchester's estates the move to a specialist operation fattening large numbers of culled sheep from a broad range of manors was preceded by the steward ordering the construction of a new large sheep house in 1348. In contrast there are examples of senior officials intervening at a very minor level indicating a detailed concern with the effectiveness of day-to-day farming decisions.⁵¹

Within the cycle of the agricultural year much risk management would be ad hoc and reactive, whether it was the judgement of reeves as to when to sell produce given local market conditions or the sometimes desperate expedients of gentry landlords like the Pastons in managing their relationships with their tenants. Decision making at both levels involved the crude calculation of odds based on uncertain information involving the weather, prevailing prices and costs, political conditions, and the incidence of epidemic disease.

⁵⁰ Denholm-Young, *Seignorial Administration*, pp. 128–30.

⁵¹ I am very grateful to Dr Christopher Thornton for permission to cite these findings from his unpublished paper: Thornton, 'Manorial Landscapes'.

Definition and Measurement of Capital Formation

There is broad agreement between both economic theorists and accountants about the basic division of fixed capital formation into gross and net forms, although the limitations of medieval source materials require some modification to the definitions.⁵² Gross capital formation is taken to be the total outlay through purchase or construction of those productive fixed assets which yield a service beyond the period when they were acquired. When depreciation is deducted, that is the capital consumption during production through wear and tear or obsolescence, the balance is net capital formation.

Medieval account rolls contain a vast amount of information on the detailed workings of manorial financial systems, general farming operations, and the yields of crops and animals. Their main drawback for studying capital formation is that they are principally a record of annual flows and not of accumulated stocks. The accounts record in minute detail all the income from scores of often trivial transactions and similarly list in detail all the items bought for the various farming departments. Consequently it is very difficult to tell whether equipment bought represents merely depreciation expenditure or a net addition to the capital stock. Even where the accounts indicate that, say, a new mill is not simply a replacement for an existing one, there is no value for the existing capital stock and estimates cannot be made of exactly how substantial this addition was. In the absence of inventories and valuations of the manorial buildings and equipment, the only acceptable solution for historians appears to be to lump net capital formation and depreciation expenditure together as 'gross investment' and where it is clear that new additions to the capital stock have been made, to call this 'net investment'.⁵³

Capital itself has to be defined within the medieval context and it is taken here to include all tools, equipment and buildings that are part of the productive process and all relatively permanent improvements to the productivity of the land such as ditching, dyking, hedging, and construction of walls and the growth of animal populations. The expansion of domesticated animal populations was, along with buildings, perhaps the main outlet for the expansion of the capital stock in medieval society.⁵⁴ They were an integral part of arable productivity

⁵² *Studies in Capital Formation*, ed. by Feinstein and Pollard, p. 2.

⁵³ The absence of central records such as annual valuations of buildings and other capital equipment means that it is impossible to draw up annual balance sheets charting variations in the net value of manorial assets over time. The calculations here as elsewhere relate only to annual capital expenditure in relation to income.

⁵⁴ This description of the constituents of capital is consistent with that of Hilton, 'Rent and

through providing the primary fertilizer and one of the most important sources of power through ploughing and carting. In addition they provided a whole range of essential products: meat and dairy produce, leather and wool, bones, feathers, and eggs. What is important is that allowance is made in calculations on capital formation for the growth or decline in the size of livestock populations on estates. The value of the livestock populations is probably the largest part of the capital stock where reasonably accurate estimates could be made. The costs of capital formation on demesnes tend to be underestimated in accounts as there are often significant uncoded inputs. Important raw materials such as timber from demesne woodlands and labour services used on new capital items either have no monetary value ascribed to them or their quantities are unknown.

In calculating rates of capital investment it is often impossible to tell whether capital expenditure came from funds generated by rental income, profits of justice, or demesne operations. Given that in the thirteenth century at least it was rare for landlords to spend anything on tenants' property it has been argued that the approach to investment by landlords can be better assessed by examining their capital expenditure in relation to their production income from their directly managed demesnes and not simply in relation to their total receipts.⁵⁵ While this approach focuses on the relationship between the income generated from demesne production and the amount put back into the demesnes it should not obscure the fact that very significant additional funds were available to landlords through the profits of rent and justice and potentially could have been spent on investment.

In order to sidestep this issue, four of the Crowland Abbey case-studies discussed below involve production income only and thereby give insight into what proportion of returns from production a landlord was willing to invest. Even if it is concluded that investment rates by landlords in the era of high farming were significantly higher than has often been claimed, that still does not mean that these were optimum rates of investment in relation to agricultural development or that the exercise of lordship in the context of an overpopulated countryside did not stunt investment expenditure by the peasantry.

The use of 'average' levels of investment ignores several important issues. Investment in capital, either gross or net, will by its very nature have a spiky profile as it proceeds in surges either through the acquisition of new assets or the replacement of depreciating ones. The pattern of capital expenditure is perhaps

Capital Formation in Feudal Society', p. 175, although the calculations differ in that he does not appear to have included estimates for the changing value of the changing livestock levels.

⁵⁵ Miller and Hatcher, *Medieval England: Rural Society and Economic Change*, p. 232.

more revealing of attitudes towards investment than is an arithmetic mean. Similarly the levels of and patterns in capital formation can inform us about the approach to risk-taking. Importantly trends over time can indicate responses to macro-economic changes. Also important, but harder to measure, is where estates disinvested as, for example, when lay or episcopal vacancies occurred. Similarly it is not clear when the capital stock such as buildings or equipment was either deliberately or incompetently allowed to deteriorate thus lowering short-term costs. Although the treatises were clear that all capital stock must be investigated to ensure early repairs as: 'the value of a thing depends on the care taken in its upkeep'.⁵⁶

*Pre-Black Death Case-Studies*⁵⁷

The manor of Sevenhampton and the pastoral enterprises of Crowland Abbey have been chosen here to exemplify the nature and levels of capital formation that

⁵⁶ Oschinsky, *Walter of Henley*, p. 279.

⁵⁷ Discussion of the level of capital investment has been dominated by the calculations contained in two influential articles: Hilton, 'Rent and Capital Formation in Feudal Society', pp. 174–214, and Postan, 'Investment in Medieval Agriculture', pp. 576–87. Despite two very different theoretical frameworks underpinning their conclusions, their findings were remarkably similar. These were that gross investment rates in demesne operations were typically under five per cent of income. However these figures are open to challenge. Much investment activity has been omitted from the calculations. The value of the increase (or decrease) in livestock populations has not been factored in. The use of demesne resources such as construction materials and labour services used on capital activities are also uncoded. In addition, errors in calculation have a significant impact on Hilton's figures for two of his key case-studies for the thirteenth century (see nn. 59 and 75). Unfortunately, Postan's figures appear to be rather loose estimates lacking any underpinning detail regarding the methodology employed, the level and nature of the investment expenditure and any references as to their sources. For example, Postan asserts that £150 a year was spent on investment on average for the bishop of Winchester's estates but other evidence indicates that this may be a significant underestimate. Building costs alone absorbed more than £200 *per annum* on average (including expenditure on Mills) on the Winchester estates. (See further, Langdon, Walker, and Falconer, 'Boom and Bust', p. 148, fig. 20.) This was between 1298 and 1348 a period punctuated by economic crises compared to the building boom of the 'long 13th century'. Postan's figures for other estates are simply given as general estimates or are claimed to be 'of the same order of magnitude as the Bishop of Winchester's Estates'. In contrast the most careful analysis of investment over a long period of time which was undertaken for the bishop of Winchester's manor of Rimpleton reveals an annual average of 12.4 per cent of total receipts and 15.5 per cent of the demesne production income for the period 1208 to 1402. This is more than double the level argued for by Hilton and Postan but very much in line with the case-studies used here. (See further, Thornton, 'Manorial Landscapes'.)

landlords could undertake in pursuit of profit and their appetite for risk taking.⁵⁸ The manor of Sevenhampton in Wiltshire is an interesting example of aggressive investment although it has been used to argue for low levels of investment.⁵⁹ Adam de Stratton acquired control of the manor in 1270 and held it until 1288 when it was forfeited to the king. From 1273 the accounts are consecutive. There was no resident lord and consequently the manor was managed as a source of cash only. Only foodstuffs for the famuli or the occasional visitor were consumed, all other produce went to the market. In order to get the highest possible returns, Adam felt it necessary to spend a considerable amount of money. From 1270 to 1288 mean gross capital expenditure was 17.8 per cent of production income and net capital expenditure 14.2 per cent. Five years saw net (i.e. new) investment being twenty per cent or above of production income.⁶⁰

It is instructive to examine just what these figures mean in practical terms. Central to the improvement of the manor was the expansion of the cattle herd and sheep flock. At Michaelmas 1269 there were thirty-four cows and seven hundred and forty-four sheep. A building programme was begun in 1276 with a new ox and cow shed seventy feet long (21.3 m), one sheep house about two hundred feet long, six hundred and fifty feet of walls and a house for the shepherd. This was followed by a twenty-foot-long hen house, another sheep house sixty-seven-foot-long, a cider press, a shed for the cows, a barn costing thirty-two pounds, fifteen shillings, and five pence (£32 15s. 5d.), about 2225 feet of stone walls and a mill. This all appears to have been new work. There was also continuous expenditure

⁵⁸ The account series used in the case-studies all contain gaps to a greater or lesser extent. The Sevenhampton accounts survive for ninety per cent of the years and are consecutive from 1273 to 1288. The survival of the Crowland accounts is less satisfactory with twenty-seven being extant out of the sixty-four-year period covered by them. The Downton accounts survive for one hundred and eighty-five years out of the two hundred and forty-five-year period. These gaps need to be borne in mind in terms of calculations of averages particularly for the Crowland Estates although they do provide useful indications of the nature and range in value of investment.

⁵⁹ Hilton's conclusion was that only 5.6 per cent of Sevenhampton's total receipts went on capital expenditure. There are three significant weaknesses in his calculations involving double counting of income and omission of capital expenditure. Firstly, total receipts include the arrears owed from the preceding year's accounts which were substantial. This means that about fifty pounds a year has been double-counted. Secondly, the first three accounts include 'foreign receipts' in the total receipts (they were put under a separate heading in later years). These have been counted in these three years but omitted after their separation in the accounts. Thirdly, only the years 1273–84, are used and three out of the five other years that survive have much higher capital expenditure. If these issues are taken into account then gross capital formation averaged 12.7 per cent of total receipts and 17.8 per cent of production income.

⁶⁰ Stephenson, 'The Productivity of Medieval Sheep', pp. 166–75.

on repairs. The main result of this improvement policy was an increasing revenue from the livestock, rising from £5 11s. in 1270 to £55 10s. in 1279.

Adam de Stratton was a notorious usurer, an official of Edward I and the manager of Isabella de Fortibus' estates.⁶¹ What is significant about him is that a man who made his money by the classic trick of entangling his victims in a web of high-interest loans with the seizure of their property on default should choose to increase profitability of his new lands by investing in new capital equipment and livestock. It might have been expected that he would have been a kind of medieval asset-stripper but a man who could plough back forty-four per cent of his production income (thirty-two per cent of total income) from this manor as he did in 1281 clearly possessed an investing and risk taking mentality.

An interesting parallel to Adam de Stratton's approach was that of Walter de Burgo, a manorial custodian for Henry III. Between 1236 and 1238 he conducted a systematic strategy of investment in twenty-five manors in the South of England. Over these two years the average investment rate was 30.6 per cent with several manors having more than two thirds of their revenues reinvested.⁶² What is interesting about these figures is that they represent net investment being only the costs of new construction, marling, and purchases of new equipment, livestock and seed corn. As with Adam de Stratton's aggressive investment policy, de Burgo saw substantial increases in returns. By 1240 these manors had seen a seventy per cent increase in their annual value to Henry III.⁶³ This level of investment could not have been carried on indefinitely but again these surges in capital formation are a testimony to the willingness of landlords to spend heavily on investment in order to increase future revenues.

Pastoral farming is inherently riskier than arable. The annual variability in yields can be much greater than for cereal farming: wool yields per sheep varied less than grain yields per acre but wool supply as determined by yields and death rates varied more. Livestock populations were more vulnerable to catastrophe through epidemic or war where losses could be one hundred per cent. Replenishing stocks was also considerably more expensive and took longer than resuming arable cultivation. Animal products may also have been more price and income elastic than arable produce with greater fluctuations in returns. The experiences of Crowland Abbey in the thirteenth and early fourteenth centuries

⁶¹ Denholm-Young, *Seignorial Administration*, pp. 77–85.

⁶² Stacey, 'Agricultural Investment and the Management of Royal Demesne Manors', p. 927.

⁶³ Stacey, 'Agricultural Investment and the Management of Royal Demesne Manors', pp. 923, 927, 933.

exemplify both high investment and the adoption of two high risk ventures in pastoral farming. The economic nucleus of its widely dispersed estates was the fenland 'Precinct of Crowland' in which the wetter, marginal fenland was opened up for direct use by the abbey. The two main enterprises were cattle farming and a sheep flock. The specialization in pastoral farming appears to have been initiated by the appropriately named Abbot Ralph Marsh, from the late 1250s onwards.⁶⁴

The single most important economic unit on the estates was the central sheep run known in the accounts as *Bidentes Hoylandie*.⁶⁵ This is the largest single medieval flock so far discovered with nearly 13,000 sheep passing through the account for 1313–14. Its main product was wool, all the fleeces being exported through the port of Lynn. The total cash income of the estate was about £800 in 1314 of which *Bidentes Hoylandie* contributed about forty per cent.⁶⁶ Given the completely commercial orientation of this sheep farm and its paramount importance to the Abbey's cash flow then clear evidence of relatively high rates of investment in capital formation would be expected if landlords did possess an investing mentality.

In fact, the flow of revenue from this flock was maintained and increased by expenditure on capital which was often substantial. This expenditure consisted of money spent on buildings, ditches, walls, stock, tools, equipment and medicine as well as livestock. Total income and production income were virtually identical there being no rent income. The average rate of investment was 17.1 per cent, with six out of the twenty-five accounts seeing more than one quarter of the production income being devoted to capital formation, with a high of thirty-seven per cent in 1310 (see fig. 24).

Apart from sheep, Crowland Abbey's other main pastoral occupation was cattle farming, and they had three large central vaccaries containing over six hundred head of cattle: Aswick Grange, Nomansland, and Brotherhouse. Aswick did grow some crops, but the activities of the three operations were centred on dairying and the breeding of oxen and cows. Again investment rates were of a similar magnitude: 20.3 per cent of production income on average at Aswick, 19.9 per cent at Nomansland, and 16.8 per cent at Brotherhouse (see fig. 25) As noted it

⁶⁴ Stephenson, 'The Productivity of Medieval Sheep', pp. 156–58, 159–65.

⁶⁵ The figures here differ significantly from those in Page, '*Bidentes Hoylandie*'; no allowance was made by her for the long thousand (1200) as well as the long hundred (120) which were in use in these accounts which means an underestimate of several thousand sheep in her calculations. Additionally, Page's profit figures do not take into consideration the value of fleeces sold.

⁶⁶ Stephenson, 'The Productivity of Medieval Sheep', p. 140.

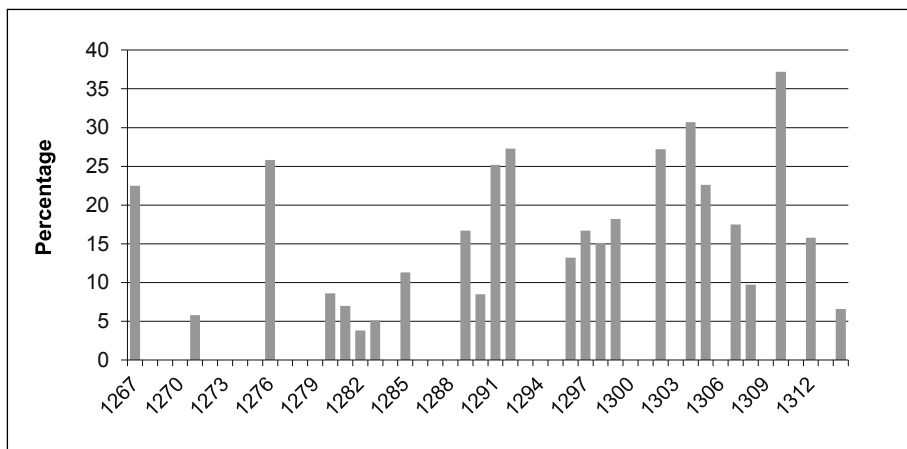


Figure 24. Bidentes Hoylandie: Investment rate

is really gross capital expenditure that is being discussed but on these three cattle farms net investment (i.e. apparently new additions to the capital stock) can be calculated. Predictably, the rates were much lower than for gross investment and averaged 7.3 per cent at Aswick, 11.2 per cent at Nomansland, and 6.7 per cent at Brotherhouse.

As the graphs show (figs 24 and 25), the pattern of investment, particularly net investment, was very erratic and this illustrates an important point about capital formation in agriculture, namely that, by its very nature, it is irregular. If, for instance, an estate decided to expand its herds and flocks it might spend large sums, reclaiming land, constructing new buildings and walls and purchasing additional animals. After this initial expenditure the investment rate would be much lower until the next large-scale expansion; capital accumulation would proceed in spurts. For this reason, although a good, consecutive series of accounts is crucial for studying investment, the specific pattern of capital expenditure gives more insight into the landlords' approach to improvements than does a simple mean.

It could be argued that these pastoral enterprises are such specialized farming concerns that they are atypical, although it would be difficult to argue against the existence of a pronounced investing mentality and a willingness to take risks. However calculations have been made for other manors on the estate and although lower proportions of production income were spent on capital investment they are higher than is commonly acknowledged. For example with the group of Crowland's three Cambridgeshire manors, Oakington, Drayton, and Cottenham, the issue of investment can be studied on manors where rent

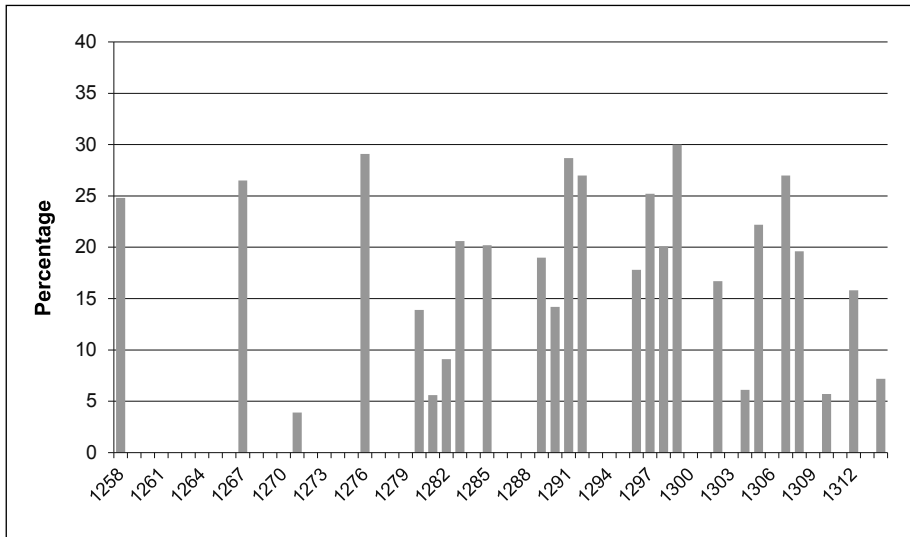


Figure 25. Crowland vaccaries: Investment rate

and customary payments formed a significant part of total revenues, where there was no particular pastoral emphasis, and where the surplus grain production was sold regularly. The three are better studied as one unit as stock and equipment were transferred regularly between them. All three can be seen as examples of the so-called classical manor and it is significant in this context that their average expenditure on capital was 14.7 per cent of production income. These figures appear more in line with higher recent estimates of gross investment rates of 15.5 per cent on the bishop of Winchester's manor of Rampton rather than the earlier and lower estimates.⁶⁷

The inherent risks of both Crowland's pastoral enterprises were dramatically underlined in the second decade of the fourteenth century. There is an unfortunate gap in the accounts between 1314 and 1321 but the great central flock and herds were either deliberately dismantled or swept away by epidemics leaving only a remnant. The central flock fell from almost 13,000 animals to only four hundred and seventy-seven, more than half of which died before shearing. The three vaccaries were reduced in size from over five hundred animals in 1314 to fewer than thirty at the opening of the 1321 account. The causes lay in the rising water-table which caused serious and lasting flooding compounded by the

⁶⁷ Thornton, 'Manorial Landscapes'.

devastating cattle plague, probably Rinderpest.⁶⁸ While the cattle plague was on an unprecedented scale, the managers of the demesnes would have been only too well aware that their pastoral enterprises were balanced delicately on the flood-line in this region.⁶⁹ These experiences underline the level of risk that medieval landlords were exposed to and the scale of the capital and revenue losses that could occur. The capital loss for Crowland must have been in excess of £1500 and annual revenue was lowered by well over £400.

The scale of relatively high risk investment activity is often revealed when it went wrong. Land reclamation in the thirteenth century pushed the boundaries so far seaward, for example in places such as Romney Marsh and southwest Kent, that not only was a high level of capital expenditure required but it became very vulnerable.⁷⁰ The favourable cost: price combinations of the thirteenth century may well have tempted some landlords into ill-advised high-risk ventures. This may have included speculating on the forward market in wool, or driving too far seaward in reclaiming land. Certainly, expenditure on sea-defences could be enormous. The inhabitants of the Marshland (an area of West Norfolk close to the Wash) are estimated to have spent more than £1500 annually on defences against flooding.⁷¹ Manorial expenditure in vulnerable areas paralleled this. At Canterbury Cathedral Priory's Manor of Ebony, for example, about fourteen per cent on average of all manorial revenue was spent on maintaining embankments and other defences against the sea. The impact of powerful storms could however increase this dramatically with expenditure rising to sixty per cent of manorial income at Ebony in 1287–88.⁷² At the neighbouring manor of Appledore great floods resulted in an investment of £128 14s. 9d. in 1293–94 in banking works compared to annual revenue that was only £74 3s. 0d.⁷³ It is interesting to note, particularly in the context of later fourteenth- and fifteenth-century seigneurial investment patterns, that much of this expenditure was defensive in nature.⁷⁴ These examples of high levels of investment are drawn from the estates of Canterbury Cathedral Priory when they were under the management of the

⁶⁸ Ravensdale, *Liable to Floods*, p. 115.

⁶⁹ Darby, *The Medieval Fenland*, pp. 57–60, and Miller, *The Abbey and Bishopric of Ely*, p. 96.

⁷⁰ Bailey, 'Per impetum maris', pp. 199–200. Smith, *Canterbury Cathedral Priory*, pp. 173–79.

⁷¹ Bailey, 'Per impetum maris', p. 200.

⁷² Smith, *Canterbury Cathedral Priory*, p. 178.

⁷³ Smith, *Canterbury Cathedral Priory*, p. 173.

⁷⁴ Smith, *Canterbury Cathedral Priory*, p. 189.

entrepreneurial Henry of Estry who combined an emphasis on cost control with a willingness to invest heavily at times.⁷⁵

Relative Investment Rates

The attitude towards investment in pastoral ventures may perhaps be viewed in relation to other investment opportunities. Alongside investment in animals, expenditure on mills represented a key opportunity for capital formation. The investment rates in mills that were operated directly by landlords tended to be over twenty per cent of the revenue ranging up to fifty per cent.⁷⁶ While this economic behaviour has been considered atypical, in fact it may be that the intensity of investment evident here was similar to that seen when landlords specialized in livestock farming. The risks of investment in mills though appear to be considerably less than in large-scale pastoral enterprises.

How should these levels of investment be judged? It is surely as uninformative to compare medieval agricultural investment rates with their modern equivalents as it is to compare monastic estate managers with 'great industrialists of today'. Whatever the background rate of capital formation, it is difficult to assess how effective this was. Professor Postan, for instance, suggested that medieval capital formation should be compared with modern agricultural investment rates of

⁷⁵ The proportion of income spent on capital formation by Henry of Estry is a very significant part of Hilton's argument in favour of low investment rates in the period of high farming. Hilton's estimate that even the enterprising Henry of Estry invested only 4.4 per cent of his revenues on average has been widely quoted. (Hilton, 'Rent and Capital Formation in Feudal Society', p. 186.) His calculations on capital expenditure are derived from a summary of Henry of Estry's economic activities for the period 1285 to 1322 printed in Knowles, *The Religious Orders*, pp. 322–25. This expenditure is then taken as a proportion of the average annual income of the monastery in the 1320s taken from Smith, *Canterbury Cathedral Priory*, p. 13. However the capital expenditure is only in fact that from the eight East Kent manors, whereas the income is for all forty-seven manors (Smith, *Canterbury Cathedral Priory*, pp. 152–53). This clearly results in a very significant underestimate of the proportion of income devoted to capital expenditure, particularly as some of the Romsey Marsh manors, as discussed above, required very high levels of investment at times to protect them from the sea (Smith, *Canterbury Cathedral Priory*, pp. 166–89). On the admittedly crude assumption that capital expenditure was evenly spread over all of Canterbury Cathedral Priory's manors for these thirty-seven years, then the average gross investment rate may have been over twenty-five per cent rather than 4.4 per cent.

⁷⁶ Langdon, *Mills in the Medieval Economy*, p. 181.

fifteen to twenty per cent.⁷⁷ While many landlords did in fact achieve this level, given the capital intensive technology available to modern farmers compared to the narrow range of alternatives open to their medieval predecessors this is perhaps an inappropriate comparison.

Perhaps the only effective comparison that can be made at present is with the investment rates of eighteenth- and nineteenth-century landlords. How well did medieval landlords perform in expanding their capital in comparison with the much vaunted 'improvers'? The most important difference is that there was very little direct demesne cultivation in the eighteenth century and so rent formed the overwhelming proportions of landlords' income, but their investment can be measured in terms of how much was spent on improving their estates through their tenants' lands and buildings. In a study of Norfolk and Suffolk estates from 1746–1870 the average annual gross investment rate was 9.3 per cent.⁷⁸ The conclusion was: 'that for the eighteenth century at least, an average (gross) investment rate in excess of 7 per cent was very high by the standards of all but the greatest and most dynamic of estates.'⁷⁹ The famous Coke of Holkham did on occasion invest more than twenty per cent of his rent income but his annual average was considerably lower. Much lower rates were invested by other eighteenth-century landlords. The duke of Kingston, for example, spent about four per cent of his gross rental on repairs and improvements prior to 1750; this fell to 1.4 per cent between 1750 and 1760 and 0.6 per cent thereafter. In general an outlay of more than five per cent is considered unlikely before 1790.⁸⁰ Put in a historical perspective then it is difficult to sustain the argument that medieval landlords were low investors in their estates. Where opportunities presented themselves or in order to protect their existing assets they were prepared to forego significant sums which otherwise could have been spent on consumption. However this depends on whether the relative proportion of income dedicated to capital expenditure is the best yardstick to judge the effectiveness of landlords' investment activity. Even if they were spending at least twice the proportion of their incomes than has been assumed and taking significant market risks in search of greater profits this may still have fallen short of an optimum level in terms of gaining increases in productivity from their estates.⁸¹

⁷⁷ Postan, *Medieval Economy and Society*, p. 152.

⁷⁸ Holderness, 'Landlords Capital Formation in East Anglia', p. 439. The mean of 9.3 per cent is calculated from Table 2 on p. 439.

⁷⁹ Holderness, 'Landlords Capital Formation in East Anglia', p. 442.

⁸⁰ Holderness, 'Capital Formation in Agriculture', p. 178.

⁸¹ Titow argued that landlords were spending sufficient on the upkeep of their capital stock

Risk Responsiveness

One of the interesting aspects of economic behaviour is the response to increases in risk. More traditional views of the investing mentality of the landlords of the great estates is that they were risk averse and faced with increased production, market, institutional, or human risks would play safe reducing capital expenditure and move to leasing to transfer these risks. While the evidence is far from conclusive the reverse could well have occurred in that the more challenging economic circumstances may have elicited energetic and enterprising responses.

When livestock populations were devastated through vacancies or epidemics, landlords often moved swiftly to replenish stocks involving considerable expenditure. On the bishop of Winchester's estates rapid rebuilding of the sheep flock occurred on several occasions. The French invasion of 1216–17 caused havoc for sheep farming as the rival armies fought over the area containing many of the bishop's manors: Winchester itself changed hands four times. The flock fell from 15,588 animals in 1215 to about eight thousand in the following year yet within five years had been rebuilt to 28,000 animals.⁸² Vacancies at Winchester during the thirteenth century and the first half of the fourteenth century usually resulted in a reduction in the sheep flock of between one third and a half yet were rapidly rebuilt.⁸³

More general economic pressures could also result in proactive responses. The more straitened economic circumstances at the turn of the fourteenth century, for example, may have acted as a spur to more efficient demesne management with a more effective exploitation of remote demesnes.⁸⁴ Again the 1330s and 1340s were unpropitious for landlords in that the prices for agricultural produce fell sharply; there was high taxation and monetary deflation. Yet on the bishop of Winchester's estates there was a significant surge in spending on building.⁸⁵ At a micro level the manor of Hinderclay was run with such effi-

considering the technical limitations of medieval husbandry (Titow, *English Rural Society*, p. 50). This has been challenged on two grounds: Titow's own evidence on Winchester indicates declining productivity and that claiming 'technical limitations' simply begs the question of why, in the context of increasing demand for agricultural goods, there was not greater innovation and productivity gains which presumably would have required greater capital investment. See Rigby, *English Society in the Later Middle Ages*, p. 128.

⁸² Stephenson, 'The Productivity of Medieval Sheep', p. 271.

⁸³ Stephenson, 'The Productivity of Medieval Sheep', p. 274.

⁸⁴ Stone, *Decision-Making in Medieval Agriculture*, p. 212.

⁸⁵ Langdon, 'Was England a Technological Backwater?', p. 150.

ciency that profits remained stable despite the low prices.⁸⁶ Similarly it would be entirely consistent with a view that landlords acted largely through economic rationality that they might respond to increased risks by investing more rather than less in capital formation. Few might have gone so far as Henry of Eastry who was investing significant sums in the estates of Canterbury Cathedral Priory even during the great famine but it may be that higher and changing levels of risk drew forth more proactive responses to mitigate risk than has been assumed.

Bearing this in mind it is interesting to assess the responses of landlords to the impact of the Black Death upon risk taking and investment. Clearly the levels of risk had shifted in some respects fundamentally and landlords' decision making appears to have reflected this. With regards to production risks the changes in the labour market and possible climatic changes had a significant influence on cereal yields. With the retrenchment of direct demesne cultivation to presumably the higher quantity land, an increasing supply of manure through expanding sheep populations, greater use of legumes and some favourable weather conditions the years 1381–1410 saw some of the best yields particularly for oats and barley for over a hundred years.⁸⁷ In contrast wool yields in terms of average fleece weights tended to move in the opposite direction during those years.⁸⁸

Market risks comprised not just shifts in prices but also in patterns of demand as *per capita* income rises led to an increase in demand for more expensive items. On estates such as that of the bishop of Winchester, the most obvious response was an absolute and relative move to sheep farming. Within four years of the first outbreak of plague the sheep flock was at its highest since the account rolls began in 1208 and was sustained at above this level for the next fifty years (see fig. 26). The total Winchester sheep flock rose from 11,000 in 1345 to 30,000 by 1355 and 35,000 by 1369. The contraction of the demesne arable meant that there were three times as many sheep per arable acre sown in the last quarter of the fourteenth century as in the first quarter and five times as many by 1435.⁸⁹ Although the initial surge in flock size was not apparently led by increases in wool prices the period 1360–85 was characterized by high wool prices.⁹⁰

⁸⁶ Stone, *Decision-Making in Medieval Agriculture*, p. 212.

⁸⁷ Campbell, *English Seigniorial Agriculture*, p. 373.

⁸⁸ Stephenson, 'Wool Yields in the Medieval Economy', p. 380.

⁸⁹ Stephenson, 'Wool Yields in the Medieval Economy', p. 388.

⁹⁰ Lloyd, 'The Movement of Wool Prices', pp. 48–49.

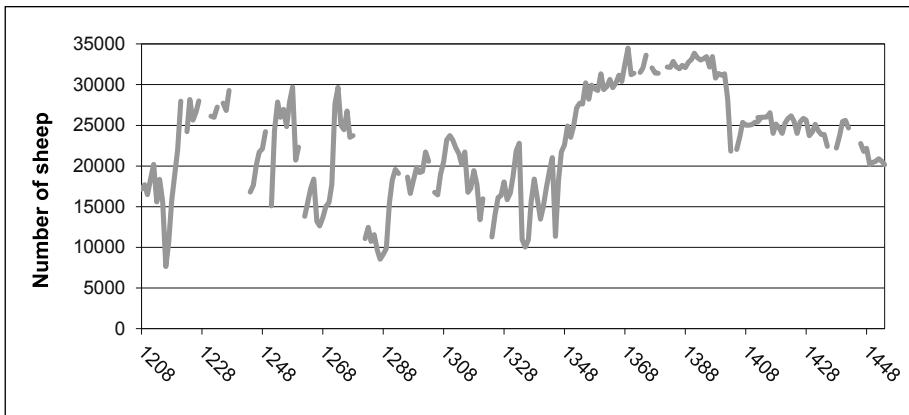


Figure 26. Bishop of Winchester's manors: Total number of sheep

Changes in income also drew forth investment in more upmarket animals such as rabbits, swans, and even herons. All three of these required considerable skills to be kept and bred successfully. From the 1370s until the 1390s there was a sustained 'bunny boom' and income from warrens soared.⁹¹ The scale of swan farming too could become considerable. The Downtown, Twyford and Arlesford manors of the bishop of Winchester for example held over four hundred and fifty swans in the late fourteenth century.⁹² The consumption of all birds wild and domesticated appears to have increased significantly in the later Middle Ages as landlords invested to take advantage of the greater *per capita* income of consumers.⁹³

The most obvious human risks were related to the scarcity of labour which was reflected in the movements in wages and the commutation of labour services. An equal challenge however may have been the loss of skilled managers and administrators. In response to the skills shortage local management teams could be consolidated with the roles of bailiff and steward being given more scope and authority.⁹⁴ While this may well have prompted moves towards leasing demesnes, risks could only be ameliorated if there were sufficient skilled lessees available otherwise the capital stock of estates could be seriously damaged and arrears accumulated. The varied timing of the leasing of demesnes and the fact that the

⁹¹ Bailey, *Medieval Suffolk*, p. 228.

⁹² Stephenson, 'The Productivity of Medieval Sheep', p. 245.

⁹³ Stone, 'The Consumption and Supply of Birds', pp. 156–58.

⁹⁴ Stone, *Decision-Making in Medieval Agriculture*, p. 220.

process was often reversed indicated that there were a range of influences at work and that the decision to lease was fraught with challenges. Managers may thus have been taking an experimental approach in weighing up the relative risks and responding to price changes. At Canterbury Cathedral Priory the monks began leasing most of their manors in the 1350s but resumed direct management in the early 1360s only to revert to direct leasing at the end of the 1370s.⁹⁵

Leasing is perhaps best viewed as a process of risk transfer and sharing where both parties have to cooperate around risk management. Becoming a rentier landlord did not enable the wholesale transfer of risk and the adoption of a passive management role. A neglectful lessee could cause greater losses and more damage to the agricultural capital base than a well managed but loss-making demesne operation. In a crisis, however, leasing could be a useful short-term expedient and several estates adopted this approach during the 1350s following the Black Death.

Leasing often had its antecedents in the increasing control that reeves had over the exploitation of manorial assets. In the fourteenth century auditors appear increasingly to have come to agreements with reeves over acceptable production targets particularly from livestock. For example, on several estates such as Ramsey Abbey, St Swithun's Priory, Winchester and the bishop of Winchester's sows always returned fifteen piglets each year.⁹⁶ Presumably this was at an acceptable level to the auditors and acted as an incentive for the reeve to ensure that the pigs were managed well as he retained any surplus piglets. Similar practices occurred in relation to poultry and to dairying. In effect the reeve was leasing these livestock assets. Such arrangements often appear to have evolved into more formal and larger-scale system of leasing. Thus the essential day to day operation of the black economy at manorial level, which required at least tacit recognition if not direct cooperation with auditors and other estate officials, ultimately led to a system whereby the great estates had become rentier landlords in a mutually dependent relationship with their tenants.

The availability of appropriate lessees and the prevailing costs and prices appear to have had a significant impact on capital-investment decisions by landlords. The more challenging the circumstances then the greater the required investment by the landlord to secure an appropriate lessee. The balance of risk sharing tilted backwards and forwards between landlord and lessee. This is exemplified by expenditure on mills which were one of the most intensive

⁹⁵ Mate, 'Agrarian Economy after the Black Death', pp. 337, 338.

⁹⁶ Stephenson, 'The Productivity of Medieval Sheep', p. 243.

capital investment opportunities in medieval agriculture. At Great Shelford the bishop of Ely after 1350 was forced to take on a far greater proportion of the expenses lifting the average investment rate to over forty per cent. The relative attractiveness of capital intensive activities was further underlined with significant investment in a fulling-mill in 1387 to maintain viability despite the increasing maintenance costs.⁹⁷ That the balance of power increasingly lay with lessees is evident as responsibility for maintenance costs moved progressively from lessee to landlord. By the 1430s and 1440s landlords had taken over virtually all the maintenance costs of mills thereby significantly increasing their investment rates.⁹⁸

This upward pressure on investment exerted by lessees over mills was paralleled in manorial expenditure in general. On the Canterbury Cathedral Priory estates, the leasing of the demesnes in the late 1370s was followed by significant expenditure of £884 on repairing old buildings and a further £1141 on new buildings over an eight year period.⁹⁹ As with mills, when sheep farming became less profitable landlords had to increase their investment to attract and retain lessees. The sheep leases of the 1390s were much less favourable to landlords than earlier ones and they, not the lessees, now had to bear the cost of capital replacement when the sheep died.¹⁰⁰ These increases in capital expenditure are mirrored on a range of estates such as the bishop of Worcester, Fountains Abbey, and the duchy of Lancaster.¹⁰¹ Again this expenditure was often on behalf of lessees.¹⁰²

A similar pattern can also be seen in relation to landlord investment in their urban property. While large estates such as St Paul's Cathedral in London invested in major urban building projects in the late fourteenth century much smaller landlords such as the Holy Cross Guild of Stratford-upon-Avon invested on average around a fifth of their income in property development and maintenance throughout the fifteenth century. At the depth of the economic slump in 1468–70, amidst concerns about empty properties and increasing rent, arrears they devoted all of their rental income to building work.¹⁰³

⁹⁷ Langdon, *Mills in the Medieval Economy*, p. 182.

⁹⁸ Langdon, *Mills in the Medieval Economy*, p. 194.

⁹⁹ Mate, 'The Farming out of Manors', pp. 338–39.

¹⁰⁰ Mate, 'The Farming out of Manors', p. 340.

¹⁰¹ Hilton, 'Rent and Capital Formation in Feudal Society', pp. 191–95.

¹⁰² Hilton, 'Rent and Capital Formation in Feudal Society', p. 192.

¹⁰³ Dyer, *An Age of Transition?*, pp. 159–60.

There are three important components in a lease: cash rent, length of term, and capital maintenance. The dramatically changed economic conditions after the Black Death increasingly shifted the balance of power away from landlords towards tenants putting a downward pressure on rents, lengthening terms, and leading landlords to assume responsibility for capital maintenance. The Paston letters of the 1460s and 1470s, during the great slump of the fifteenth century, vividly illustrate how a rentier landlord was losing the tug of war with his tenants on all three issues. John Paston's main administrator, Richard Calle, having bemoaned the low rent that was all he could charge on behalf of his master went on to complain that: 'ye to bere al charges of the reparaucion and fense aboute the place, weche shulde be gret cost'.¹⁰⁴ From a potential lessee's perspective, possible expenditure on maintaining the capital stock (both fixed and working capital) could be a very significant item and made their assessment of cost based on both rent and capital expenditure. In fact the level of investment required to attract a lessee could wipe out any returns from the lease for several years. On Westminster Abbey's manor of Kinsbourne in Hertfordshire for example the cost of renewing the buildings at just over eighty-five pounds during the first twelve year lease of the manor (1397–1409) was equivalent in value to four or five years rent.¹⁰⁵

It may be that leasing is a condition of stable and low or falling prices or the perception that they will be so in the near future. In contrast, the prospect of rising or sharply fluctuating prices offers commercial opportunities to the large scale producer with the potential for massive windfall profits in poor harvest years due to the inelasticity of demand. Diseconomies of scale may however apply in periods of stable and falling prices whereby the fixed costs of the supervisory apparatus become more difficult to recoup while the hidden profits that can be exploited by local knowledge become more important. Equally reliance on family labour potentially brought significant savings in labour costs not available to large-scale operations. This of course did not guarantee a profit, it may only have limited the scale of losses. The key assets such as buildings, livestock, and equipment all needed to be maintained and may have had to be improved in order to attract the right quality of lessee. Consequently a pattern akin to counter cyclical investment expenditure may sometimes have occurred in the fifteenth century as landlords tried to retain or recruit good lessees through expenditure on capital assets, lowering rents, and allowing arrears to accumulate.

¹⁰⁴ Richmond, 'Landlord and Tenant', p. 36.

¹⁰⁵ Stern, *A Hertfordshire Demesne*, p. 155.

Post-Black Death Case-Study

Given the continuity of the bishop of Winchester's account roll series, a case-study drawn from them may illustrate some of these trends in investment. The manor of Downton lay in the valley of the Wiltshire Avon, about six miles (or 10 km) south of Salisbury. It was one of the bishop's earliest and most valuable manors.¹⁰⁶ It practised mixed farming on an extensive scale: at its peak, the demesne arable was over 1500 acres, while the sheep flock often numbered more than 2500 and as early as 1086 there were seven mills with several more added later. Pastoral reserves were extensive, including eighteen square miles (about 45 km²) of pasture, sixty acres (or 24 hectares) of meadow and about seven square miles (or 18 km²) of the New Forest. Lordship was exercised over about one hundred and fifty tenants. The manor produced gross receipts that commonly averaged between £250 and £300 *per annum*. This was as much as many small estates returned in total, let alone from one manor. Apart from its sheer size and diversity of farming operations this manor is a useful case-study in that one hundred and eighty-five accounts survive for the years 1209–1454 and virtually all its produce went to market.

An interesting picture emerges whereby investment appears to have been on a steady upward path in the decades following the first outbreak of plague compared to the earlier part of the fourteenth century.¹⁰⁷ This is not simply due to a fixed level of investment expenditure becoming a larger proportion of falling revenues or rising costs, but was mainly caused by some sustained surges in capital formation particularly in the 1360s, 70s, and 80s. In the period 1318–45, the total income of the manor averaged £270, with £155 of this coming from demesne production. On average £20 *per annum* was spent on gross capital formation that is 12.6 per cent of production income. In the years 1361–94 total average income had fallen slightly to £253 and production income had also dropped by about ten per cent at £140. But capital expenditure now averaged £37 *per annum*, which was 26.3 per cent of production income. This average annual capital expenditure conceals some very large figures such as 1371 when £171 was spent, mainly on new buildings and increasing the sheep flock. Between 1375 and 1382 capital expenditure averaged over £60 *per annum* of which £40 on average went on new buildings particularly four new mills and their weirs. It is important to note that some of the increased expenditure would be partly a reflection of rising labour costs and will not represent a proportionate increase in volume.

¹⁰⁶ Ballard, 'The Manors of Witney, Brightwell, and Downton', p. 211.

¹⁰⁷ Hilton, 'Rent and Capital Formation in Feudal Society', pp. 194–96.

By any standards these are very high rates of expenditure representing about half of the entire production income: in 1371, capital expenditure was over ninety-five per cent of the year's production income. This may well have been an enterprising response to the market opportunities offered by high prices of the 1360s and good arable yields of the 1370s. Certainly as a result of high rates of investment production income still exceeded total expenditure by £85 *per annum* and total income exceeded total expenditure by £200 *per annum* in the years 1361–94.

Direct demesne management at Downton was definitely on the wane by the end of the century as cost, price, and yield combinations eroded profitability. The period 1395–1454 saw total income and production income fall by about one-third and a half respectively. Capital expenditure also fell but by a smaller amount thus giving a higher investment rate. Production income was running at an average of £78 per year out of which one-third went on capital expenditure. This was still significantly above the investment rates of the first half of the fourteenth century in both proportionate and real terms. By the end of the second decade of the fifteenth century the attractiveness of leasing the demesne was becoming apparent and this was tried for the years 1419–23. Yet this was obviously not entirely satisfactory for, as on many other Winchester manors, direct management was resumed for a few more years. Eventually though, in 1431, the demesne (i.e. the arable, the labour services, the sheep, and all the necessary equipment) was leased out for £53 a year. This sum is almost exactly the average difference between production income and capital expenditure (£52) for the early fifteenth century.

Despite the switch to leasing, the landlord was still responsible for much of the capital of the manor especially the buildings. Capital expenditure fell after 1431 to just over £14 a year while total income was an average of £156, an investment rate of 9.2 per cent. This was not simply money spent on running repairs as in 1435 £26 was spent on a new mill and floodgates whilst in 1442 £46 was spent on several new farm buildings, which was one-third of the total income from the manor for that year.

The surge in investment in manorial buildings in the late 1360s and 1370s at Downton also occurred elsewhere on the bishop of Winchester's estates. At Crawley in 1367–69, for instance, £52 17s. 11d. was spent on new buildings which was about one third of production income on its own.¹⁰⁸ At Rimpton, the last quarter of the fourteenth century saw the highest rates of investment in nearly two hundred years covered by the accounts (1208–1402) with an annual

¹⁰⁸ Gras and Gras, *The Social and Economic History of an English Village*. Calculated from tables on pp. 317 and 335, n. 5.

average of just over nineteen per cent. Again the increased emphasis on pastoral husbandry saw the highest level of both absolute and proportionate expenditure on farm buildings during this period.¹⁰⁹ Even in 1410 significant sums were being spent on manorial buildings on the bishop of Winchester's estate despite a significant shift to becoming a rentier landlord compared to a century before. Despite excluding expenditure on mills, which was often substantial, expenditure on buildings, totalled £261 5s. 9d. which was well over twice the amount spent in 1302.¹¹⁰ This alone was more than twelve per cent of the estates' total non-rent income in 1410.¹¹¹

One puzzling question is just why so many landlords carried on with direct management of their demesnes as long as they did given the bleak economic conditions of the early and mid-fifteenth century. Similarly landlords continued to invest in mills and often at an increasing rate despite the deteriorating economic returns.¹¹² It is understandable that landlords would be cautious about dismantling their managerial apparatus and ending up with an unsatisfactory lessee. Once they had withdrawn from direct management they would lack the wherewithal to readily resume it which may have encouraged them to have clung on to direct management despite the imperatives of rational economic behaviour. This however ignores the range of motivations affecting the decision to lease or not. Domestic decisions could play a part such as the need to ensure adequate supplies of livestock and arable produce and at Canterbury Cathedral Priory leasing may at times have been used to restore monastic discipline when monks had become too involved with direct management at the expense of their spiritual duties.¹¹³

It is perhaps important not to assume that economic behaviour will be straightforward and conform to neoclassical economic theory. While fashion and culture may have had a significant role in economic and managerial decision-making, there may also have been cognitive biases. Several studies have demonstrated a pronounced asymmetry in financial decision making with regard to risk. Perhaps surprisingly, risk aversion is more likely to occur for positive prospects and risk seeking for negative ones.¹¹⁴ Given that fear of loss appears to be

¹⁰⁹ Thornton, 'Manorial Landscapes'.

¹¹⁰ *The Pipe Roll of the Bishop of Winchester*, ed. by Page, p. xxvii.

¹¹¹ *The Pipe Roll of the Bishop of Winchester*, ed. by Page, pp. xxiv–xxv.

¹¹² Langdon, *Mills in the Medieval Economy*, p. 184.

¹¹³ Mate, 'The Farming out of Manors', p. 335.

¹¹⁴ Kahnemann and Tversky, 'Prospects Theory', p. 273.

associated with an increase in risk-taking it may not be too far-fetched to suggest that greater risks were taken such as substantial investment in livestock and mills in the most difficult economic circumstances and that direct management was sometimes maintained despite its relative lack of viability. Clearly landlords involved themselves in a considerable amount of risk taking during the period of high farming particularly where the wool trade was concerned but the favourable cost: price combinations may have restricted their appetite for risk where profits were more easily come by. Becoming rentier landlords in an era of cheap land and expensive labour forced them to surrender direct day to day control and to forego more significant amounts of income as they had to invest greater amounts in order to attract lessees. Both changes introduced a greater element of uncertainty into their decision-making compared to their predecessors which was often not counterbalanced by the certainty of fixed rental income streams as lessees continually accumulated rental arrears or defaulted on their leases during the fifteenth century. The leasing of the demesnes may also have opened up opportunities for more entrepreneurial smaller producers hungry to take advantage of developing markets caused by the rise in *per capita* income but who had to make substantial investments and innovations to survive the rigours of the fifteenth century depression.¹¹⁵ The relationship between rent and capital formation was turned on its head as far as the peasantry were concerned. Whereas in the thirteenth century the demands of rent drained their capacity to invest, peasants would only lease demesnes in the fifteenth century if landlords would invest in them. The easy rental pickings due to the high demand for land in the thirteenth century may have hindered capital formation by both landlords and peasants but cheap land in the fifteenth century was a spur to capital formation by landlords desperate to maintain rental income.

Without eulogizing the achievements of the medieval landlords in any way, a sound case can be made for their attitudes being investment orientated. True, they may have indulged in conspicuous consumption and may often have been in a state of chronic indebtedness, but the amount they invested in the development of their estates must be considered both in a historical perspective and in relation to the technical opportunities open to them. When many account roll series begin it is clear that much of the capital infrastructure has nearly always already been constructed. What is the point of building an extra barn if it cannot be filled? Yet even without these qualifications landlords can be seen to be considerably more enterprising than has sometimes been allowed. Where opportunities existed for

¹¹⁵ Dyer, 'Were there Any Capitalists?', pp. 16–17.

potential agricultural developments then clearly some landlords at least were willing to forego a large proportion of their current income in order to gain higher future profits, than otherwise would be the case.

While the quality of management and decision making varied by person, period, and place, these managers were clearly risk takers, sometimes effectively and sometimes disastrously. The didactic treatises both reflected and reinforced what was in effect a managerial revolution in the thirteenth century. These texts were not risk averse; rather they attempted to equip their readers with an awareness of risk and how to manage it within their administrative and accounting constraints. It could be argued that they were promoting an approach towards the accumulation of capital based on rudimentary balance sheets, audits and forecasting with an emphasis on productivity growth.¹¹⁶ This does not mean that simply because many landlords of great estates displayed a risk taking, profit-orientated approach that they were the only ones to do so or that this was the optimum deployment of capital formation. It is possible that the dominance of the great estates confined the economy to its traditional agricultural pattern and also constrained potential investment by other groups in society who might have invested in more industrial enterprises.¹¹⁷

The new economic conditions following the Black Death appear to have initiated a surge in proactive investment as many demesnes switched to pastoral farming and there appears to have been a surge in expenditure on manorial buildings and mills and weirs. As the auspicious price and cost combinations of the 1360s and 1370s fell away, even higher rates of essentially defensive investment may have occurred. In order to avoid greater loss and attract high quality lessees, landlords were forced to raise their investment stake in the herds, flocks, and mills of their tenants. The population losses gave impetus to the substitution of capital-intensive activities such as sheep farming for labour intensive arable production. With the slump of the mid-fifteenth century and the ebbing of cultural enthusiasm as well as economic rationale for direct demesne management much of the production, market, institutional, and human risk was to be passed on to others. Despite the profound move to a rentier economy, landlords had to retain an active involvement in the capital stock of their leased estates and this may have foreshadowed the symbiotic relationship between landlords and tenants that was to become so important to economic development in later centuries.

¹¹⁶ Beauroy, 'Sur la culture seigneuriale en Angleterre', pp. 351–52.

¹¹⁷ Langdon, 'Was England a Technological Backwater?', pp. 286–87.

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THE BLACK DEATH AND ITS IMMEDIATE AFTERMATH: CRISIS AND CHANGE IN THE FENLAND ECONOMY, 1346–1353

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The Black Death was one of the most cataclysmic episodes in history and considerable efforts have been made to track its course and assess the impact of the devastation that it wrought. In England, following the first cases on the shores of Dorset in the summer of 1348, the disease spread rapidly along a number of routes through the rest of the country. In little over a year, at least forty per cent, and perhaps as much as half of the population of England died.¹ Even for survivors, observing mortality on this scale must have been horrifying and humbling; as the remarkable Latin graffiti scratched onto the wall of the church tower at Ashwell in Hertfordshire has ever since testified:

... a pitiable, fierce, violent [plague departed];
a wretched populace survives to witness [to it].²

What survivors actually witnessed, though, in terms of the impact on their communities during and immediately after this unprecedented demographic crisis has yet to be fully revealed. Numbing details can certainly be found: for example, the scramble to ensure that deathbed confessions would be heard; the arbitrariness with which some families, but not others, were entirely swept

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¹ Benedictow, *The Black Death*, pp. 123–45, 342–79; *The Black Death*, ed. and trans. by Horrox, pp. 229–36.

² Sherlock, *Medieval Drawings and Writings in Ashwell Church*, p. 6.

away; and the deteriorating quality of handwriting in legal documents, as good scribes became harder to find.³ The economic impact of the Black Death can be reconstructed even more systematically, given the consistency and richness of data that can be derived from the annual account rolls that, for some manors and estates, run through this period. However, the immediate economic aftermath of the Black Death, in the three or four years after its arrival, has often been overlooked. The aim of this study is to highlight what these accounts can reveal about the state of the economy in the years up to 1353.

Chroniclers, Historians, and the Impact of Plague

Continuity is less remarked upon than change in most contexts, but in the otherwise tumultuous age of the Black Death it is the economic resilience of the English rural economy during the third quarter of the fourteenth century which has elicited most comment: by the mid-1350s, land holdings were more or less fully reoccupied again and rents had frequently recovered to their pre-Black Death levels; any rise in wages appears to have been muted; and grain prices remained unexpectedly high. In turn, changes in the economic fortunes of landlords and peasants in these decades also appear to have been more modest than the scale of mortality might lead us to expect.⁴ Indeed, it is orthodox to date economic change in the aftermath of the Black Death from the late 1370s, by which time recurrent outbreaks of plague had reduced the population further and grain prices had finally tumbled.⁵ Doubtless swayed by indications of continuity over the medium term, early historians tended to downplay the extent of the disruption that the Black Death initially brought in its wake. In 1916, for instance, Levett stressed that the unusually complete set of accounts that exists for the bishop of Winchester's estate

show[s] no revolution either in agriculture or in tenure; no period of anarchy follows upon the appearance of the Black Death, but there is evidence of severe evanescent effects and temporary changes, with a rapid return to the status quo of 1348.⁶

³ *The Black Death*, ed. and trans. by Horrox, pp. 271–73; Bailey, *Medieval Suffolk*, pp. 179–80.

⁴ For summaries, see Bridbury, 'The Black Death'; and *The Black Death*, ed. and trans. by Horrox, pp. 236–41.

⁵ Larson has recently argued that the experience of the county of Durham in this respect was different from the rest of England: Larson, *Conflict and Compromise in the Late Medieval Countryside*, pp. 77–141 (p. 80).

⁶ Levett, *The Black Death on the Estates of the See of Winchester*, p. 143. Robo, in his study of

The lack of disruption was later emphasized by Salzman, who suggested in his work on the accounts for Petworth in Sussex that ‘the most astonishing feature is how nearly business was as usual. It would be possible for a casual reader to run over the face of the rolls [...] and hardly realize that the plague had struck.’⁷

Yet the extent of economic disruption in the immediate aftermath of the Black Death should not be underestimated. Fourteenth-century chroniclers were in no doubt about the upheaval that immediately ensued. The author of the chronicle of Rochester Cathedral Priory, for example, observed how the humble now turned their noses up at employment and would only work for triple their former wages, how workers were addicted to vice, idleness, and thieving, that more than a third of land lay uncultivated, and that, in the years that followed, buildings and profits crumbled.⁸ Henry Knighton, writing in the last quarter of the fourteenth century but at a level of detail unsurpassed by other chroniclers, agreed and added that in the wake of the plague livestock prices collapsed, animals perished through neglect, crops rotted in the fields, and that prices for manufactured goods and foodstuffs became inflated.⁹ In fact, since the latter part of the twentieth century many historians have broadly concurred with these chroniclers. Hatcher, for instance, reported in his work on the Duchy of Cornwall that ‘the effects of plague upon the rural economy are explicit in each manorial account.’¹⁰ Horrox argued that the assumption that change did not occur ‘is barely credible’ and that it is ‘much more persuasive’ that ‘some change did indeed occur as a direct result of the first outbreak but that it was, for a time, contained.’¹¹ These points have subsequently been developed to some extent, not least by Harvey, who recently surveyed some of the problems that were initially faced on demesnes belonging to the abbot of Westminster.¹²

Nevertheless, no sustained or systematic attempt has yet been made to reconstruct the extent and nature of the economic disruption that occurred in the immediate aftermath of the Black Death. Shifting the historical focus away from a medium-term and towards a short-term perspective is important for several rea-

Farnham, which lay on the same estate, reached broadly the same conclusion: Robo, ‘The Black Death in the Hundred of Farnham’.

⁷ *Ministers’ Accounts of the Manor of Petworth*, ed. by Salzman, p. xxxiii.

⁸ *The Black Death*, ed. and trans. by Horrox, pp. 70–73.

⁹ *Knighton’s Chronicle*, ed. by Martin, pp. 101–07.

¹⁰ Hatcher, *Rural Economy and Society*, p. 102.

¹¹ *The Black Death*, ed. and trans. by Horrox, p. 236.

¹² Harvey, ‘The Abbot of Westminster’s Demesnes’.

sons. Understanding how people coped with disaster on this scale is of innate and abiding interest, but the implications of such an approach extend beyond this. First, it allows us to tap into a much richer seam of evidence for the state of the economy. Hitherto, the historiographical focus has often been confined to a narrow range of economic indicators, but concentrating on the three or four years after the plague means that manorial accounts can be more comprehensively analysed. Secondly, this in turn provides a more solid basis on which to assess subsequent economic development, whether with regard to the extent of recovery, the nature of the forces containing change, or the identification of turning points. Indeed, until we have a more complete picture of the nature and degree of economic upheaval, we cannot rule out the possibility that some elements of economic life did in fact change irrevocably at the time of the Black Death. Detailed analysis of manorial accounts during the passage of the plague itself is important for another reason, for tracking the disruption to agricultural routines that customarily took place at certain times of the year has the potential to contribute to our understanding of the seasonality and duration of the epidemic, complementing and testing the patterns derived from more traditional sources.

Any study of manorial accounts, particularly in the aftermath of the Black Death, must at times distinguish historical fact from accounting fiction, not least with respect to the auditing process to which accounts were subjected.¹³ Estate auditors performed several duties, but one of the most important was to challenge the local reeve's claims over a number of issues, including prices fetched, wages paid, corn issued, stock lost, and labour services deployed. When required, alterations were made to the figures in the accounts and marginal or superscript remarks and explanations added. There is no hard and fast rule to interpreting such alterations. The prospect of fraudulent reeves clearly bothered authors of thirteenth-century treatises on estate management and auditorial interventions can be interpreted as a correction of otherwise erroneous figures. But in the tougher economic and social conditions of the fourteenth century, especially following the Black Death, auditors were probably instructed to use their influence to maintain seigneurial authority as far as possible and to wrest as much income as they reasonably could out of the reeves. Auditors had to account to the estate steward, and maybe even to the lord and his council, for decisions taken and money spent. Targets were consequently imposed retrospectively on the production of certain goods, prices were amended upwards, and wages

¹³ For an insightful description of the auditing process, see *Manorial Records of Cuxham*, ed. by Harvey, pp. 51–55.

crossed out and replaced by lower ones; in each case, the real shortfall was met by fictional 'sales at audit', charged to the reeve.¹⁴ Behind all this probably lay a reluctance on the part of the landlord to accept that the world was changing: there was doubtless a disinclination to accept growing difficulties in producing and marketing goods and a refusal to countenance the reality of wage increases; viable and reasonable excuses from the reeve might simply have been rejected. Moreover, from 1349 there was a need to comply with labour legislation.¹⁵ Either way, in the extraordinary conditions that followed the Black Death, the audit was probably more of a fiction than the original document; the reeve's original figures, therefore, command considerable respect. This distinction is important when examining any manorial account from this period, but it is of particular significance for data gathered from the Winchester Pipe Rolls, the source used by, among others, Levett. For all their unrivalled survival, voluminous information, and geographical spread, these are centrally-compiled, enrolled accounts, 'a fair copy of the year's account', not the original manorial account rolls drawn up by local reeves. However, some original accounts do survive, and the first that can be compared with the Pipe Roll, for the manor of Hambledon in 1345–46, reveals both the multitude of amendments that were made on the original by the auditors and the fact that it was the auditorial changes, not the reeve's original, and most likely real, figures that were recorded on the Pipe Roll.¹⁶

The most reliable picture of the degree of disruption caused by the Black Death and the course of economic change in its aftermath can be gained from a sensitive reading of original manorial accounts. This study focuses on three such sets of accounts from fenland manors of the bishopric of Ely during the period 1346–47 to 1352–53, as Table 9 details. (In place of repetitive footnotes for each piece of information drawn from these accounts, references to these sources are gathered together in this table.) These accounts are extremely detailed, contain many illuminating alterations and marginal comments, and reveal much about trade and transfer in the region as a whole; they even permit oblique glimpses of the fortunes of other landlords and some peasants. Because of their exceptional detail, they allow us to track the passage of the Black Death through the fens and, in more detail than hitherto, assess the state of the economy in the three or four years that followed.

¹⁴ For examples, see Stone, *Decision-Making in Medieval Agriculture*, pp. 86–88, 144–45.

¹⁵ Hatcher, 'England in the Aftermath of the Black Death', pp. 20–25.

¹⁶ *The Pipe Roll of the Bishop of Winchester*, ed. by Page, pp. ix, xv.

Table 9. Manorial account rolls for the bishop of Ely's fenland manors, 1346–53

	Downham-in-the-Isle	Wisbech Barton	Wisbech Castle
1346–47	D10/2/18 ¹	D8/2/1	D7/1/6
1347–48	D10/2/18 ²	D8/2/2	D7/1/8
1348–49	D10/2/18 ³	D8/2/4	—
1349–50	—	D8/2/6 ^a	D7/1/9 ^d
1350–51	D10/2/19	D8/2/8 ^b	D7/1/7
1351–52	D10/2/20	D8/2/10, D8/2/26 ^c	—
1352–53	—	D8/2/11	—

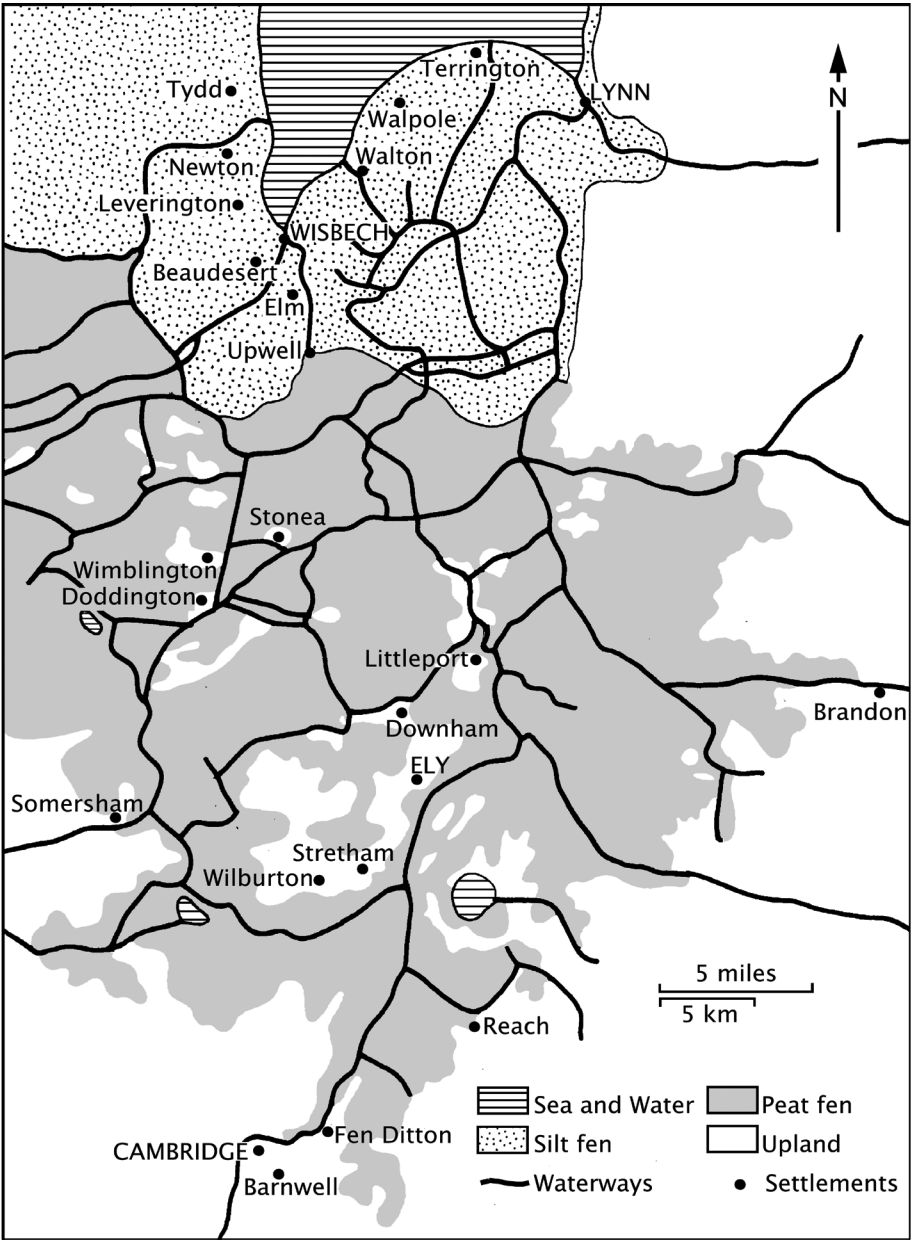
Notes: All accounts are located in Cambridge University Library, in the Ely Diocesan Register, and run from Michaelmas to Michaelmas. There are, additionally, *visus compoti* (covering part of each accounting year) surviving as indicated: a) CUL, EDR D8/2/5; b) CUL, EDR D8/2/7; c) CUL, EDR D8/2/10; d) CUL, EDR D7/1/4. Superscript numbers for the first three Downham accounts distinguish three different accounts bundled together under one classmark.

The Eve of the Black Death

The East Anglian fens stretch from the Wash, which in the fourteenth century penetrated much further inland than it does today, down to within a few miles of Cambridge, as Map 1 shows. The small town of Wisbech and its neighbouring villas were thus coastal communities, sited on a plain of marine silt. Submergence of land was a real threat but, equally, soil was fertile and trading opportunities were good, and there were ready supplies of sand, salt, and — judging by personal names such as ‘Baterin Makrel’ — sea fish. Behind the coast, rivers and drains wound through the silt fens to the mostly unreclaimed marshland of the peat fens beyond. Here, the relentless landscape was occasionally broken by islands of clay on which settlement clustered. Fishing was common on the rivers and in the marshes, too; even the moat at Wisbech Castle, fed by a trench from the river, supplied eels for the lord's household. The winning of other produce was common, too, particularly sedge, reeds, and peat turves, which were dug in huge number.¹⁷

The settled areas of the fens were densely populated in 1348, following a huge surge in numbers, through both natural increase and migration, over the twelfth and thirteenth centuries. Although population around Wisbech may have been declining for a generation before the plague, as messuages on the castle bank were abandoned by the early 1330s and rents of other properties fell during the 1340s,

¹⁷ For further information, see Godwin, *Fenland*, pp. 111–23 and 145–63.



Map 1. The East Anglian fenland in the Middle Ages

Note: Adapted from Coleman, *Downham-in-the-Isle*, frontispiece. I am extremely grateful to Phillip Judge for redrawing this map for me.

the fenland nevertheless remained crowded.¹⁸ By then, agriculture had developed in distinctively different ways in different parts of the region. In the silt fens, hardy crops such as oats and mixtill were prominent, and large numbers of sheep and cattle took advantage of abundant grassland. Given the peculiar nature of the environment, it seems likely that other local farmers followed suit. With regard to sheep, for instance, this much is suggested by the purchase of one hundred and fifty-five ewes at Wisbech in September 1348 from six named men, including William of Upwell and Sir John Colvile, a veteran of the Crécy campaign who had land at Newton. Further in from the coast, agriculture on the bishop of Ely's estate was more varied: Doddington specialized in breeding horses and rearing cattle; Littleport focused on wheat, peas, cattle, and pigs; and Downham on wheat, peas, barley, and horses.¹⁹ At the latter, the bishop also enjoyed a deer park, in which carefully managed areas of coppice woods competed with hazardous clumps of naturally dominant tussock sedge, and a garden, in which apple, pear, and cherry trees grew. Indeed, at Ely, a vineyard — the most northerly one recorded in Domesday Book — was still tended at this time.

Taking advantage of the ubiquitous waterways, significant amounts of produce were moved around the bishop's estate and the Isle of Ely generally, including corn, livestock, hay, turves, reeds, sedge, timber, hemp, and fish. Most notably, hundreds of quarters of oats were annually boated from the silt fens for horses stabled at the bishop's various residences, not least his palace at Somersham. The fens, of course, could not meet every need. Manors elsewhere on the estate sometimes supplied other produce: in 1347–48, the reeve of Shipdham in Norfolk sent a great deal of wood to Downham together with ninety-six partridges for the bishop's household as it journeyed from there to London. The market economy was clearly thriving in this region, too. Mentions are made of purchases, especially of timber and wooden goods, at the port of Lynn, from the market at Ely, and at the Cambridge fairs of Stourbridge, Barnwell, and Reach. Use was also made of the weekly market and annual fair at Wisbech, doubtless for buying and certainly for selling. Indeed, the bishop's demesnes in this region were highly commercial in outlook, utilizing informal as well as more formal marketing outlets.²⁰

¹⁸ The fact that William Stonea was still renting out the headland of one field at Downham in the late 1340s is certainly suggestive of continued population pressure.

¹⁹ Crop yields could vary hugely, as wheat yield ratios from 1348 indicate: at Downham, the return was only 2½ times the seed sown, at Littleport reportedly three times, but at Wisbech 8¾ times.

²⁰ Stone, *Decision-Making in Medieval Agriculture*, pp. 47–53.

With hindsight, what stands out on the eve of the Black Death are the ordinary rhythms and routine concerns of a world on the brink of disaster. Some peasants and craftsmen are named in the accounts, but many others can only be detected through the labour they performed on the lord's demesnes. These included customary labourers, still deployed in some number at Wisbech, though less so at Downham; casual workers, hired either for their particular trades or to carry out less skilled tasks, some agricultural, such as removing molehills from meadows, others not, including clearing reeds from the moat at Wisbech Castle; and *famuli* who were employed and paid on a yearly basis as ploughmen, carters, shepherds, swineherds, parkers, and gardeners. The working life of the majority of medieval fenlanders was, of course, shaped by the seasons: winter sowing and weather-proofing livestock in October and November;²¹ lambing in February; spring sowing in March and April; and the gathering of sedge, turves, wool, hay, and corn between then and September. The ongoing preparation, marketing, and consumption of produce is sometimes visible, too. Markets and fairs were visited regularly, but so too were shops; it was doubtless from such an outlet that, with the Black Death raging further south, twenty iron hooks were bought for hanging curtains in the lord's room at Downham. On the eve of such a tragedy, even the most mundane of acts can seem strangely evocative.

The Passage of the Plague

Three forms of evidence have traditionally been used to pinpoint the time at which the Black Death arrived in the fenland region and to track its passage elsewhere in England. Some chronicles provide precise information: indeed, a Grey Friar at Lynn noted that 'This year [1349], around Easter [12 April] or a little before, began the pestilence in the custody of Cambridge and it lasted for the whole summer',²² although the details in this instance are less exact than first appears, for this 'custody', or administrative region, covered all of East Anglia. Institutions of priests to vacant benefices provide further evidence of the spread of the disease. Such data is also not without its problems, for vacancies did not invariably signal death and, as the lapse between vacancy and institution was long and varied and information about the stage of the epidemic at which these events took place is not known, local precision is elusive or even misleading. Nevertheless, evidence

²¹ According to the reeve of Wisbech Barton (and the scribe who testified for him), the winter of 1348–49 was particularly wet.

²² Gransden, 'A Fourteenth-Century Chronicle', p. 274.

from the diocese of Ely as a whole suggests that 'the disease first became virulent in March 1349, reached its peak of infection in the months of May and June' and fell away between July and September.²³ A good series of manorial court rolls can also be invaluable in charting the passage of the plague locally, though the level of survival is often only sufficient to establish a broad time frame for its arrival. For example, the Wisbech court for June 1349 contains many records of death with post mortem transfers of land and the 'pestilence' is specifically mentioned at the end to explain the high level of court income, but as this was the first surviving court since December 1348, the precise month in which plague took hold here is unknown.²⁴

The potential for manorial account rolls to contribute to our understanding of the passage of the epidemic has never been fully exploited, yet they can help to fill the gap when tracing the local incidence of plague. First, they sometimes provide a detailed breakdown of court income, even when the court rolls themselves no longer exist. At Downham, no court rolls have survived between 1335 and 1362,²⁵ but the dates of courts held during that time and the income received from them are recorded in surviving accounts. These show that no courts were held between 14 January and 26 May 1349, at which point court income surged to an unprecedented level, both of which suggest the arrival of the Black Death at some point in between. Secondly, the agricultural and economic information contained in account rolls allows us to be even more specific about plausible dates for the rise, peak, and decline in mortality levels.

The fenland accounts in fact suggest that the impact of the Black Death was felt at least six months before the pestilence actually reached the Isle of Ely. Mortality in southern England had only been high for two or three months when, on 30 September 1348, the bishop of Ely's estate steward and brother, John de Lisle, provided alms for eighteen paupers from Downham, distributed every Tuesday for a year, at a total cost of 78 shillings (s.). No such expenditure was recorded until this date which suggests it was provoked by rumours of high mortality and a sudden concern for spiritual welfare: charity lay at the core of the works of mercy, which 'loomed ever larger in late medieval perceptions of the Christian life, and hence of preparation for judgement'.²⁶ News of the disease and the upheaval that accompanied it prompted more material concerns, too, for efforts were clearly made to combat the threat of lawlessness on the estate. At Wisbech, a granger

²³ Aberth, 'The Black Death in the Diocese of Ely', pp. 280–81.

²⁴ I am grateful to Kate Parkin for this information.

²⁵ Coleman, *Downham-in-the-Isle*, p. 111.

²⁶ Duffy, *The Stripping of the Altars*, p. 358.

was employed from Michaelmas 1348 to keep an eye on the lord's corn and the grange itself was reinforced over the winter, while at Downham numerous locks and keys were bought to secure, among other things, the door of the bakehouse. Other preparations involved altering previously regular patterns in the disposal of produce. At Wisbech, there was an unusual dash to sell the bulk of winter-sown crops in November and December 1348, presumably in anticipation of a collapse in the grain market.²⁷ Furthermore, in an apparent attempt to restrict unnecessary interaction between communities, an unusually limited amount of produce was moved around the estate between autumn 1348 and spring 1349. When transfers did take place, the quantities involved were small and the destination usually local: the only arrivals at Wisbech Barton, for instance, were seven young pigs from Walton and a cow from Beaudesert; the total transferred out of the manor before harvest was 7 quarters of oats to Beaudesert, 3½ quarters of wheat to Downham, and 10 quarters of oats to Somersham. Nor does it seem that the bishop's estate was alone in trying to reduce economic traffic, for judging by the rise in the cost of imported tar and salve, bought for coating sheep, northern European shipping was also disrupted in the autumn of 1348.²⁸

The Downham accounts provide the most compelling evidence for the arrival and course of the Black Death in the fens. Two pieces of information suggest that mortality here did not rise significantly before late March 1349: demesne land that had been leased but that had now been vacated fell into the lord's hands on 24 June, at the end of the term of St John, not on 25 March, at the end of the previous term; moreover, while a cowhide sold in March fetched eleven pence (d.), the price from about late April dropped to just 3d. Evidence for the harvesting of sedge and the digging of turves in fact suggests that the number of deaths had begun to rise by late April and continued at a high level through May and June. In 1349, the quantity of sedge received from customary tenants was sixty-five per cent lower than usual; three years later, a pardon was eventually issued for sedge 'owed or lost by inundation of water at the time of the pestilence'. Sedge was protected at Downham until Hockday (21 April), and at nearby Littleport could no longer be cut after Midsummer (24 June);²⁹ although heavy rain may have been to blame for the shortfall, the coincidence with the epidemic

²⁷ During the 1330s and 1340s the bulk of winter cereal was sold between January and July each year: Stone, *Decision-Making in Medieval Agriculture*, p. 49.

²⁸ The price of tar rose to 4d. per gallon (from 3d. in the early 1340s) and that of salve to 21d. per stone (from 12d.–14d.). One gallon is 4.546 litres, and one stone is 6.35 kg.

²⁹ Coleman, *Downham-in-the-Isle*, p. 21; *The Court Baron*, ed. by Maitland and Baildon, p. 129.

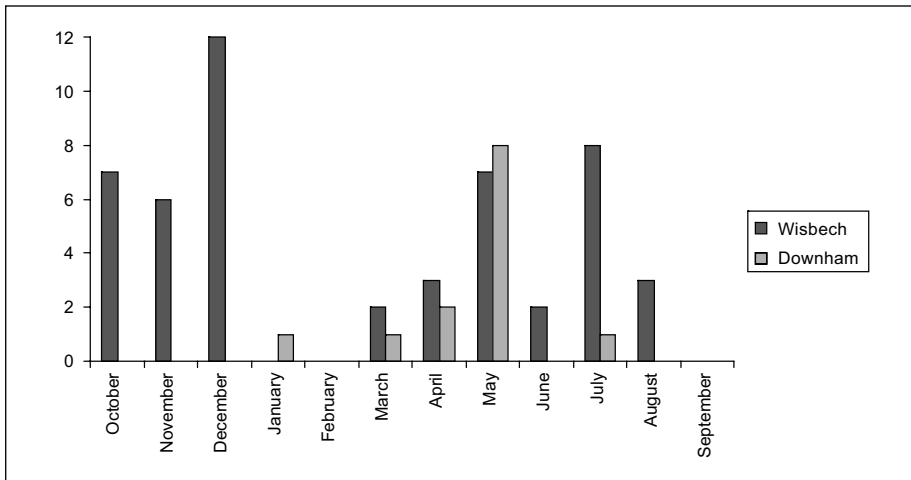


Figure 27. Timing of recorded cattle deaths at Downham-in-the-Isle in 1348–49 and Wisbech Barton 1313–1429

is clear.³⁰ The example of turf-digging provides greater clarity still. No turves at all were dug in 1349, specifically ‘because of a lack of men and caused by the great pestilence and great mortality of men’. As with sedge, the cutting of turves was forbidden until Hockday, although they probably continued to be dug until late July.³¹ The total absence of turf-digging suggests that plague was already raging in Downham by late April and corroborating evidence is supplied by the unusual order, given by the steward himself, for the oats rations of the Downham stallion to be doubled from 28 April. Increasing rations during the mating season was not in itself unusual, but the intervention of the steward together with the comparatively early start date — two years later a similar increase took place in late June — are suggestive of a sudden urgency to make the most of valuable resources, although the accounts do not specify the precise reason.

Revealing information is also provided about the disappearance from the record of stipendiary employees, most notably an acquittance from labour services for ‘the smith, a cottager, until Pentecost, the last day of May this year, for 34 weeks [...] and then he died’. Elsewhere, a cluster of dates for the termination of employment is equally ominous: the employment of the parker ended on

³⁰ The summer of 1349 was notoriously wet; this evidence suggests that the rain had begun by June, and probably by mid-May.

³¹ Coleman, *Downham-in-the-Isle*, p. 21.

4 June; the gardener was employed until 24 June; and another parker finished his employment on 15 August. These dates may be few in number, but their spread is telling. One death at the end of May and one suspected death five days later certainly fits with the devastation wrought on the cutting of sedge and turf. Meanwhile, the declining frequency of suspected deaths in July and August may reflect waning mortality, and this suspicion is reinforced by evidence that the reeve of Downham fell ill in August, but survived;³² when an epidemic subsides, the likelihood of dying after infection is reduced.³³

The Downham accounts thus suggest that the epidemic began here in April, peaked in May and June, and subsided over the next two months. Evidence of the passage of the Black Death through Wisbech is less abundant, but provides similar indications of its arrival and duration. In contrast to Downham, spring sowing at Wisbech appears to have been disrupted, suggesting that mortality rose slightly earlier here.³⁴ A tentative date of late March is supported by a hiatus in the employment of *famuli* soon after: an extra shepherd was hired on 13 April, and a swineherd and carter at some point between 12 and 20 April; unusually, the account is inconsistent in its dating for these. Disruption is also evident in patterns of grain sales: the auditors did not question the price agreed by the reeve in any sales until the last entry for March, after which prices were frequently crossed out and replaced by higher ones; and the sale price of wheat, having risen from five shillings in November 1348 to 5s. 4d., suddenly dropped to 4s. 2d. in May 1349. The employment of the granger was also terminated in that month. This all suggests that plague was rampant in Wisbech during April and May; certainly, grassy field edges could not be leased in the summer of 1349 'on account of the pestilence'.

Although the death toll in the fenland region was probably as high as elsewhere during the Black Death,³⁵ scanning through manorial accounts can easily

³² The reeve, John Dunfrey, disappeared and was replaced without comment. He was probably still alive in early August, for he ordered wheat to be sent to pay a granger at Littleport for six weeks, most likely early in harvest. However, Dunfrey was subsequently recorded as leasing land at Downham: Coleman, *Downham-in-the-Isle*, pp. 17, 78.

³³ Slack, *The Impact of Plague*, p. 175.

³⁴ In the spring of 1348, three customary ploughs were used for sixteen days at five works per day; in the spring of 1349, two ploughs were used for six days, at three works per day.

³⁵ Evidence from Cambridgeshire and the Isle of Ely as a whole suggests that a death rate of forty-five to fifty per cent was not unusual: Page, *The Estates of Crowland Abbey*, p. 121; Ravensdale, 'Population Changes and the Transfer of Customary Land', p. 198; Aberth, 'The Black Death in the Diocese of Ely', pp. 278–81.

generate the impression that the normal routines of agricultural life quickly reimposed themselves during the summer and autumn of 1349. However, closer investigation reveals a much bleaker story and one which, on the whole, chimes with that told by contemporary chroniclers. Knighton observed that ‘sheep and cattle wandered through the fields and amongst the crops, and there was none to seek them, or round them up, and they perished in out-of-the-way places amongst the furrows and under hedges, for want of a keeper’.³⁶ Unusually, the Downham accounts consistently record the month in which cattle died and, as Figure 27 shows, mortality in this herd did indeed peak dramatically in May 1349. In fact, ten out of thirteen cattle are said to have died in late April and May, at which point the plague was reaching its height. The normal pattern, as far as it can be established from the Wisbech accounts, was for cattle mortality to rise most markedly during the winter months. Circumstances at Downham in 1349 were complicated by the timing of calving, but even so the primary cause of these deaths is most likely to have been neglect: a sudden cessation of food and water may have lowered resistance to infection; or the close grazing of the same pasture may have increased the ingestion of parasites. But whatever the immediate cause, it was ultimately the case that while the carcass of the cow that died in January was sold, the rest were not ‘because they were cadavers and of no value’. Tenant livestock may well have diminished in number, too, and for similar reasons, for income from the leasing of grassland at Wisbech fell from as much as ten pounds (£10) per year in the late 1340s to nothing in 1348–49, while the impounding of stray animals was unusually high.

The initial impact of the Black Death on livestock husbandry was not confined to high levels of mortality. Knighton also remarked that livestock prices in 1349 were exceedingly low,³⁷ and this is borne out by evidence from Wisbech. Here, the purchase price of lambs, which Knighton put at 2d., dropped markedly during the Black Death, presumably through a combination of local surfeit and low demand: prices stood at nearly 10d. per lamb in the early 1340s,³⁸ but each lamb fetched little more than 3d. per head between May and September 1349. Similarly, pigs sold in November that year fetched 29d. per head, compared to 38d. a year earlier. Moreover, the productivity of livestock was exceptionally poor during the spring and summer of 1349. At Wisbech, over a third of ewes could not be milked, while seven out of eleven mares were barren. The only bright

³⁶ *Knighton's Chronicle*, ed. by Martin, p. 101.

³⁷ *Knighton's Chronicle*, ed. by Martin, p. 101.

³⁸ CUL, EDR D8/1/16.

spot in the pastoral sector was the fertility of sows: at Wisbech, a total of sixteen piglets had issued from two sows in October 1348 and January 1349, and they produced a further thirteen that summer.

The path of wages also corroborates chroniclers' remarks about the degree of upheaval that prevailed in the countryside that summer. At Wisbech, as Table 10 shows, wages began to diverge from the norm between April and July, and the divergence had become even more marked by August and September.

Table 10. Agricultural wages at Wisbech Barton, 1347–49

Task	Time of year	Unit	Payment	
			29 Sept 1347– 29 Sept 1348	29 Sept 1348– 29 Sept 1349
Threshing wheat	Oct.–May	Quarter	2d.	2d.
Making water channels	November	Furlong	2½d.	2½d.
Ploughdriver	Nov.–April	12 weeks	12d. + 8 bu. (9½ bu.) mixtill	12d. + 8 bu. mixtill
Mowing hay	July	Acre	5d.	6d. (6s. 4d.)
Washing/shearing sheep	July	20 sheep	1.7d. (2s. 6d.)	3d.
Carter	August–Sept.	8½ weeks	3s. 4d. + 6¾ bu. mixtill	3s. 4d. (7s. 5d.) + 8 bu. mixtill
Reaping/binding corn	August–Sept.	Day	1½d.	3¾d.
Mowing beans	August–Sept.	Acre	3d.	8½d.

Note: Figures in parentheses show, where appropriate, the original entry that was made in the account by the reeve, which was subsequently crossed out by auditors and replaced with a lower figure.

Not only does this fit with Knighton's description of workmen and employers ignoring the Ordinance of Labourers of June 1349, but the piece-rate paid for mowing beans on this farm in fact fits precisely with his comment that '[i]n the following autumn no one could hire a mower for less than 8d. with his keep'.³⁹ Notably, too, while the bishop's auditors had questioned some of the reeve's earlier adjustments to wages, even they seem to have accepted that securing a workforce at harvest came at a hefty price. Such increases are echoed at Downham, and the reason for them was made plain. After the death of the smith, another was hired at an enhanced rate; when held to account, the reeve defended his decision by

³⁹ *Knighton's Chronicle*, ed. by Martin, p. 101.

saying that he was paid so much 'because [...] all are enhancing the prices that they are paid'.

There were clearly ructions among the *famuli*, too. Five bushels of wheat were given to the *famuli* at Downham during harvest 'as a gratuity', by order of the steward, but their counterparts at Wisbech appear to have been less easily appeased. Those taken on in April seem to have demanded comparatively high stipends,⁴⁰ arousing discontent among their new colleagues, with whom the reeve then negotiated. Eventually, one ploughman was given ten shillings rather than seven shillings, and two other ploughmen and a carter were each given an extra five pence in cash and a quarter of grain every eight weeks rather than every ten. Although based on crossed-out entries, the reality of these negotiations is revealed by an entry that the auditors missed: in July 1349, over four quarters of mixtill were bought 'for payment of the *famuli*'. Nor was this the end of the matter, for new terms were agreed after harvest, the auditors presumably having scolded the reeve: from Michaelmas, these four were all given eight shillings and a quarter of corn every ten weeks.

Against this background of despair and dispute, key agricultural operations had to be carried out. Unsurprisingly, chaos reigned. At Wisbech, fallow ploughing, which was vital for controlling the rich weed flora of the silt fens, could only be carried out in a rudimentary fashion. At Downham, the hay harvest cost nearly three times as much as usual and was clearly not very successful, for the steward ordered further forage to be cut.⁴¹ By far the most important event in the agricultural calendar, though, was the corn harvest. Knighton's haunting image of crops rotting in the fields may well have applied to some of the land farmed by now-dead tenants and lessees, but is less relevant to demesnes. Nevertheless, crop yields were low: at Wisbech, most grains yielded between seventy-six and eighty-two per cent of the average of the previous three years, while the harvest of legumes was disastrous, at just twenty per cent. The latter was probably caused by difficulties at sowing time, depredations by livestock, and most significantly, by the insouciance of the workers who mowed the beans. In fact, the Wisbech accounts reveal that yields of beans harvested from peasant land were markedly better. Reliable evidence for peasant yields is extremely rare, but can occasionally be found when, at the tenant's death, land was temporarily in the hands of the lord

⁴⁰ Above the stipend given to the swineherd, the clerk noted 'so much this year because of the pestilence and for guarding the pigs of Beaudesert and Walton'.

⁴¹ Heavy rain during the growing season for grass should have brought a bumper crop of hay, and yields clearly held up at Wisbech. Even so, the experience at Downham was probably more common, for alternative forms of fodder seem generally to have been in demand.

and the crops from it were harvested and the issue recorded in the accounts. That year, whereas the demesne managed a yield of just 3.2 bushels per acre of beans, eight acres that had belonged to Agnes Tuliet and Agnes Hennys produced six bushels per acre, and ten acres that had been sown by Stephen Daglard produced 10.2 bushels per acre. Relative yields in this tumultuous year are unlikely to be generally representative, but this comparison says a great deal about the attitude and skills of surviving labourers, for the crops of the dead tenants were reaped with a sickle rather than mown with a difficult and unwieldy scythe.

By the autumn of 1349, the plague appears to have moved on and some aspects of life must have had an air of familiarity about them. At Wisbech Barton and Downham, accounts were compiled and audited in September;⁴² and judging by the fastidiousness with which the Wisbech reeve was forced to admit that he did not use all of a horse hide to mend a harness, it was, to some extent at least, business as usual. But continuity in administration should not be mistaken for a return to normality; indeed, the rolls are full of hints, asides, and amendments that suggest otherwise. For example, when estate transfers resumed in September, there was a flurry of movements of pigs: Downham received twenty-three from Littleport, nineteen from Hadstock, and eight from Ely Barton; and sent twelve pigs to Stretham, twelve to Littleport, twelve to Ely Barton, and six to Wilburton. Moreover, the relatively high price that pigs still fetched suggests that they were generally in demand in this region.⁴³ The precise reason for these patterns cannot be teased from the accounts with any certainty, but comparatively high rates of fertility and a low incidence of mortality during the Black Death plausibly elevated the economic potential of pigs and encouraged a preference for the consumption of pork.

Perhaps the most striking deviation from the norm was the more prominent role played by the estate steward in local decision-making. We have already seen that, as the plague passed through this region, John de Lisle instructed the Downham reeve to increase rations for the stallion, mow extra forage, and provide the *famuli* with extra wheat. His attentiveness might have been as a result of Downham's closeness to Ely, its status as a favoured residence, and the affliction of the reeve, but even at Wisbech the steward's presence and

⁴² Although impossible to distinguish between rolls that have not survived and rolls that were never written, no accounts for 1348–49 exist for Wisbech Castle, Great Shelford, or Brandon, where survival is otherwise good.

⁴³ Although prices at Wisbech had dropped by November 1349, they were still considerably in excess of the national average and much higher than Knighton later believed: Farmer, 'Prices and Wages', p. 806; *Knighton's Chronicle*, ed. by Martin, p. 101.

influence was equally marked: fodder was regularly provided for his horses from Michaelmas, and he can be seen ordering the sale of grain in November, and again the following spring. Such intervention doubtless reflected the degree of economic upheaval and social uncertainty that was ushered in by the Black Death and the perceived need on estates for central direction and a strong seigneurial presence.

The Immediate Aftermath of the Black Death

The extent of economic disruption during the passage of the Black Death through the fens substantiates the claims of chroniclers about the initial impact of the plague, but whether the economy continued to be disrupted in the three or four years that followed is another matter. For while the impression given by Knighton and other chroniclers is of an economy, landscape, and society in perpetual flux during the early 1350s, historical analysis has often suggested otherwise. Indeed, the accounts for these fenland manors suggest that the bishop of Ely and his officials experienced few problems in filling tenant land that had been vacated as a result of the Black Death. For example, Margery Boiyard from Lynn died without an heir, but her cottage and 1½ acres or so of land that she had held in Leverington was already leased again for 12d. in 1349–50. Similarly, twenty-six acres of land at Wisbech, which had been held by a certain Tupperts until his death, had been temporarily leased to William of Barcroft until April 1351, at which point the heirs of Tupperts arrived to claim the land. Overall, while there may well have been some negotiation over rent paid in kind,⁴⁴ only a small proportion of land and tenements in the Wisbech area — at Elm — remained unoccupied by September 1350, and just one tenement at Downham appears to have been vacant by the following September.

Yet continuity in the occupation of tenant land should not be allowed to mask the upheaval and change that occurred in many other parts of the fenland economy, not least the payment of wages. Generally, during the third quarter of the fourteenth century as a whole, wages do not appear to have behaved as we would anticipate after a demographic collapse on this scale, but close scrutiny of the fenland accounts suggests that more change was afoot during the early 1350s, at least, than we have become accustomed to think. In June 1349, the

⁴⁴ For example, the number of hens that the lord received from his tenants at Christmas was substantially reduced in 1349 and 1350.

Ordinance of Labourers was passed to counter precisely the sort of rise in wages that occurred at Wisbech but, rapid though the government's response was, the conflicting interests of the landlords who enforced it in their courts meant that it was regularly breached. The fenland evidence reflects this: by 1350–51, the annual retainer for the Downham smith had risen to 10s., an increase of fifty per cent in three years; daily wages for labourers reinforcing mill mounds at Wisbech had risen by sixty-seven per cent; and the rate for baking a quarter of grain into bread there had doubled from 3d. to 6d. However, it is surprising to find that the Statute of Labourers of February 1351, which handed responsibility for enforcement to independent commissioners of the peace, was treated with similar disdain.⁴⁵ The cost of baking bread at Wisbech did fall in 1352, but, at 5d. per quarter, hardly met the Statute's directive to peg wages at the level they had been in 1346. Indeed, the cost of mowing and carting here had risen between two and three times over the years 1347–52, as had the retainer for the Downham smith, which now stood at 16s.

Openly flouting the Statute was only one way of ensuring that work was done, for, as Hatcher recognized, there were surreptitious ways of circumventing it.⁴⁶ Terms of employment on these manors suggest that a number of different ploys were immediately adopted. First, the type of contract might be changed: the cost of reaping and binding an acre of corn at Wisbech, which had risen from 7d. in 1347–48 to 12d. in 1350–51, was in the following year paid by the day. Second, the auditors simply crossed out wages which they wanted to conceal or with which they otherwise disagreed. At Wisbech Castle, most carpentry was paid at 3d. per day before 1349, but two years later was paid at double this according to the reeve, but at 4d. per day according to the auditors. Thirdly, there were increases by stealth: the reeve of Wisbech Castle was paid a stipend during harvest, and he used a nominal link to the price of wheat to award himself an increase of forty-four per cent in 1351, despite the relatively modest price of wheat at the time. Fourthly, bonuses were given, both in cash and in kind. Lastly, auditors toyed with the definition of time worked in order to give the impression that a lower wage was being paid. At Downham, each week that the thatcher and his mate worked in 1351–52 was ultimately recorded as seven days of work, when the original entry made it clear that they only worked for five. Together with other semi-hidden perks, the actual wages paid to these two were between a third and two-thirds higher than was specified.

⁴⁵ For further information, see Putnam, *The Enforcement of the Statute of Labourers*.

⁴⁶ Hatcher, 'England in the Aftermath of the Black Death', pp. 20–25.

Table 11. Prices of selected products in the fenland, 1346–47 to 1352–53

	Baskets (seed)	Baskets (corbell)	Wheel- barrows	Hurdles ^a	Halters	Cart wheels (pair)	Plough share
1346–47	—	—	—	1d.	—	5s. (5s. 4d.)	(18d.)
1347–48	4d.	—	7d.	1d.	7 ^s d.	—	19d.
1348–49	—	5d.	7d.	1.4d.	1d.	5s.	18d.
1349–50	—	6d.	—	—	1d.	—	—
1350–51	—	11d.	12d.–14d.	2d.	1½d.	—	25d.
1351–52	6d.	8d.	17d.	1¾d.–1.8d.	1d.–1¼d.	12s. 6d.	—
1352–53	—	—	—	—	1d.	10s. 10d.	36d. (51d.)
	Reeds (100 sheaves)	Sedge (100 sheaves)	Turves (1000)	Salt (bushel)	Sand (bushel)	Hemp seed (bushel)	Wax (lb.)
1346–47	25d.–33½d.	10d.–12d.	9d.	—	½d.	5d. ^b	—
1347–48	20.2d.–20½d.	—	2.1d.–9d.	3d.	—	—	6d.
1348–49	26¾d.–40d.	—	4.1d.	—	—	—	—
1349–50	—	—	16d.	7½d.	—	—	8d.
1350–51	33½d.	10d.–19½d.	20d.–30d.	10d.	1½d.–2½d.	—	8d.
1351–52	20d.	—	—	—	—	11d.	—
1352–53	—	—	30d.	—	—	—	—

Notes: Prices in parentheses show, where appropriate, the original entry that was made in the account by the reeve, which was subsequently crossed out by auditors and replaced with a lower figure.

^a The series for hurdles comes exclusively from the Downham accounts, since the cost of carriage from the point of purchase is included (in this case, usually from Cambridge or Reach). For prices in the Wisbech accounts, see Table 12.

^b For comparison with the later price, this is the price recorded for 1345–46: CUL, EDR D8/1/19.

The behaviour of prices also betrays the extent to which the fenland economy was in a state of disarray in the aftermath of the Black Death. Much as chroniclers suggested, the price of different goods rose markedly during the early 1350s. Grain prices became more elastic and increased steadily up to 1352, reaching levels which had seldom been seen during the early fourteenth century. Such behaviour is not only suggestive of monetary inflation but also of severe supply-side disruption,⁴⁷ and this impression is further conveyed by price series for other goods, a selection of which are shown in Table 11. All goods had to be manu-

⁴⁷ Edward III's debasement of the coinage, culminating in 1351, doubtless contributed, as the chroniclers John of Reading and Geoffrey le Baker claimed: Waugh, *England in the Reign of Edward III*, pp. 81–82, 91. Rigby also highlighted the inflationary pressure resulting from a falling number of transactions: Rigby, *English Society in the Later Middle Ages*, p. 99.

factured or gathered and increased labour costs presumably account for at least some of the price hike. Indeed, there are important differences between them, which may well be explained by the nature of production. Between 1347–48 and 1350–51, the rise in price of many commodities was relatively modest, but prices of salt, sand, and turves rose to a much greater extent. The production of salt and, in particular, the digging of sand and peat, were arduous tasks and marketable surpluses may well have diminished with great rapidity in the early 1350s.

Table 12. Comparison of product prices at Wisbech and Downham, 1347–48 to 1351–52

Product	Accounting year		Price	
		Wisbech	Downham	
Before the Black Death				
Reeds	1347–48	20.2d./100 sheaves	20.5d./100 sheaves	
Baskets for horses	1347–48	2d.	2¾d.	
Wheelbarrow	1347–48	—	7d.	
Wheelbarrow	1348–49	7d.	—	
Cow before calving	1348–49	9s. 1¼d.	8s. 6d.–9s. 3d.	
After the Black Death				
Sedge	1350–51	10d./100 sheaves	19½d./100 sheaves	
Wheelbarrow	1350–51	12d.	14d.	
Tar for sheep	1350–51	4d./gallon	5d./gallon	
Hurdles	1350–51	2¼d.	2d.	
Hurdles	1351–52	2d.	1¼d.–1.8d. ^a	
Halters	1351–52	1¼d.	1d.	

Note: ^a Price includes carriage to Downham; the actual cost was 1.5d./hurdle.

Indeed, the market economy in this region appears not to have operated as smoothly as usual in the wake of the plague. Table 12, which compares prices of the same products bought in the same year at Wisbech and Downham, shows that significant discrepancies in market values emerged at this time. In a relatively integrated economy, prices should broadly be comparable, as they were in the late 1340s, but by 1350–51 and 1351–52 there was usually a difference of between 12½ and twenty-five per cent; sedge was in fact valued at nearly twice the price in Downham. Other evidence adds to this sense of dislocation. At Downham, the use of markets and fairs, which had clearly been disrupted in 1349, appears to have been significantly undermined until 1351. Fairs were affected by changes in overseas trade, but the market economy was choked by internal levels of

production and distribution as well. For instance, the number of turves dug at Downham was reduced by seventy-five per cent between 1347 and 1351, and there seems to have been a hiatus in horse breeding at Doddington. Just as Knighton observed, there was also a dearth of food and ale in the fens in the summer of 1350, and again the following year; even during the harvest of 1352, reapers at Wisbech were said to be expensive because of a 'lack of food'.

The scale of disruption that followed the Black Death is also reflected in manorial fortunes. At Wisbech Castle, income from leasing seigneurial assets, which included the market and fair, shops, mills, and fisheries, as well as land, fell by fifty-four per cent between 1347–48 and 1349–50. Nothing could be made from four shops because they were devastated and, by the following year, lay in ruins. By then, the leasing of demesne land at Wisbech Barton had dropped by sixty-three per cent; at Downham, income from such leases was reduced by a third (although the auditors refused to accept that this was so), the mill could no longer be leased, and nothing was made from the lease of the sheep fold because 'the tenants are dead'. With plummeting incomes and spiralling wages, the level of unnecessary expenditure on these manors was slashed. At Downham, for instance, the cost of building work shrank from over £32 in 1347–48 to just 7s. 2½d. three years later. This financial squeeze largely explains why auditors put reeves under such pressure to account for the decisions they had made. Together with poor weather, exaggerated price movements, the demands of a truculent workforce, and the need to find and negotiate with tenants, the office of reeve must really have been a thankless one in these years. In fact, at Wisbech Barton, the lord did not succeed in retaining reeves as he had hitherto: from 1350 to 1353, they remained in post for only a year at a time; indeed, in June 1353 one appeared in court, 'charged with demonstrating how he wished to be exempt from office.'⁴⁸

Catastrophic though the Black Death was, its aftermath was not just a time of ruefulness but also one of opportunity. As one anonymous author, probably writing in 1352–53, vividly put it, disruption and upheaval on this scale generates 'winners' as well as 'wasters'.⁴⁹ Of course, opportunities had to be grasped, obstacles overcome, and success was not guaranteed,⁵⁰ yet the potential for improvement nevertheless existed. Wage-earners could secure higher earnings, not just through improved rates of pay, but also in terms of the type of work available,⁵¹

⁴⁸ Parkin, 'Courts and the Community', p. 135.

⁴⁹ Scattergood, '*Winner and Waster*'.

⁵⁰ In fact, some tenant debts were cancelled at Downham in 1352 'to relieve them of their poverty'.

⁵¹ Low-paid jobs were carried out by women to a greater extent: at Downham, eighteen

or the number of days they could find employment. Prices increased, too, but the combined benefits accruing to wage-earners would probably have boosted their real wages. Those holding, or aspiring to hold, land doubtless hoped to benefit from an unprecedented shake up in the land market. Moreover, market-oriented farmers, large or small, were in a position to take advantage of a number of emerging trends, for the second half of the fourteenth century saw significant improvements in the nature and level of consumption.⁵²

Dietary choices for the majority of people are difficult to ascertain but, initially at least, many people seem to have wanted larger quantities of familiar, mid-quality produce. Demand for rye and mixtill, used to make inferior bread, continued at an unexpectedly high level: at Downham, rye was valued at a similar level to wheat in 1350–51; at Wisbech, the value of mixtill in 1353 exceeded that of wheat. As the proportion of land under these crops increased on the respective demesnes in the early 1350s, there would seem to be more to this than local shortage; it suggests, in fact, that these lower quality bread grains were proving enduringly popular. Similar trends occurred with brewing grains: dredge (a mixture of oats and spring barley) was introduced at Downham in 1351 (using seed from Wimblington) and at Wisbech the following year (using seed from Terrington); and the sharp increase in the production of malt at Wisbech in the aftermath of the Black Death consisted chiefly of oats. Both crops could withstand wetter growing conditions better than pure barley, but as winter barley was grown very successfully at Wisbech (and occasionally malted), these trends may well be reflective of taste.

Others must have had more elevated aspirations, since demand for wheat and barley, the premier bread and brewing grains, together with demand for meat and better quality clothing, was far from slack. A growing market for ale is particularly conspicuous: in pre-Black Death Downham, wheat and malted barley fetched about the same price, but in the years that followed the price of the latter was fifty per cent higher than that of wheat. The demesne economy responded efficiently to these stimuli. Sales of malted barley at Downham increased enormously, and now contributed half of all manorial income. Pastoral farming could also prove lucrative. Indeed, the cow herd at Downham was built up again following the high losses sustained during the passage of the plague and by the early 1350s the lease of the cow herd brought in ten per cent of all income. Elsewhere, when prices of sheep, pigs, and birds rose significantly in the aftermath of the

women were employed in 1350/51 to carry turves in the marsh at a daily wage of about 1¼d. each.

⁵² See, for example, Dyer, 'Changes in Diet'.

pestilence, demesne officials again responded adroitly. What little can be gleaned about other farmers suggests that some, at least, took advantage of changing patterns of consumption with similar speed. When Richard Kede fled his holdings at Downham a year or so after the plague, he left chattels of one bushel of wheat, four cows, a pig, and two bushels of peas, suggesting that even smallholders produced high quality grain, meat and dairy. More generally, wheat comprised fully forty-seven per cent of the grain taken as multure of the mill from Downham tenants following the harvest of 1350. Moreover, large quantities of legumes were sold by the demesne there, probably destined for peasant flocks and herds. Even the rector of Tydd supplied thirty lambs to Wisbech Barton in both 1350 and 1351, and eighteen pigs, ten young pigs, and eight piglets in the following year, though we cannot tell whether the animals were raised on glebe land or received as tithe. Peasants doubtless also kept significant numbers of chickens and geese;⁵³ even the price of hemp, more a peasant than a demesne crop, increased threefold at Wisbech during the early 1350s, providing growers with renewed incentive, as well as extra income.

However, taking advantage of such opportunities was not straightforward. The disruption to markets has already been noted, but this was not the only problem for, in spite of more intensive use of yield-raising techniques in demesne fields,⁵⁴ the productivity of this land was unusually low. Yields of wheat and barley at Downham, for instance, were forty-five per cent and thirty-six per cent lower in the harvests of 1350 and 1351 than they had been in 1347 and 1348. Nor was this restricted to the arable sector, for livestock productivity was also poor. At Wisbech, fleece weights in 1351 were twenty-nine per cent lower than they had been in the early 1340s; fertility rates were commonly reduced, too, and mortality among sheep and pigs was unusually high.

Productivity was doubtless impeded by continued wet weather, but other forces may well have had an even greater impact. In particular, the efficiency of labourers appears to have declined drastically in the aftermath of the Black Death. Chroniclers certainly fulminated about them: the Rochester monk opined that 'all those who served did so with ill will and a malicious spirit'; Knighton later believed that from the day the Statute of Labourers was published, workers 'served their masters worse than ever before'.⁵⁵ Tangible evidence that this was indeed the case can be found in the rate at which the harvest was brought in at

⁵³ Stone, 'The Consumption and Supply of Birds,' pp. 153–54, 158–59.

⁵⁴ See, for example, Stone, *Decision-Making in Medieval Agriculture*, p. 101.

⁵⁵ *The Black Death*, ed. and trans. by Horrox, p. 73; *Knighton's Chronicle*, ed. by Martin, p. 121.

Wisbech, which dropped by a third from 7.2 bushels per man-day for most of the 1340s to 4.8 bushels between 1349 and 1353. Reasons why this was the case are not hard to find. Labour services, which continued to be widely used at Wisbech and were enforced again in large numbers at Downham, were doubtless grudgingly performed.⁵⁶ Among hired labourers, the incentives to work with sustained application must have been swept away by the shocking events of 1348–49. The *famuli*, who carried out the bulk of farm work, probably had even greater reason to work half-heartedly, for their remuneration barely improved in the years following the Black Death, and at times was actually lower than it had been in the 1340s. Inefficient husbandry can depress levels of productivity in various ways. Sometimes, problems arose merely through inattentiveness and the delays or oversights that consequently occurred. This may help to explain why livestock mortality rose so precipitously,⁵⁷ and it plausibly contributed to falling grain yields, too. The 1351 harvest at both Wisbech and Downham was blighted by darnel, some species of which can prove devastating if infestations are not spotted and dealt with immediately. Whether peasant agriculture suffered from deteriorating efficiency to the same extent is less certain, but the demesne sector plainly had to contend with a severe problem.

Yet, while great estates were troubled on a number of fronts, many could nevertheless weather the storm because of their considerable economic reserves; reserves that lesser landlords and peasants simply did not have. As we have seen, the bishop of Ely was able to call upon an exceptional number of labour services and had the economic clout to attract casual labour too. By contrast, those with substantial landholdings but little authority over the labour supply, probably struggled: Richard Deye of Wisbech, for instance, appears to have anticipated greater success than he could engineer, for in 1352 he let go of sixteen acres of demesne land that he had leased and then a further seventeen acres in 1353. Nor should the importance of estate transfers be underestimated, for huge amounts of produce were redistributed around the Ely estate in the aftermath of the Black Death. The scale on which this took place is illustrated in Figure 28, which is based on the three surviving accounts for 1350–51. Among other things, Downham received oats from Wisbech, malting corns from Wimblington, and

⁵⁶ Precise calculation of the number of labour services used is bedevilled by a number of problems but, of all available works (after subtraction of those excused), at least fifty-four per cent had been used at Wisbech Barton in 1346–47 yet seventy per cent in 1352–53, while at Downham less than two per cent had been used in 1346–47 rising to at least forty-eight per cent in 1350–51. The number of available works appears not to have changed significantly over these years.

⁵⁷ Stone, 'The Productivity and Management of Sheep', pp. 17–20.

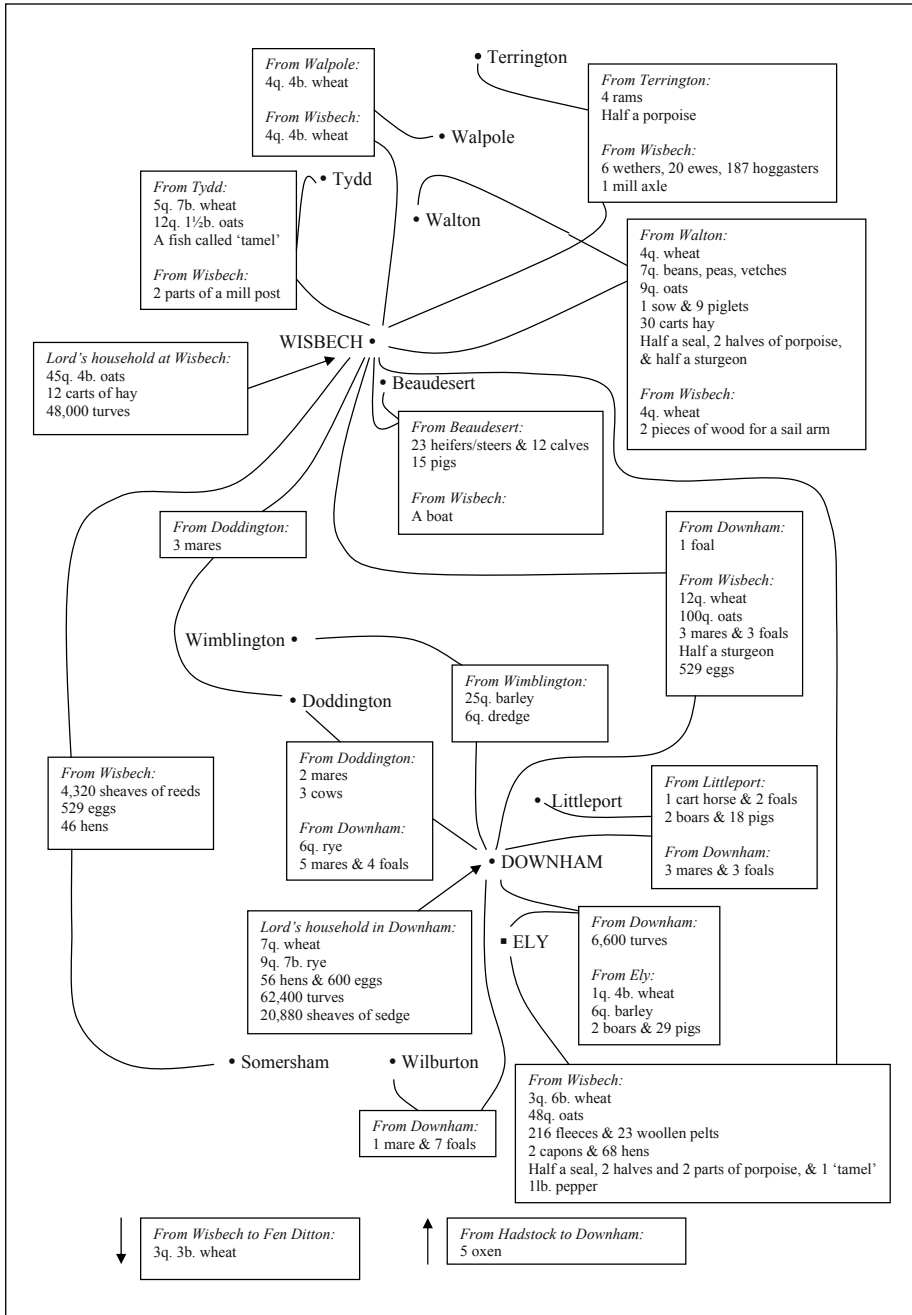


Figure 28. Recorded estate transfers between the bishop of Ely's fenland manors, 1350-51

oxen from Hadstock in Essex; meanwhile, Walton sent a great deal of produce to Wisbech, including corn, legumes, hay, and even seal, porpoise, and sturgeon, these last eventually finding their way to Downham and Ely. In this way, manors less badly affected by the pestilence were able to help out those on which the impact had been heavier. Furthermore, lords were to some extent able to remedy any immediate fall in rental or demesne income by a windfall of manorial court profits. This was the case for the bishop of Ely, at least with respect to the manor of Wisbech, where court income increased by thirty-nine per cent between 1347–48 and 1349–50. However, the same was not necessarily true for lesser lords. On his manor at Newton, Sir John Colville saw his court income fall by forty-four per cent over the same period. Meanwhile, on lands held there by Edmund Gonville, rector of Terrington St Clement and Rushford, court income declined by sixty-five per cent.

It would consequently be a mistake to equate incipient signs of economic renewal in the bishop of Ely's accounts from the winter of 1351–52 with full-blown recovery in the economic fortunes of the region as a whole. Nor was this simply a matter of social and economic standing, for the southern fens appear to have turned the corner a year or so earlier than other parts of the region. For example, Downham's use of Reach, Barnwell, and Stourbridge Fairs resumed in 1352 and estate transfers to and from the manor were reduced at approximately the same time; a year later, the intensity of transfers involving Wisbech also dropped. Moreover, while prices of some commodities (such as wheelbarrows and turves) continued to rise after 1350–51, those of others (including hurdles and halters) fell to some degree; notably, those in the first group were recorded at Wisbech, those in the second in the Downham accounts. The leasing of certain demesne resources seems to have resumed more swiftly and smoothly in the southern fens, too. At Downham, such holdings were satisfactorily reoccupied by 1351–52; but at Wisbech the process appears to have been more gradual, despite signs that the issue was being tackled with more purpose by September 1351. For instance, officials now checked back through the records to determine the best course of action. The lease of the fishery at 'Upstanene' is a case in point: leased for 20s. that year, but for 33s. 4d. 'in the year before the pestilence',⁵⁸ it was noted that it should be leased in future for a term of five years at 60s. per year, 'including a cottage for the fisherman'. Perhaps this was unrealistic, but their

⁵⁸ Interestingly, this refers not to 1347–48, but to 1346–47 — the accounting year before the pestilence reached England — even though the fenland region was not affected until 1348–49. Estate officials may well have noted that the level of some leases was reduced in 1347–48, presumably as news of the pestilence reached these shores.

efforts eventually paid off: by 1352–53, the total amount of demesne land leased at Wisbech Barton finally exceeded the level it had dropped to in 1349–50. By then, Wisbech market appears to have been fully operational as well, attracting regular visits from, among others, a merchant of Lynn.⁵⁹

Conclusion

Contemporary opinions about the economic reverberations of the Black Death have sometimes been rejected in favour of statistical findings derived from ostensibly more reliable estate records. Chroniclers, after all, were not afraid to exaggerate and, as most were members of monastic communities, they tended to accentuate seigneurial concerns. Yet, this in itself does not mean that their views should be summarily dismissed. Moreover, estate records themselves require careful interpretation. Centrally-compiled accounts, such as the Winchester Pipe Rolls, have been tidied up for administrative convenience and much important information about the dialogue between auditors and reeves has consequently been filtered out. Locally-produced manorial account rolls are not straightforward to interpret either, but they provide a much sharper and more realistic picture of the countryside in the age of the Black Death. Strikingly, this picture, at least with respect to the fenland, is much more in line with that painted by fourteenth-century chroniclers.

The light that manorial accounts shed on agricultural disruption during the passage of the plague itself, and thus on its seasonality and duration, not only corresponds well with information derived from other sources but in fact adds significantly to it. As the Downham and Wisbech data indicate, accounts can provide precise and reliable information about the arrival and course of the epidemic at a fixed geographical point. Accounts reflect the economic activities of a wide range of local people, generally provide coverage of a whole year at a time, and survive for a large number of other demesnes for the years 1347–48 to 1349–50; the argument for systematically using all available accounts to track the Black Death as far as possible across the country is therefore a powerful one. The prospect of combining this information with other sources for the spread of the Black Death is equally tantalizing, not least because accounts could provide a much sharper sense of the point during an epidemic at which institutions to a benefice occurred and, thus, significantly influence the ways in which we interpret the information contained in bishop's registers. Indeed, the accounting

⁵⁹ Stone, *Decision-Making in Medieval Agriculture*, pp. 84–85.

material would help to clarify the precise routes taken by the pestilence and the pace at which it spread, neither of which can be established with any certainty from other sources on their own.⁶⁰

The Black Death clearly brought a severe economic crisis to the fenland region. The demographic and economic impact of the plague must have varied from one locality to another, but disruption appears to have been more common than not, and the problems that it precipitated often correspond with chroniclers' descriptions: for instance, animals died through neglect; livestock prices collapsed; wages and prices rose; and the efficiency with which labourers worked seems to have declined. Moreover, the impact was neither brief nor superficial, for the crisis seems to have endured for several years. Of course, not everyone's experience of these years was the same; indeed, many peasants and artisans would have had the opportunity to improve their material well-being. Yet the local economy was in turmoil nevertheless. Small landlords and larger peasants may in fact have suffered disproportionately at this time; in this sense, they were probably more 'wretched', in the words of the Ashwell graffiti, than most.

To say that the importance of these eventful years set the scene for what followed in the later fourteenth century is not merely to state the obvious. Local and regional economic disruption needed to be resolved but, more significantly, forces were also set in motion that were difficult to reverse. Pandora's Box had effectively been opened: patterns of consumption had begun to change; the payment of wages had become riddled by subterfuge; and the expectations of employers and labourers had to be adjusted as work was carried out with less efficiency. Indeed, amidst the hurly-burly of economic upheaval, the social concerns of lords and peasants probably began to assume more tangible forms. It is beyond the scope of this study to examine the paths these forces subsequently followed, but the evidence presented here suggests that the economic impact of the Black Death, whether in terms of its immediate impact or its lasting consequences, should by no means be underestimated. Change may not have been ubiquitous, but change there plainly was.

⁶⁰ Benedictow, *The Black Death*, p. 142. The results of combining information on institutions of priests with manorial court roll data at county level are strikingly revealed in Bailey, *Medieval Suffolk*, pp. 177–78.

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CUL, EDR D8/1/19	—, D8/1/19
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CUL, EDR D8/2/2	—, D8/2/2
CUL, EDR D8/2/4	—, D8/2/4
CUL, EDR D8/2/5	—, D8/2/5
CUL, EDR D8/2/6	—, D8/2/6
CUL, EDR D8/2/7	—, D8/2/7
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COURT ROLLS AS EVIDENCE FOR VILLAGE SOCIETY: SUTTON-IN-THE-ISLE IN THE FOURTEENTH CENTURY

Erin McGibbon Smith*

Ever since the so-called ‘Toronto School’s’ path-breaking and controversial attempts to reconstruct peasant communities from manorial court rolls began in the late 1950s, these sources have captured the imagination of medieval historians.¹ While the methodologies and conclusions of some of these studies may now be judged to have gone beyond the limitations of their sources, they have also served to ignite a constructive debate about what is possible in terms of utilising manorial court records as a source for medieval social and economic history. Despite the extensive historiography relating to this issue, many questions remain about how accurately court rolls reflect the reality of life on the manor and which methodologies historians should adopt when using them as evidence for village society. John Hatcher’s recent book *The Black Death: An Intimate History* offers a fresh insight into the richness of these sources through combining meticulous research with creative reconstructions

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¹ In addition to his extensive and influential contributions to the historiography of medieval social and economic history, John Hatcher has provided an invaluable source of inspiration, guidance, and support for a number of graduate students, of which I was fortunate to be one. Without John’s keen ability to provide structure and focus, his sage advice to begin with what you know and work from there, and countless hours spent discussing the Black Death and fourteenth-century England, this study of Sutton-in-the-Isle would have been much the poorer. I also owe thanks to Steve Rigby and Mark Bailey for their helpful comments, and to Bruce Campbell for encouraging me to tackle the issue of population. The errors that remain are, of course, my own.

to paint a vivid picture of the experiences of village life during the onset of the Black Death.² Here we explore these methodological issues from another angle, focusing on the village of Sutton-in-the-Isle, Cambridgeshire, as a test case. After detailing the complex issues that historians must address when investigating court roll series, a new methodology is proposed and is used to analyse the Sutton records. The Sutton evidence illustrates a picture of dramatic change over time in the preoccupations of the manor court. Narrowing our focus still further to one element of this picture, specifically the business relating to crime and misbehaviour, we compare the Sutton data with other local studies and assess the degree to which they reflect reality. Finally, we highlight specific examples from the Sutton rolls as a way to explore the potential pitfalls of court roll studies and ways in which they can be overcome.

I

The manor of Sutton-in-the-Isle, Cambridgeshire, is located in Witchford Hundred on the Isle of Ely, approximately six miles (or 10 km) from the city of Ely. It is situated on the western edge of the Isle, on a spur of land jutting into the fens. Sutton was a nucleated village which operated under a three-field crop rotation.³ The manor and vill were coterminous, and the prior of Ely was the sole lord of the manor. The abbey's franchise on the Isle of Ely was substantial enough to have been likened to a palatinate.⁴ While this portrayal is certainly an exaggeration, it serves to highlight the fact that the prior exercised strong lordship with minimal external interference.⁵

It is difficult to estimate the size of Sutton's population and impossible to measure change over time with any accuracy. Nevertheless, population estimates are an important element in gauging *per capita* changes in offences, and it is therefore important to glean what information we can from the available taxation records. In 1327, forty-two taxpayers from Sutton and the neighbouring village of Mepal paid three pounds, eight shillings, and seven and a quarter pence (£3 8s. 7¼d.) (representing an assessed movable wealth of £68.60).⁶ Estimates of the proportion

² Hatcher, *The Black Death*.

³ For a map of the medieval village, see Hall, *The Fenland Project*, p. 59.

⁴ Miller, 'The Liberty of Ely', p. 3; Miller, *The Abbey and Bishopric of Ely*, p. 200.

⁵ For more information on Sutton and the Liberty of Ely, see McGibbon Smith, 'Reflections of Reality in the Manor Court', pp. 5–13.

⁶ The 1327 lay subsidy figures were extracted by Dr R. E. Glasscock from Kew, TNA,

of the households who paid the tax range from twenty-five to forty-five per cent. If we assume that each household comprised 4.75 individuals, the combined population of Sutton and Mepal in 1327 would then have been between 499 and 798.⁷ In 1377, 423 inhabitants in Sutton and Mepal contributed to the first poll tax, which, in theory, represented all men and women aged fourteen or older.⁸ If we use low estimates for evasion and the percentage of the population under the age of fourteen, the total population at this date may have been around 590 whilst if we use a more realistic multiplier to turn taxpayers into a total population, the villages may have had around 803 inhabitants.⁹ Nevertheless, even when we use a high estimate for population in 1327 and a low estimate for 1377, the resulting population change, from about 800 to around 600, still seems implausible.¹⁰ Recent investigations into the impact of the Black Death have concluded that the death rate in Cambridgeshire was probably higher than in most other counties.¹¹ Evidence from the Ely Diocesan Registers regarding the appointment of new parish priests indicates that their death rate rose to almost fifty per cent in 1349.¹² Corresponding evidence for population change in some Cambridgeshire manors indicate that 'the extraordinarily high figures for the deaths of parish priests were matched by those occurring among villagers.'¹³ Therefore, if we accept a 1377 population estimate for Sutton and Mepal of around 800, their pre-Black Death population was probably about 1600.¹⁴

E179/81/6. I owe thanks to Bruce Campbell for the lay subsidy data and helpful discussion regarding population estimates.

⁷ Dyer has argued for thirty-five to forty per cent, while Campbell and Bartley have suggested 25–33.3 per cent. Dyer, 'How Urbanized Was Medieval England?', p. 174. Campbell and Bartley, *England on the Eve of the Black Death*, p. 329.

⁸ *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, p. 74.

⁹ This calculation is based on the information in Miller and Hatcher, *Medieval England: Rural Society and Economic Change*, p. 29. For a comprehensive discussion of population estimates from the 1377 poll tax, see Rigby, 'Urban Population in Late Medieval England', pp. 398–99.

¹⁰ See Hatcher, *Plague, Population, and the English Economy*, p. 25.

¹¹ I owe thanks to John Hatcher for discussion on this point. Benedictow, *The Black Death*, p. 364–68; Gummer, *The Scourging Angel*, pp. 186–88.

¹² Aberth, 'The Black Death in the Diocese of Ely', pp. 276–280.

¹³ At nearby Soham 'two thirds of the tenantry were dead by early June, and at Landbeach at least half perished'; John Hatcher, personal communication. In the nearby Crowland Abbey manors of Oakington, Cottenham, and Dry Drayton death rates from the plague have been estimated at 70 per cent, 49 per cent, and 47.6 per cent, respectively; Aberth, 'The Black Death in the Diocese of Ely', p. 280.

¹⁴ This assumes a fifty per cent decline between 1335–45 and 1377–91. See Section III of

II

Contrary to what one might think from the title of Sherri Olson's *A Chronicle of All that Happens*, the record of the manor court was not a perfect mirror of life in the medieval village. Olson's title was taken from a quote by Maitland, who described court rolls as 'a chronicle of all that happens in the court'.¹⁵ However, there is an enormous difference between 'all that happens' and 'all that happens in the court'. Many manors did not coincide precisely with a vill, so information from the manorial court records will only provide a partial picture of the 'village community'. Although some of the peasants' interests were recorded in manor courts, the prime reason for the existence of the courts was to benefit the manorial lords, not the villagers.¹⁶ Warren Ault was doubtless correct when he argued that 'if we turn over enough rolls and are on the alert we catch a glimpse here and there of the community of the vill acting on its own initiative and in its own interest' but, even here, the preoccupations of the court were usually dictated by the village elite, rather than by the entire community.¹⁷ Large sections of the population, such as women, children, and the landless were partially or completely hidden from the view of the court. What happened in the court was recorded in the rolls, but what happened outside the court was not. For instance, interpersonal pleas were often resolved through a licence to agree outside the court, and the outcome of the dispute was not recorded in the roll.¹⁸ Furthermore, offences on the manor were not always consistently reported, so that at times activities disappeared from the court record despite the fact that they were clearly still occurring on the manor.

Another important factor in interpreting a series of court rolls is the completeness of the records themselves. In addition to the problems posed by lost or damaged rolls, there could be considerable changes over time in the frequency with which courts were held. Certainly, although the extant court rolls from Sutton are one of the best surviving series, they do not give equal coverage to all the years for which they survive. This does not mean that they cannot produce useful

this article for details of the assumptions made in this calculation.

¹⁵ Olson, *A Chronicle of All that Happens*, p. 12; *Select Pleas in Manorial and Other Seigneurial Courts*, ed. by Maitland, II, p. xiv; Kate Parkin discusses this point at length in Parkin, 'Courts and the Community'.

¹⁶ DeWindt argues the opposite; *The Court Rolls of Ramsey*, ed. and trans. by DeWindt, p. 12.

¹⁷ Ault, 'By-laws of Gleaning', p. 65.

¹⁸ Clanchy, 'Law and Love', p. 57.

information, but rather that the information gleaned must be viewed in the context of the incomplete record source from which it was taken.

Table 13. List of surviving fourteenth-century court rolls

Year	Curia	Curia et leta	Year	Curia	Curia et leta	Year	Curia	Curia et leta
1308	6	1	1339	2	1	1370	2	1
1309	3	1	1340	4	1	1371	0	0
1310	4	1	1341	3	1	1372	0	0
1311	4	1	1342	2	1	1373	0	0
1312	5	1	1343	4	1	1374	0	0
1313	4	1	1344	0	1	1375	0	0
1314	6	1	1345	4	1	1376	0	0
1315	5	1	1346	3	0	1377	1	1
1316	7	1	1347	0	0	1378	2	1
1317	6	1	1348	0	0	1379	2	1
1318	4	1	1349	0	0	1380	3	1
1319	3	0	1350	0	0	1381	1	1
1320	1	0	1351	0	0	1382	0	1
1321	1	0	1352	0	0	1383	2	1
1322	3	0	1353	0	0	1384	2	1
1323	0	0	1354	0	0	1385	2	1
1324	2	1	1355	0	0	1386	2	1
1325	1	1	1356	2	1	1387	2	1
1326	3	1	1357	3	1	1388	2	1
1327	4	1	1358	2	1	1389	1	1
1328	1	1	1359	1	1	1390	3	1
1329	2	1	1360	1	1	1391	2	1
1330	4	1	1361	4	0	1392	2	1
1331	3	1	1362	0	0	1393	3	1
1332	4	1	1363	0	0	1394	1	1
1333	1	1	1364	0	0	1395	2	1
1334	1	1	1365	0	0	1396	3	1
1335	2	1	1366	0	0	1397	1	1
1336	2	1	1367	1	1	1398	2	1
1337	2	1	1368	1	0	1399	1	1
1338	3	1	1369	2	1			

Note: The shaded areas indicate periods under study.

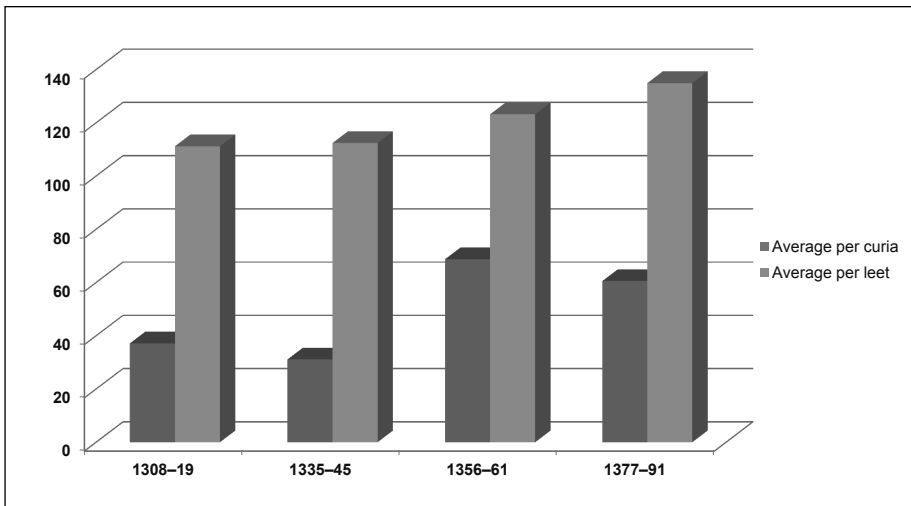


Figure 29. Average number of entries per court

Table 13, which lists all the surviving Sutton court sessions from 1308 to the end of the century, clearly demonstrates that the number of sessions for which records survive fluctuates greatly from year to year throughout the century. Unfortunately, the records give no clear indication of how frequently the court met or how this may have changed over time. The average number of extant courts per year declined steadily throughout the century, from 5.7 in 1308–10, to 3.6 in 1335–45, 3.0 in 1356–61, and 2.8 in 1377–91.

Additionally, Figure 29 shows that by the second half of the fourteenth century the average number of entries per court had risen, indicating that the court may indeed have met less frequently and so had to deal with more business at each session. When the court dates for the first half of the century are plotted by month, there is no clear pattern, which may indicate that the court did not keep a regular schedule. After the Black Death there is more consistency, with a clear pattern of two *curias* in February and June and a combined session of the *curia* and *leet* (view of frankpledge) in September.¹⁹ However, this ‘schedule’ was not strictly adhered to, and some years have more than three surviving court sessions.

¹⁹ Further evidence indicating that the court met only three times per year in the last quarter of the century can be found in the account roll from Michaelmas 1379 (CUL, Ely D&C, 7/4). The total sum of court perquisites for the year recorded in the account is £7 1s. 1½d., which is 6s. 8d. less than the sum of the totals for the three surviving courts from that year. The discrepancy probably reflects that some court fines remained uncollected.

Given the potential problems posed by the incomplete survival of manorial court rolls, what methodologies have historians developed for using these sources? Much of the previous work on court roll evidence has focused either on the analysis of a narrow selection of themes from the total business of the court or on ambitious attempts to reconstruct the life of the entire village community from court records. One of the drawbacks of studies that focus on only one aspect of the court rolls is that they frequently do not provide an overall context from which to interpret the records. Some historians do not attempt to quantify their data, and those who do rarely specify what percentage of total court business their data represent. Additionally, the methodology used to categorize various court activities is often unclear, making it difficult to compare findings from different manors when they are presented by different historians. On the other hand, the majority of historians who have attempted complete reconstructions of village populations have been overly optimistic about the ability of the records to capture reality.

While many historians have criticized the Toronto School's methodology, there is no clear consensus about how best to approach the analysis of a series of manorial court records in their entirety.²⁰ Razi's reconstitution of the manor of Halesowen is certainly the most convincing, but it was only possible due to the exceptional survival rate of the Halesowen records. While Razi's study is held in high regard, it has nonetheless provoked some lively methodological debates.²¹ Jennifer Phillips Campbell's investigation into the court rolls of the manors of Redgrave and Hinderclay successfully grappled with the village reconstitution issue by acknowledging that the court rolls contained a community of 'court associates', defined as individuals cited in the court roll, rather than a 'village community' and she did not attempt full village reconstitutions. Even so, Phillips Campbell argues that 'a vital stage in the identification of individuals cited in the records of the medieval manor court is the reconstitution of family groupings'.²² While it is agreed that, when possible, this type of analysis can be illuminating, it requires an extremely nuanced approach to the records and the results can be significantly affected by the incomplete survival of a court roll series or a lack of ancillary documentation.

²⁰ Most notably, see Razi, 'The Toronto School's Reconstitution'.

²¹ Poos and Smith, "Legal Windows onto Historical Populations?"; Razi, 'The Use of Manorial Court Rolls'; Poos and Smith, "Shades Still on the Window".

²² Phillips, 'Collaboration and Litigation in Two Suffolk Manor Courts', pp. 5–10 (quotation from p. 178).

Even when, as at Sutton, we cannot attempt a full reconstruction of the population of the village or of the court associates, manorial court rolls still provide us with an invaluable window onto life on the manor. It is, however, important to remember that fourteenth-century manorial courts were not stagnant institutions that maintained consistent priorities, and as a result, the 'window' provided by the rolls changed in size, shape, and opacity over time. This is well illustrated by the Sutton court records. From year to year the contents of the rolls could change dramatically as the lord's officials focused on some offences whilst neglecting others altogether, and over time larger patterns of changing concerns are also evident. Any attempt to offer a continuous analysis over the entire time period would have to grapple with the fact that the records are clearly more complete at some times than others. To alleviate this problem as much as possible, the analysis of Sutton offered here is focused on those time periods where the records are most complete: namely 1308–19, 1335–45, 1356–61, and 1377–91.²³

The fourteenth century is an especially attractive period in which to conduct an enquiry into manorial court records. The Sutton records provide virtually continuous detailed coverage of the agrarian crisis in the early years of the century through to the mid-1340s, and start up again after the Black Death when they cover the period from 1356 through to the end of the century. By working with the records of court activity in periods of particularly full documentation, a useful comparison can be made between different periods to arrive at a picture of the change over time and to determine whether such change was simply the product of changes in court policy or whether it reflects real changes in life on the manor. Within each period, the data can be viewed and analysed year by year and court by court, in order to capture short-term changes as well as long-term trends.

Since a wide range of different activities is covered by the Sutton rolls, it is helpful to divide the business of the court into manageable categories so as to quantify the importance of each type of court business and to measure change over time. For this purpose, seven categories have been chosen, namely: 'the lord's rights', consisting of fines raised from the prior's unfree tenants, amercements when those fines were evaded, and issues concerning the prior's property; 'inter-peasant litigation', including pleas of debt, trespass, broken covenant, defamation, and land disputes; 'community nuisance', which involved cases resulting in damage to community resources or breach of the village by-laws; 'officials and court function', including all entries relating to the operation of the manor or

²³ The Sutton court rolls are held in CUL, Ely D&C, 7/4.

manorial court; 'crime and misbehaviour', encompassing offences that were socially harmful, disruptive, or outright criminal; 'land', which involved all aspects of land conveyance and use; and 'the market', containing all entries relating to the production or sale of goods.

The Sutton court records are particularly full, with nearly two hundred different activities recorded in the court during the period under study, a far wider range than can be found in many other manors.²⁴ The process of dividing activities into specific categories or indices is problematic because many activities could theoretically be assigned to more than one category.²⁵ For example, some pleas of trespass involved assault and so could arguably be included either in the category of 'inter-peasant litigation' or under 'crime and misbehaviour'. For this reason it is important to view the indices with caution; they are a means of arranging and analysing the data rather than a categorical statement of the significance of each activity. When a significant shift in the relative importance of one index is noted, the reasons for the shift have to be analysed carefully before any firm conclusions can be reached.

The information contained in the Sutton court rolls was processed and stored in a Microsoft Access database. In order to quantify the manorial court business it was necessary to determine what constitutes a single unit of activity. One way to quantify the material is to count each defendant fined or listed for a particular activity as a single entry, regardless of whether it was an activity that was repeated from the previous court. The resulting data gives a view of the actual business of the court from session to session as a percentage of court business. However, the drawback to this approach is that it gives undue weight to cases that were not resolved in one court visit. To address this issue, an attempt has been made to determine which entries were repeats of earlier business and to eliminate duplicated cases from the dataset. This second approach facilitates a quantification of the number of unique cases that appeared in the court. In some instances it is unclear whether an entry should be counted as new business or repeated business. Where a particular entry is listed as postponed, or someone is attached, distrained, or summoned to the next court, and they appear in the next surviving court for that piece of business, this is considered in the figures

²⁴ For example, in the period from 1320–45 in the prior of Ely's manor of Lakenheath, Suffolk, only fifty-seven different offences were recorded. Williamson, 'Dispute Settlement in the Manorial Court', p. 136.

²⁵ Alternative methods of categorization can be found in Smith, 'English Peasant Life-Cycles and Socio-Economic Networks', and Williamson, 'Dispute Settlement in the Manorial Court', p. 136.

below as repeat business. If a type of business is repeated but *not* in consecutive surviving courts, then it is determined to be two separate cases, unless the case is clearly recognizable as an on-going case despite the gap of one or more court sessions. Where two defendants were involved in an action it is entered as two cases, unless it seems most probable that one person was only involved in the case as a head of household. This was most common in land transfers where both husband and wife were listed as transferring or receiving land, but could also regularly be found when husbands and fathers pleaded (or responded to a plaint) alongside their spouse, under-age child, or servant. The main cause of repeated entries was the inability of court officials or pledges to persuade defendants to attend the court. Not all of the categories were affected by repeat business. The activities that were most highly affected were those in which the tenants had fled the manor outright and inter-peasant litigation. In terms of speed, the court was generally more efficient at concluding cases relating to the lord's interests or community issues involving the lord's leet jurisdiction than it was at resolving inter-peasant conflicts. Even when enforcing the lord's rights, however, the court struggled to address tenants who had fled the manor or allowed their tenements to fall into disrepair.

Viewing the change over time in each activity or category as a percentage of court business illustrates the relative fluctuations in the function and priorities of the court. Nevertheless, when assessing the change over time in specific activities this approach has some drawbacks. The most significant problem is that the changes over time shown in these statistics are relative so that if one activity has a particularly substantial shift then it has a dampening effect on the percentage change of other activities, causing some changes in the court to be understated. Two possible solutions to this dilemma are to present the data as an average per court or *per annum*. This method is problematic, however, because it presupposes that the court met with a consistent frequency throughout the century and that the number of court sessions surviving per year was invariable. Additionally, this method would also be affected by changes in population levels — which were dramatic in the fourteenth century.

There is no perfect solution to these shortcomings in the Sutton data. Nevertheless, many significant findings can be gleaned from the rolls when we are mindful of their limitations and analyse the data in a variety of ways. The basic methodology used throughout this article is to present changes in each activity as a percentage of unique court business. This provides an overview of the relative importance of each aspect of court business. Where this data may be misleading in terms of the absolute change of an individual activity, further levels of analysis are added, such as the average number of court entries *per annum* or the average

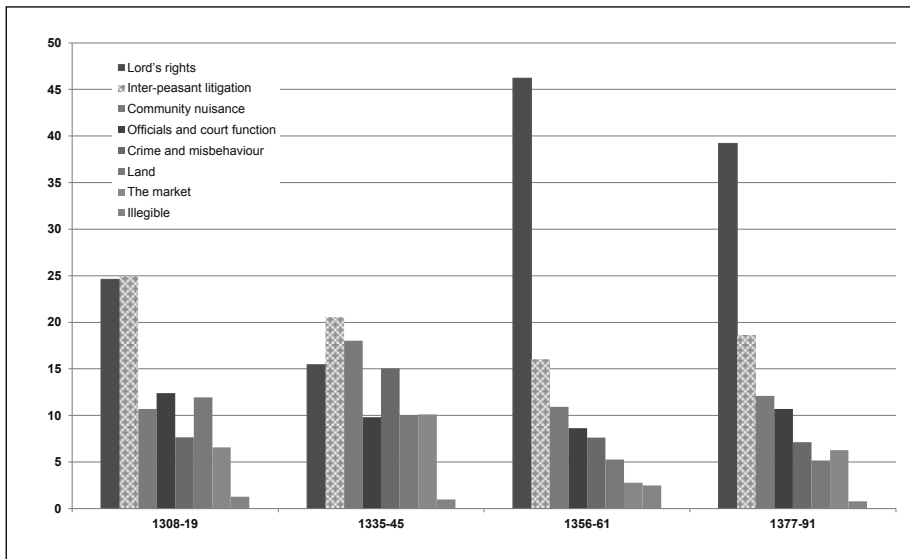


Figure 30. Seven indices as a percentage of court business

number of entries per court, so that the picture that is presented of change over time is as complete as possible. In addition, an attempt is made to compare the business of the Sutton court with that of other local courts in order to obtain an idea of the types of activities that are conspicuous by their absence, and also to compare change over time in various locations. In particular, it should be noted that Sutton was in close proximity to the Ramsey Abbey manors in Huntingdonshire, the bishop of Ely's manors on the Isle, Crowland Abbey's Cambridgeshire manors, the prior of Spalding's fenland manors, and some of the prior of Ely's Suffolk manors, which have all been the focus of previous study and provide a useful comparison because of their similar geography and/or rights of lordship.

III

When we look at the Sutton data, the most striking finding is the considerable change over time in the type and quantity of business recorded in the Sutton court rolls.²⁶ Figure 30 provides an illustration of the change over time in the seven

²⁶ A full tabulation of all the entries contained in the rolls is available in Appendices 1 and 2 in McGibbon Smith, 'Reflections of Reality in the Manor Court', pp. 237–54.

categories as a percentage of unique court business. From this perspective ‘community nuisance’, ‘crime and misbehaviour’, and ‘the market’ followed similar trajectories, with a peak in 1335–45. ‘Inter-peasant litigation’, ‘officials and court function’, and ‘land’ declined steadily from 1308–19 to 1356–61; and ‘the lord’s rights’ varied dramatically from a low of fifteen per cent in 1335–45 to a high of over forty-five per cent in 1356–61. In addition to these considerable changes between the four periods under study, there were often significant changes in multiple categories from year to year. Instead of attempting to discuss the full extent of these changes, this article will focus specifically on the index of ‘crime and misbehaviour’ as a test case which will demonstrate the impact of change over time whilst also serving to highlight some problems of interpretation of these sources.

One of the most interesting changes in the index of ‘crime and misbehaviour’ was a peak in violent crime in 1335–45, which can be seen in Table 14. If accepted, these figures would cast doubt on Ambrose Raftis’s widely accepted argument that a decline in the ‘village community’ took place after the onset of the Black Death.²⁷ The concept of community in history has come under intense scrutiny in recent years, with one historian going so far as to claim that ‘there is a strong case for banning the word “community” from all academic writing’.²⁸ However, provided that historians are careful to avoid nostalgic assumptions about a ‘golden age’ in which the world was a ‘friendlier place’, and employ a nuanced definition which accounts for the fact that the membership of communities is dynamic, that community members do not always have common goals and interests, and that individuals can be members of multiple communities, the continued use of the term can still be valid and constructive.²⁹ Certainly, there was a ‘village community’ of sorts in Sutton recorded in the court rolls, which consisted of villagers who shared common customs and interests. Whether or not they themselves were required to attend the court as a landholder, they had a relationship with someone who did and who was responsible for their behaviour.

Raftis’s claims about the decline in community after the Black Death relate to the ‘disturbed atmosphere’ which he identified in the village of Upwood (Huntingdonshire) in this period. He argued that high levels of mortality and immigration of newcomers had severed the strong ties that bound the community

²⁷ Raftis, ‘Changes in an English Village’, pp. 163–65.

²⁸ Carpenter, ‘Gentry and Community in Medieval England’, p. 340.

²⁹ Schofield, *Peasant and Community in Medieval England*, pp. 5–8; Dyer, ‘The English Medieval Village Community’, pp. 407–18; Phillips, ‘Collaboration and Litigation in Two Suffolk Manor Courts’, pp. 4–5, 28–32.

Table 14. Crime and misbehaviour

Crime and misbehaviour	1308–19	1335–45	1356–61	1377–91
Unique entries	231	277	107	219
Percentage of total	7.6	15.0	7.6	7.1
Average entries per court	3.4	7.1	5.9	5.2
Average entries per leet	19.3	25.2	17.8	14.6
Assault	1308–19	1335–45	1356–61	1377–91
Unique entries	12	30	14	24
Percentage of total	0.4	1.6	1	0.8
Bloodshed	1308–19	1335–45	1356–61	1377–91
Unique entries	51	62	28	59
Percentage of total	1.7	3.4	2	1.9
Housebreaking	1308–19	1335–45	1356–61	1377–91
Unique entries	5	13	7	7
Percentage of total	0.2	0.7	0.5	0.2
Hue and cry (justly)	1308–19	1335–45	1356–61	1377–91
Unique entries	30	112	39	45
Percentage of total	1	6.1	2.8	1.5
Hue and cry (unjustly)	1308–19	1335–45	1356–61	1377–91
Unique entries	6	18	3	10
Percentage of total	0.2	1	0.2	0.3
Scolding	1308–19	1335–45	1356–61	1377–91
Unique entries	0	5	0	0
Percentage of total	0	0.3	0	0

together and gave way to an increase in quarrels, violence, and bloodshed. He asserted that there is more evidence for violent behaviour ‘among villagers from the court rolls for a few years of the 1360s than for a whole generation before the Black Death.’³⁰ Unfortunately, Raftis did not provide his readers with the figures

³⁰ Raftis, ‘Changes in an English Village’, p. 164.

on which his analysis was based. Despite his assurance that ‘a large number of court rolls survive for the entire century’ in Upwood, in fact only forty-two out of two hundred possible court sessions survive from 1301–1400, little more than one in five.³¹ This contrasts sharply with the Sutton courts, for which thirty-eight courts survive from the period 1335–45 alone. In the period from 1335–45, only three sessions of the court survive for Upwood, while in the more ‘violent’ 1360s five courts survive, and it is unclear whether Raftis took this into account in his analysis.³² The Upwood court met twice yearly, once with a view of frankpledge (leet) and once without (*curia*). As most of these offences were only recorded in the leet, the survival of the leet session is vital in assessing changes in the number of recorded incidents. Unfortunately Raftis did not make clear how many of the surviving Upwood courts were leets. Thus, whilst it is possible that there *was* an upsurge in crime on the Ramsey Abbey manors in the 1360’s, Raftis’s evidence is presented in an anecdotal fashion, and it is possible that the large gaps in the court records obscure genuine changes in the court.

Raftis is not the only historian to identify a high level of assaults in the late fourteenth century. In Havering (Essex), McIntosh found that ‘the years from 1383 to 1408 saw *many assaults*, consistent with the pattern observed in other manors’, specifically referring to the Ramsey Abbey manors studied by Raftis and Edwin DeWindt.³³ Unlike Raftis, McIntosh *does* provide quantitative data listing the number of assaults recorded in the court. Unfortunately, since no Havering manorial court records survive before 1352 (i.e. *after* the onset of the Black Death), we cannot compare the situation here with that in the pre-plague period. There are nine membranes surviving for 1352–53, and then nothing more until 1380. This explains McIntosh’s use of the vague description ‘many assaults’ because she had no earlier data with which to make a comparison. We will never know if these ‘many assaults’ represent an increase from the pre-Black Death period because the data simply do not exist.

Perhaps even more problematic than the issue of record survival is the lack of accurate information regarding population change. Most of the published data on these offences do not make explicit reference to population change. In terms of straight numbers the evidence seems to contradict Raftis’s theory. Olson provides a table with the ‘average number of hue citations per court roll per decade’ in her study of Upwood and Ellington, and notes that in both manors there were

³¹ Olson, *A Chronicle of All that Happens*, p. 234.

³² The record survival for Warboys is similar, with three sessions surviving from 1335–45, and five for the 1360s; Raftis, *Warboys*, p. 10.

³³ McIntosh, *Autonomy and Community*, p. 209. The italics are my emphasis.

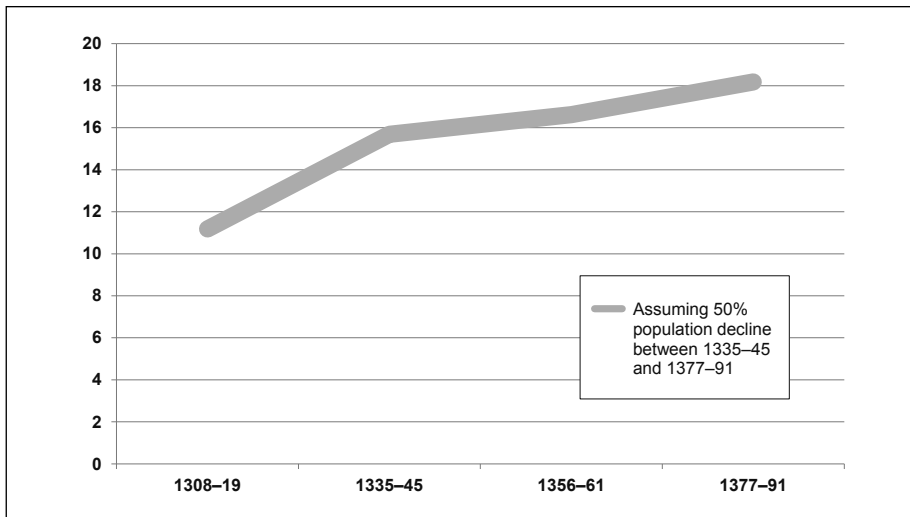


Figure 31. *Per capita* crime (per leet, per thousand)

an average of 3.6 and 14 hues per court in the 1330s, respectively, but by the 1360s this had declined to only 3.3 and 9.³⁴ DeWindt's study of Holywell-cum-Needingworth shows a decrease in most of the behaviours Raftis interpreted as indicative of such a decline.³⁵ Razi claims that the Warboys court rolls do not indicate an increase of violence after the Black Death.³⁶ Data on the hue and cry from the Ramsey manor court published by DeWindt indicates that the average number of hues raised in each court decreased from 28 per session in the 1330s to 23.4 per session in the 1350s.³⁷ However, if we factor in a fifty per cent population decline between the 1330s and 1360s, there may indeed have been a rise in the *per capita* instance of some of these offences on some of these manors.

Once again inconsistent record survival must be kept in mind when interpreting the data. In terms of raw numbers, the assault figures from Ramsey indicate more than a three-fold increase between the 1330s and 1350s, from an average of

³⁴ Olson, *A Chronicle of All that Happens*, p. 93.

³⁵ DeWindt, *Land and People in Holywell-cum-Needingworth*, pp. 271–75. See also Phillips, 'Collaboration and Litigation in Two Suffolk Manor Courts', pp. 37–38, who offers a graph of the Holywell data relating to trespass, damage, and assault.

³⁶ Razi, 'The Toronto School's Reconstitution', p. 152.

³⁷ *The Court Rolls of Ramsey*, ed. and trans. by DeWindt, pp. 38–39. See also Phillips, 'Collaboration and Litigation in Two Suffolk Manor Courts', p. 38.

5.4 assaults per court to just over 18.³⁸ However, as more court sessions survive for the 1350s than for the 1330s (and none at all survive for the 1340s), it is impossible to tell whether this change actually occurred before or after the arrival of the Black Death. The number of hue and cries recorded per year in Broughton increased significantly between the 1310s and the 1330s, but the records do not survive after 1339 to provide a longer-term comparison.³⁹ In sum, the evidence on this issue from many of the Ramsey Abbey manors is not conclusive.

By contrast, in the Sutton evidence, the rise in reported crime in the 1330s and 1340s is indisputable, particularly the sharply increased recording of the hue and cry. As this increase in Sutton occurred a decade before the Black Death, it could not have been a result of a declining sense of community caused by the disastrously high death toll of the plague. Interestingly, Phillips Campbell's data from Redgrave in Suffolk also indicate that social unrest in the village was more prevalent before the Black Death than afterwards, noting a peak in the incidence of bloodshed, housebreaking, and just hue and cry in 1339.⁴⁰ It is probable that when an account is taken of the decline in population after the Black Death, Sutton witnessed a continued increase in the *per capita* recording of violent crime after the onset of plague. Even then, this must be viewed as part of a larger picture of change over time, and the Black Death alone does not provide a satisfactory explanation. As discussed in section I, it is impossible to measure change over time in Sutton's population with any accuracy, as the estimates derived from the surviving taxation records are unconvincing. However, it is possible to simulate rough changes over time in the *per capita* incidence of offences in the leet.⁴¹ If we begin with a population estimate of eight hundred and three for 1377 and make a series of assumptions, then we can extrapolate estimates for the four periods under study. First we assume that the population in 1308–19 was 7.5 per cent higher than in 1327 due to the effects of the Agrarian Crisis. Next we assume that the population declined by fifty per cent between 1327 and 1377 as a result of the Black Death, and that two-thirds of that decrease had occurred by 1356. Finally, we crudely apply these numbers to the four periods (assuming no change

³⁸ *The Court Rolls of Ramsey*, ed. and trans. by DeWindt, pp. 41–43.

³⁹ Britton, *The Community of the Vill*, pp. 116, 275–77. Britton does not provide an average per year, but this has been extrapolated by comparing the data he provides with the number of surviving court sessions for each of his five periods under study.

⁴⁰ Phillips, 'Collaboration and Litigation in Two Suffolk Manor Courts', pp. 38–41.

⁴¹ *Per capita* estimates of offences which were only recorded in the leet are more robust than those for offences which might be recorded in the *curia* (whose frequency changed over the course of the century).

in population during each period) to arrive at population estimates of 1726 for 1308–19, 1606 for 1335–45, 1071 for 1356–61, and eight hundred and three for 1377–91.⁴² As shown in Figure 31, this would have resulted in a *per capita* shift (per thousand, per leet) from 11.18, to 15.69, to 16.63, to 18.18 over the four periods under study. While this exercise suggests that there *was* most likely an increase in crime and misbehaviour after the Black Death, it also indicates that this change was a continuation of an earlier trend. Significantly, these rough estimates indicate that there was most likely a more substantial *per capita* increase in crime between 1308–19 and 1335–45 than between 1335–45 and 1356–61.⁴³ While this latter observation is dependent on the assumptions that have been made regarding population — and is therefore speculative — the overall trend holds true for a wide range of different assumptions (including up to a twenty per cent rise in population between 1308–19 and 1335–45 and a mortality rate from the Black Death significantly higher than fifty per cent).

There are many possible explanations for the rise in recorded crime between 1308–19 and 1335–1345. McIntosh asserts that ‘jurors had particularly broad discretion in implementing their own personal standards — their sense of how much overt conflict the community could absorb and what kinds of misbehaviour constituted a threat to local order.’⁴⁴ She argues that changes in the level of recorded violent crime and antisocial behaviour derived mainly from the villagers themselves rather than from the lord. In a similar vein, Hanawalt suggests that certain individuals may have used the judicial system as a weapon ‘in social conflicts to further their own power over others.’⁴⁵ However, this is speculation and was certainly not necessarily the case in Sutton. Jurors were liable to pay a fine if they failed to report offences to the court. Only two such entries survive for the period 1335–45, both of which occurred in 1340. The first was an entry in January fining the entire presentment jury 6s. 8d. for its failure to present the person responsible for the death of a swan.⁴⁶ Although the fine was later pardoned, it is clear evidence that the lord was paying close attention to some aspects of the court’s business. The second such entry was recorded in September

⁴² No attempt has been made to separate the population of Sutton from that of Mepal, and it is assumed that the proportion of the population in each village remained constant.

⁴³ Even if one argues that the population decline in Sutton between 1335–45 and 1377–91 was likely to have been higher than fifty per cent, it is still evident that the increase in *per capita* crime after the Black Death was a continuation of an earlier trend.

⁴⁴ McIntosh, *Autonomy and Community*, p. 209.

⁴⁵ Hanawalt, *Crime and Conflict in English Communities*, pp. 2–3.

⁴⁶ CUL, Ely D&C, 7/4, 11/01/1340.

Table 15. The lord's rights

The lord's rights	1308–19	1335–45	1356–61	1377–91
Unique entries	743	285	648	1203
Percentage of total	24.6	15.4	46.2	39.2
Average entries per court	10.9	7.3	36.0	28.6
Failure to perform labour services	1308–19	1335–45	1356–61	1377–91
Unique entries	218	17	50	33
Percentage of total	7.2	0.9	3.6	1.1
Average entries per court	3.2	0.4	2.8	0.8
Damage to the lord's property	1308–19	1335–45	1356–61	1377–91
Unique entries	105	25	266	554
Percentage of total	3.5	1.4	19	18.1
Average entries per court	1.5	0.6	14.8	13.2
Default of suit to court/leet	1308–19	1335–45	1356–61	1377–91
Unique entries	49	16	32	251
Percentage of total	1.6	0.9	2.3	8.2
Average entries per court	0.7	0.4	1.8	6

of the same year, when the presentment jury was fined a similarly high seven shillings for failing to present an encroachment on a common path.⁴⁷ This second offence was more likely to have been monitored by the villagers themselves than the prior, as his responsibilities only extended to monitoring the royal highways.⁴⁸ It is arguable that the prior was only concerned with crime that directly affected his rights and property, and that behaviour such as the raising of the hue and cry might have been regulated more by the jurors than the lord because they were more directly affected by its use. However, the right and obligation to regulate violent crime, such as bloodshed or housebreaking, was part of the prior's responsibility to uphold the king's justice in the leet. As this was a source of income and an expression of his authority, it seems unlikely that he would have allowed such incidents to go unreported. Nevertheless, the presentment jury would have had a limited amount of time to dedicate to maintaining order.

⁴⁷ CUL, Ely D&C, 7/4, 18/09/1340.

⁴⁸ Ault, *Private Jurisdiction in England*, p. 162.

It is possible that the increased concern with misbehaviour in 1335–45 might have been the result of the changing preoccupations of the court. As can be seen in Table 15, there was also a dramatic shift over time in the number of entries relating to the lord's rights, and in particular a marked dip in the percentage of unique court business relating to the lord's rights during this period. Some of the largest contributors to this fluctuation were failure to perform labour services, which peaked at over seven per cent of unique business in 1308–19; damage or trespass against the lord, which rose to almost nineteen per cent of unique business in 1356–61, dropping only slightly in the final period; and default of suit to court, which peaked at just over eight per cent in 1377–91. In contrast, during the period from 1335–45 the lord's rights as a whole only comprised 15.5 per cent of unique business. It is possible that the decreased volume of business pertaining to the lord's rights left the jury with more time and energy to devote to monitoring misbehaviour, which may not have been the lord's top priority (see fig. 30). McIntosh has commented that from the late 1320s until the end of the century 'relatively few reports of misbehaviour were submitted to local courts'. Her explanation for this phenomenon is that it was 'probably affected by' the Agrarian Crisis and the arrival of plague, and that as a result it was not until the fifteenth century that local courts were better able to focus on wrongdoing.⁴⁹ In Sutton, it is possible that these forces were in operation on a shorter time-scale, and that the increase in reported crime in 1335–45 was the result of a period of comparative calm on the manor in the wake of the agrarian crisis.

IV

One of the most striking aspects of the rise in anti-social behaviour in 1335–45 is the increased involvement of women.

Figures 32–35 show the proportions of male and female offenders involved in bloodshed, assault, housebreaking, and defamation. For all of these offences, the percentage of female offenders increased significantly between 1308–19 and 1335–45, and then decreased after the Black Death.⁵⁰ Figures 36–37 show that female involvement in raising the hue and cry, both justly and unjustly, also peaked in 1335–45.

Several historians have used manorial court records to investigate peasant women's participation in violent crime and anti-social behaviour. However, they

⁴⁹ McIntosh, *Controlling Misbehavior in England*, pp. 17–18.

⁵⁰ Defamation cases would have been heard in the church courts in the latter half of the fourteenth century. *Select Cases on Defamation*, ed. by Helmholz, CI, pp. lviii–lxxv.

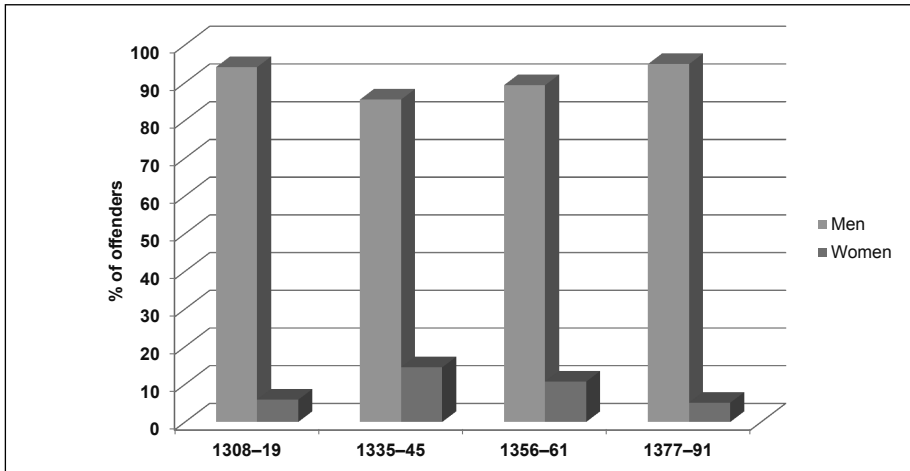


Figure 32. Bloodshed offences by gender

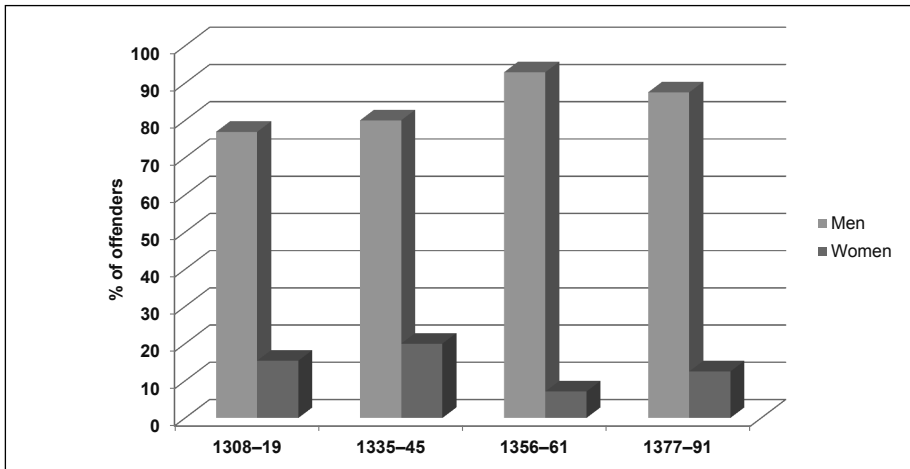


Figure 33. Assault offences by gender

have rarely offered an examination of change over time. Instead the focus has largely been on how female involvement, or the lack thereof, reflects gender roles on the manor.⁵¹ The temporary nature of the rise in female involvement in anti-

⁵¹ For example, see Bennett, *Women in the Medieval English Countryside*, pp. 38-42; Müller, 'Social Control and the Hue and Cry', pp. 43, 53.

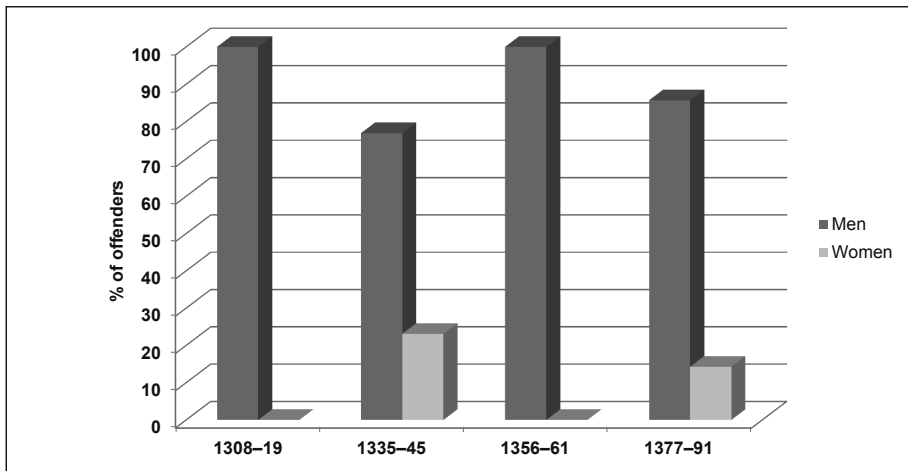


Figure 34. Housebreaking offences by gender

social behaviour at Sutton precludes the possibility that a long-term change took place in the perceived gender roles on the manor. Sandy Bardsley's investigation of the hue and cry incorporates data from a range of manors, and shows the numbers of hues raised by men and women on each manor over the period 1280–1455.⁵² Although Bardsley does not show specific changes over time in each location, she notes that 'hues and cries, both just and unjust, were particularly frequent between the famine of the 1310s to 1320s and the immediate aftermath of the Black Death.'⁵³ Unfortunately, it is not clear what proportion of this increase involved women.

One possible explanation of this rise in reported female crime is that it was simply the result of more efficient policing of violent crime in this period. As discussed above, several aspects of court business relating to the lord's rights declined in significance during this period, which may have given the presentment jury time to police violent crimes more closely. Perhaps in those periods when crimes are under-reported, female crimes are more likely to be overlooked, and thus in times when violent crime is less tolerated the number of women charged rises proportionally higher than men. It is also possible that the rise in reported female crime is reflective of changes over time in the methods of communal policing, specifically the increased usage of the hue and cry. Bardsley

⁵² Bardsley, *Venomous Tongues*, pp. 38–40, 70–77.

⁵³ Bardsley, *Venomous Tongues*, p. 38.

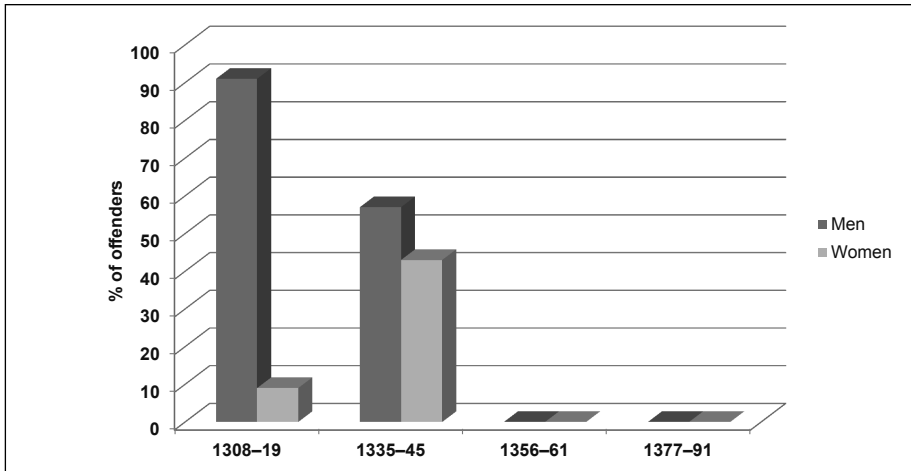


Figure 35. Defamation offences by gender

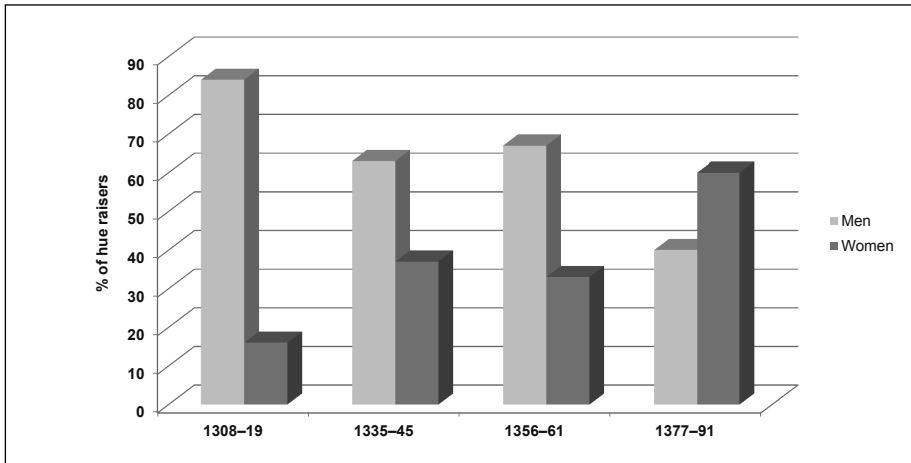


Figure 36. Just hue and cry raisers by gender

found that fifty per cent of hues were raised by women, and concluded that the system of hues and cries is one that ‘protected women and punished men.’⁵⁴ Anne and Edwin Dewindt also argue that the ‘hue and cry was an institution beautifully designed — whether consciously or not — to provide women with a

⁵⁴ Bardsley, *Venomous Tongues*, p. 71 (quotation from p. 73).

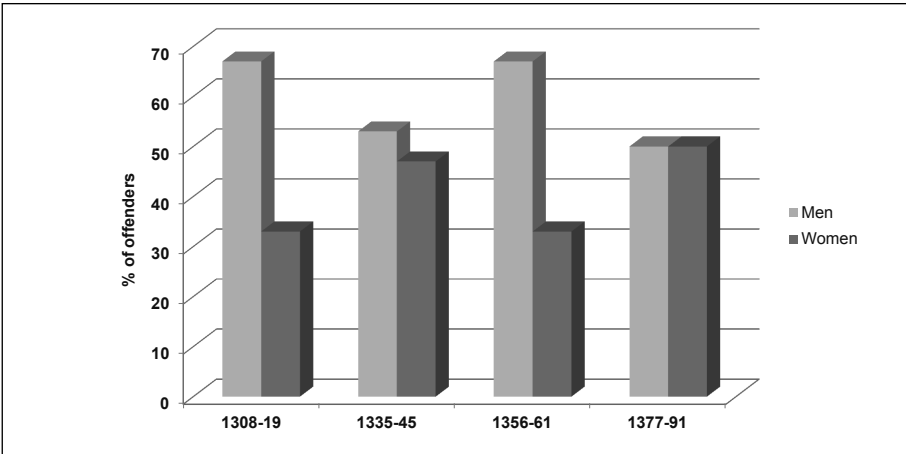


Figure 37. Unjust hue and cry raisers by gender

clear and loud voice.⁵⁵ Without the hue and cry, the community was reliant upon the presentment jury, which was comprised entirely of men, to bring cases of misbehaviour to the attention of the court. The Sutton data, however, suggests a further dimension — that increased female involvement in raising the hue and cry was correlated with an increase of presentments against female malefactors. Throughout the four periods under investigation, 84.6 per cent of all just hues raised against women were instigated by women (twenty-two out of twenty-six cases). In general, the more hues that were raised by women, the more likely women were to be found as the focus of the hue. This correlation is not absolute, as female involvement in raising the hue and cry was even greater in 1377–91 than it had been in 1335–45 when the reporting of female crime reached its peak. Nevertheless, it illuminates an additional element to the issue of female criminality that warrants further research.

V

As this brief discussion of crime and misbehaviour has shown, court rolls can provide an invaluable source of information about life on the manor. Nevertheless, there are many potential pitfalls when interpreting court roll evidence, and the key to approaching the rolls is to adopt a rigorous methodology and a healthy dose

⁵⁵ DeWindt and DeWindt, *Ramsey*, p. 74.

of scepticism. The introduction of cheap computer databases has revolutionized the investigation of manorial court rolls. It is no longer necessary to stand on a ladder in a warehouse in the manner of Zvi Razi to gain perspective on thousands of handwritten note cards recording the activities of the manor. Instead, all the entries from the court rolls can be entered into a database, which can be used to quantify the various types of court business. As a result, interpretations of court rolls do not have to be based on qualitative estimates. When quantitative data are available, they should be presented clearly so that the figures are easily comparable to other locations and time periods.

Considerable benefits flow from the study of one manor over a lengthy period of time. It avoids issues of lack of comparability between manors and their courts, and it allows for continuous focus on a single set of records which permits a reasonably accurate view of changes over long stretches of time. By contrast, the picture created when one 'dips' into manorial court records can be quite different from that gained when one has thoroughly processed the records for an extended period of time.⁵⁶ The records of a single manor can change dramatically over time, so the picture gained from evidence based on one or two years can be extremely misleading. For instance, if someone researching cases of damage to the lord's property searched the Sutton courts only in the years 1336–39 they would find a mere three offences, but if they focused on 1361 alone they would discover one hundred and fifty offences.

Historians undertaking multi-manor studies must be sensitive to changes over time and between manors. It is vital to ensure that the records from the various manors consulted are in fact comparable. A major shortcoming in many cross-sectional studies is that they focus on finding multiple series of good court rolls, but do not ensure that they are examining records from the same time frame. For example, in Judith Bennett's wide-ranging study on brewing she examined the court rolls from an impressive range of manors, including Sutton, but it is unclear how comparable the resulting data are. Although Bennett provides an appendix to indicate which manuscripts she used from each manor, she is not precise about how many court sessions they contained. So while we know she surveyed the Ingatestone (Essex) records 'in full' from 1292–1624, it is unclear how many sessions actually survive over this period.⁵⁷ Where the dates are clearer, they do not necessarily coincide. So whilst considerable attention is paid to change over

⁵⁶ For a detailed example, see McGibbon Smith, 'Reflections of Reality in the Manor Court', pp. 218–23.

⁵⁷ Bennett, *Ale, Beer and Brewsters*, pp. 176–77. In contrast, Campbell was very precise in presenting which accounts he used: Campbell, *English Seigneurial Agriculture*, pp. 453–70.

time, it is not always clear where those changes were taking place and whether the conclusions take account of short-term fluctuations in individual courts.⁵⁸

The wider issue here is that while many historians offer a list of the years for which their records survive, they are often not explicit about the degree of completeness this represents.⁵⁹ This may be in part because it is frequently unclear how often their chosen courts met, but this issue cannot simply be glossed over, because the lack of record survival may have a severe impact on the results produced by the investigation of a court roll series. It is unhelpful to offer continuous analysis over long time-periods without recognition of the fact that most court roll series are more complete during some periods than others. Even over relatively short periods of time, dramatic changes can be evident. For example, in Olson's study of the manors of Upwood and Ellington she offers continuous analysis from 1280–1460, despite the fact that there are nine gaps of four years or more in the extant series from Upwood, which is the more complete of the two manors.⁶⁰ In her discussion of court officials, she treats the entire period as a whole, rather than assessing the evidence over shorter time periods.⁶¹ Such long-term analysis does not provide an awareness of short-term changes in the record. In many other aspects of court business Olson separates the courts into three periods; even then, however, her periods are too long to capture many short-term trends. Her first period stretches from 1280–1349 — a period in which the Sutton evidence demonstrates several dramatic changes. Another example is Bennett's intriguing study of the payment of merchet or marriage fines recorded in the *Liber Gersumarum* of Ramsey Abbey, in which she investigates the period 1398–1458 as a whole. Bennett notes that in a surprising thirty-three per cent of cases women paid their own marriage fines, and argues that historians must reconsider 'many of our fundamental theories about the organization of medieval peasant families'.⁶² By contrast, the Sutton data demonstrates that there were significant changes over time in the percentage of brides who paid their own marriage fine over the four periods under study, shifting from a low of ten per cent in 1335–45 to a high of sixty-two per cent in 1356–61 (see Table 16).⁶³

⁵⁸ McGibbon Smith, 'Reflections of Reality in the Manor Court', pp. 80–83.

⁵⁹ For a criticism of the incompleteness of the Ramsey Abbey records, see Razi, 'The Toronto School's Reconstitution', p. 143, n. 7.

⁶⁰ Olson, *A Chronicle of All that Happens*, pp. 234–35.

⁶¹ Olson, *A Chronicle of All that Happens*, p. 109.

⁶² Bennett, 'Medieval Peasant Marriage', p. 197, quote from p. 215.

⁶³ McGibbon Smith, 'Reflections of Reality in the Manor Court', pp. 187–90.

When viewed from this perspective, even more questions emerge about the, often quite rapid, changes in women's ability (or obligation) to pay these fines.

Table 16. Payment of marriage fines (percentages)

	Groom	Bride	Groom & bride	Bride's father	Bride's mother	Total no. of fines
1308–19						
Licence to marry	63	18	4	7	9	57
Married without licence	43	52	0	5	0	21
Total	58	27	3	6	6	78
1335–45						
Licence to marry	64	10	0	21	5	39
Married without licence	54	31	0	15	0	13
Total	62	15	0	19	4	52
1356–61						
Licence to marry	38	62	0	0	0	13
Married without licence	12.5	62.5	0	25	0	8
Total	28.5	62	0	9.5	0	21
1377–91						
Licence to marry	28.5	43	0	28.5	0	7
Married without licence	57	29	0	14	0	14
Total	48	33	0	19	0	21

Recent research has highlighted the differences between the various regions of medieval England, and court roll historians are now aware of the regional differences between areas such as East Anglia and the West Midlands. However, the variations between manors could be even more localized than this. What happened in Sutton often differed from what seems to have occurred on other local manors. For example, the trends over time in inter-peasant litigation differed dramatically between Sutton and Oakington, even though they are only thirteen miles apart.⁶⁴ The Sutton court recorded no villein fugitives in the period

⁶⁴ McGibbon Smith, 'Reflections of Reality in the Manor Court', pp. 46–50; Briggs, 'Rural Credit, Debt Litigation and Manor Courts', p. 28.

1335–45, while several of the Ramsey Abbey manors with surviving records in that period record fugitives, including Holywell-cum-Needingworth, which was only eight miles away.⁶⁵ As Margaret Spufford put it, the ‘difficulty with local or regional history is that everywhere is different, so the subject by its very nature courts particularism and resists treatment on a general, or a national level.’⁶⁶

In addition to regional variations, we must also be aware of differences in lordship. A striking example of this is found in Jane Whittle’s work on the family-land bond, in which she compares land transfers in manors from East Anglia with those from the Midlands, and suggests that the discrepancies between the two localities were caused by differing tenurial structures rather than fundamental differences in ‘the emotional attachment of peasants to “family land”’.⁶⁷ This may well be true of other aspects of manorial business. Therefore, in order to reach more generalized conclusions from court rolls, it is vital to study a variety of manors in different regions under more than one type of lordship and to be clear in the presentation of these variations in the resultant analysis.⁶⁸

Comparing averages of offences, even over short time-periods, can be misleading because such comparisons hide the fact that some offences were monitored inconsistently. Inconsistencies in regulating activities could be caused by changes in administrative procedure as well as shifts in the level of tolerance for certain behaviours. Some offences appear to have been stored up and reported *en masse*, suggesting that they were ignored until they had reached an intolerable level.⁶⁹ As a result, these activities may not be fully represented in the court record. Other activities could be shielded from the court if the presentment jury chose not to report them. One example from Sutton is the complete lack of gleaning offences during the period 1308–19, which includes the years of the Agrarian Crisis, despite the fact that this activity was reported throughout the other three periods under study.⁷⁰ It was a common by-law in many villages that anyone who was able to work and earn a wage of two pennies (or a penny a day and food) was not allowed to glean, thus this activity was usually reserved for the young, the elderly,

⁶⁵ Raftis, *Tenure and Mobility*, pp. 145–60.

⁶⁶ Spufford, *Contrasting Communities*, p. xxvii.

⁶⁷ Whittle, ‘Individualism and the Family-Land Bond’, p. 26.

⁶⁸ For an example of a regional study which attempts to find generalized trends while taking account of variations in lordship and change over time, see Bailey, ‘Villeinage in England’.

⁶⁹ For examples on other manors see Schofield, ‘Dearth, Debt, and the Local Land Market’, p. 9; Coleman, *Downham-in-the-Isle*, p. 34; Bailey, ‘Villeinage in England’, p. 440.

⁷⁰ McGibbon Smith, ‘Reflections of Reality in the Manor Court’, pp. 54–55.

and the disabled.⁷¹ While it is possible that gleaning offences were low during the famine period because the villagers supported each other in their time of need, it is scarcely believable that no offences occurred, particularly in light of the increased number of thefts of foodstuffs at that time. It is also possible that during the famine period in Sutton the fields were gleaned in the course of the harvest because of the scarcity of grain, eliminating the possibility of illegal gleaning. However, evidence from other manors has shown that gleaning offences tended to rise during years of crisis and lean harvests, including the early fourteenth-century famine.⁷² The Sutton evidence may thus indicate that the village officials were lenient concerning gleaning in the face of the harsh economic conditions of this period and so failed to report offenders.⁷³ Even when the changes revealed by the court records do seem real, their significance can often prove rather ambiguous since it is often unclear as to what extent such changes were caused by changes in reporting and to what extent they represent actual shifts in behaviour. Nevertheless, the amount of court business concerned with certain aspects of 'the lord's rights', such as damage to the lord's property, failure to perform services, and default to court, can serve as a relative barometer to the degree of tension between the prior and his tenants (see Table 15).

Despite the many problems raised by the study of the Sutton evidence, the prognosis for the future of court roll studies is good. The reliability of the court rolls as evidence depends upon the reliability of the methodology we use to study them. The more aware historians are of the potential weaknesses of the source, the better questions we can formulate. As with most legal records, court rolls are best at reporting what actually took place in the court itself. These tribunals sometimes reflect the preoccupations of the jurors (and by extension the village community), and their lords, but they are categorically not a 'chronicle of all that happens'. Nevertheless, when we are mindful of their limitations and sensitive to change over time, court rolls can provide an invaluable, if sometimes ambiguous, source of information about a wide range of issues relating to life on the manor.

⁷¹ Ault, *Open-Field Farming*, pp. 29–32. Those found gleaning were seen as potential sheaf stealers; Ault, 'By-laws of Gleaning', p. 215.

⁷² Bailey, 'Peasant Welfare in England', p. 240; Bennett, *Women in the Medieval English Countryside*, p. 13; Razi, *Life, Marriage and Death in a Medieval Parish*, p. 37.

⁷³ Dyer, *Standards of Living*, p. 186. Bailey, 'Peasant Welfare in England', p. 245 suggests that tolerance 'of begging and gleaning by local families under famine conditions' may have been used as 'a communal gesture of charity'.

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THE ARUNDELL ESTATES AND THE REGIONAL ECONOMY IN FIFTEENTH-CENTURY CORNWALL

Phillipp Schofield*

John Hatcher's discussion of the estates of the Duchy of Cornwall in the Middle Ages provides both a detailed analysis of local developments as well as a more general statement on the main economic trends for the estate and, by extension, the region. The records of the manors and the estate, and particularly of the nine assessionable manors granted by Henry IV to his eldest son in 1399,¹ allow Hatcher to chart movement of land and rent across the later Middle Ages. The assession fines and the rents paid by conventional tenants on the Duchy estates offer a unique view of changing rent levels and of changes in the land market across a considerable period of the fourteenth and fifteenth centuries.² In his consideration of the fifteenth century in particular, Hatcher identifies the following key developments. First an increase in demand for land in the early years of the fifteenth century, with a consequent pressure on rents which were forced upwards in the first quarter of the century.³ Thereafter any general pattern is replaced by significant sub-regional variation, notably between the manors in the east and west of the county. Second, while the manors in both areas of the county displayed broadly similar patterns in the earliest years of the fifteenth century, clear distinctions emerged by the second decade of the century so that, by *c.* 1420, the manors in the west of Cornwall no longer displayed the increase in rent and the appetite for land evident in the eastern

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¹ Hatcher, *Rural Economy and Society*, pp. 149–50.

² See especially, Hatcher, *Rural Economy and Society*, pp. 261–66; for a further discussion of conventional tenure, see also Hatcher, 'Non-Manorialism in Medieval Cornwall'.

³ Hatcher, *Rural Economy and Society*, pp. 151–53.

manors. By contrast, in the southeast demand for land remained buoyant well into the second half of the fifteenth century and in a manner contrary to other features of the sub-regional economy such as increasing wage rates and falling tin production.⁴ General indications of prosperity and buoyancy in terms of tenure and land transfer persisted in the southeast of the county in the last decades of the fifteenth century, with little or no land falling *in manu domini*, a situation which stood in increasingly sharp contrast to that in the west of the county.⁵ Elsewhere, and especially in the more westerly manors, the Duchy officials attempted to encourage the take-up of holdings by assisting in the repairs of buildings and by making allowances for such work.⁶

Another important change on the Duchy estates in this period was the development of its administrative apparatus, with modifications in the form of leasing, especially the introduction of longer-term leasing arrangements in the 1430s and 1440s, also aimed at securing revenue and encouraging potential tenants. The same seems also to have been the case for other changes within the Duchy's administration, including the farming of mills and the sale of the resources issuing from woodland, deer parks, turbaries, and tin-mines, all of which appear to have been carefully managed by the estate officers. Revenues from manorial courts were also subject to close scrutiny as part of this careful overall regard for maintaining income, a policy which, Hatcher argued, resulted in a 'commendable solvency' which stood 'in contrast to conditions prevailing on many other estates in the later middle ages'.⁷

Hatcher associates these regional distinctions with the differing performances of the stannaries in the fifteenth century, which also occasioned some inconsistency of pattern within the broad sub-regional distinctions which he also identifies. Thus, the manor of Tewington, a manor to the west of the most easterly cluster in the vicinity of Lostwithiel and Liskeard, revealed evidence of economic difficulty consistent with a mid-fifteenth century downturn in tin production within its local stannary, Blackmore, in the centre of the county.⁸ A decline of mining in the west, to follow one line of his argument, encouraged a movement of population within the county toward the more fertile lands of the south and east. In addition Hatcher also argues that the regional development of the textile

⁴ Hatcher, *Rural Economy and Society*, pp. 155–56, 158–59.

⁵ Hatcher, *Rural Economy and Society*, pp. 160–61.

⁶ Hatcher, *Rural Economy and Society*, pp. 163–65.

⁷ Hatcher, *Rural Economy and Society*, pp. 165–67.

⁸ Hatcher, *Rural Economy and Society*, pp. 162–63, and more generally, pp. 161, 168–69. For the location of Duchy manors, see Hatcher, *Rural Economy and Society*, p. xiv.

industry in the south west, especially on the Devon–Cornwall border, as well as the more consistent performance of the Devonshire stannaries, helped maintain the relative advantage of the southeastern corner of Cornwall and the Duchy manors located there.⁹ For Hatcher, therefore, the estate accounts for the Duchy reveal trends which can be related to the broader economic developments within the county. Thus, the movement of rent and behaviour of the land market on the Duchy estates tended to respond to local and external stimuli and as such offer a reasonable indication of the non-manorial economy, or at least relative movement within it and, above all, its consequences for local patterns of land holding and transfer.

In seeking to explain the relative strengths and weaknesses within the region, Hatcher has emphasized the importance of the main tinning areas in later medieval Cornwall, noting the situation and economic reach of stannaries in relation to the location of the Duchy manors. Tinning in Cornwall was concentrated in four main stannary districts, two in the far west of the county, Penwith and Kirrier, and Tywarnhaile, one in the centre of the county, Blackmore, and one stannary, Foweymore, further to the east, including parts of Bodmin moor.¹⁰ The history of tinning in the first half of the fifteenth century is a history of decline, tin output halving between the end of the fourteenth century and the middle decade of the fifteenth century; thereafter there is evidence of recovery, as well as what Hatcher has described as ‘a remarkable broadening of the trade’, with the trade falling into the hands of a greater number of people.¹¹ Important within this account of broadening of the tin trade was a decline in the involvement of the more substantial merchant-tinners, who came increasingly to be replaced in the second half of the fifteenth century by labourers, small-holders, and agriculturalists.¹²

Hatcher’s work illustrates the close inter-relationship of landholding and rent movement on assessionary manors with the movement of tin-production, with fluctuations in the output of the industry helping to drive changes in agrarian output. However, tinning was not the sole alternative to agriculture within or just beyond the county in the later Middle Ages. He notes the importance of fishing and shipping within the county and, in particular, the significance of the cloth trade as a further determining factor in the regional economy.¹³ Thus, as we have already seen, he explains the relative success of Duchy manors in the southeast

⁹ Hatcher, *Rural Economy and Society*, pp. 169–72.

¹⁰ For a map illustrating the stannaries, see Hatcher, *Rural Economy and Society*, p. xiv.

¹¹ Hatcher, *English Tin Production and Trade*, pp. 68–74.

¹² Hatcher, *English Tin Production and Trade*, pp. 59–60, 65, 69.

¹³ Hatcher, ‘A Diversified Economy’, p. 209.

of the county with a cloth industry located just across the Tamar.¹⁴ More recent work by Kowaleski has also illustrated the importance of the non-agricultural sector in the regional economy of the south west. Her discussion of the maritime economy of Cornwall in the Middle Ages, drawn from the thirteenth- and fourteenth-century Havener's accounts for the earldom and duchy as well as from customs accounts for the later fourteenth and fifteenth century, illustrates the ways in which the Cornish coastline presented considerable economic opportunity, and not solely in fishing, for those living within proximity of it.¹⁵ As with later medieval tinning, so fishing and related maritime activity presented good economic opportunities for a large number of Cornish people. Whilst such activity was often on a relatively small-scale, and often on an individual basis, cumulatively it was highly significant for the local economy.¹⁶ Strikingly, it is the late fourteenth and fifteenth centuries that witnessed the major increase in commercial fishing in the southwest, fuelled by consumer demand, associated technological improvements, and the particular advantages (political and geographical) enjoyed by the region by the end of the Middle Ages.¹⁷ In addition, we should also recognize the potential significance of livestock husbandry within the region, Fox especially identifying the importance of dairying especially on the coastlands 'with quick markets [including tanners] near to hand'.¹⁸ Such activity might well have also generated concentrations of particular kinds of population, including one that was relatively mobile, young, and wage- and market-dependent.¹⁹

John Hatcher's characterization of the later medieval economy of Cornwall has already been subjected to some initial scrutiny by Fox and Padel in their extensive introduction to the estates of the Arundell family. They suggest that these records, for which there has as yet been little in the way of detailed study, provide a potentially significant comparative perspective against which to set the results of research into the Duchy estates. The estates of the Arundells included, by the later

¹⁴ See above, pp. 278–79.

¹⁵ *The Havener's Accounts*, ed. by Kowaleski, pp. 60–64. See also Kowaleski, 'The Expansion of the South-Western Fisheries'; and see also, Kowaleski, 'Coastal Communities in Medieval Cornwall', which also offers some important comment on the potential impact of coastal fishing on the local economy and the local population. I am very grateful to Professor Kowaleski for providing me with a copy of this paper in advance of publication.

¹⁶ Kowaleski, 'The Expansion of the South-Western Fisheries', pp. 436–38.

¹⁷ Kowaleski, 'The Expansion of the South-Western Fisheries', pp. 448–52.

¹⁸ Fox, 'Farming Practices and Techniques', pp. 315–22.

¹⁹ See, for instance, Fox, 'Servants, Cottagers and Tied Cottagers'.



Map 2. The Arundell estate in the fifteenth century ('old estate')

Middle Ages, manors throughout the county, though with a greater concentration of the estate and its heartlands in the centre and west of the county (see Map 2).²⁰

The management of these manors generated a significant corpus of administrative and financial material, including especially court and account rolls, rentals, and surveys. The bulk of this material begins in the middle years of the fifteenth century and so does not offer opportunities for close comparison across the same

²⁰ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. ii (map of manors), and Map 2, above, this chapter. The map is based upon *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. ii. On the archive, see also North, 'The Arundell Archive'.

Table 17. Rent movements: Arundell estates, late fifteenth century (percentage change)

Manor	Percentage change: c. 1450–99
Bodwannick	10.3
Carminow	43.3
St Columb	45.6
Connerton	-0.4
Enniscaven	1.7
Kennall	2.5
Lanhadron	7.3
Lanherne	45.2
Mitchell	6.9
Tregarne	0
Treloy	-8.2
Trembleath	95.5
Truro Vean	32.6
Winnington	0

Source: The Cornish Lands of the Arundells, ed. by Fox and Padel, p. cxxiii.

period as the sources for the Duchy estate. However, six series of estate records for individual manors for the period before the early 1440s, including a few survivals from the late fourteenth century, do allow us to compare the later medieval experience of both estates. While they cannot permit the sorts of close analysis which is possible for the Duchy estates where, as noted above, a policy of regular assessments generated an unusually detailed survey of rent and its movement across the late Middle Ages, the Arundell records, especially court rolls and rentals, examined in combination do provide us with rental and tenorial data which can be set beside the more voluminous material from the Duchy archives.

Fox and Padel's work has already identified some general trends which merit further testing and which offer some modifications of Hatcher's earlier claims.²¹ Firstly, from their review of the three surviving fifteenth-century surveys for the estate, Fox and Padel describe a general pattern of stability. Between the mid-fifteenth century and the end of the century, most of the fourteen manors recorded in the later fifteenth-century surveys and rentals displayed either little movement in overall income or some real growth (see Table 17 and Map 3). In only one instance, that for the manor of Treloy on the north coast of Cornwall,

²¹ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, pp. ci–cxxii.



Map 3. The Arundell estate showing movement of rent (percentage change) by manor in the late fifteenth century. *Key (percentages by size of circle):* <1; 2-4; 5-9; 10-49; 50-100. *Source:* see Table 17.

was there evident decline in income.²² Secondly, they explain this stability and relative success in terms of the economic opportunities of what Hatcher himself had identified as a diversified economy.²³ They also suggest that the demand occasioned by extra-manorial economic activity led to a boost in agrarian productivity and provided a necessary fillip to manors and their tenants.²⁴

²² *The Cornish Lands of the Arundells*, ed. by Fox and Padel, pp. cxxi-cxxiii.

²³ Hatcher, 'A Diversified Economy', pp. 208-27; *The Cornish Lands of the Arundells*, ed. by Fox and Padel, pp. cxi-cxii.

²⁴ See also Fox, 'Tenant Farming and Farmers'.

Finally, Fox and Padel contend that the diversity which they, like Hatcher, identify as such an important feature of the late medieval Cornish economy, undermined any clear economic distinction between a western group of relatively weakened manors and a rather more robust cluster of secure and relatively vibrant manors in the southeast of the county. Instead, they suggest that, rather than seeing these manors in the context of the county's broader sub-regions, a variety of specific local circumstances explained relative success or failure throughout the county.²⁵ Like Hatcher, they argue that relative differences in performance in terms of rent might conceivably reflect differences in local demand and that the latter was occasioned by extra-manorial factors.²⁶ However, it must be stressed that the distinctions they observe across the estate fail to display an entirely consistent pattern; they do not, as Fox and Padel themselves note, accord closely with basic information on variation within the local economy. Most notably, there is, in evident contrast to the findings of Hatcher for the Duchy estates, no close or indeed evident correlation between stronger performance in rents and areas of successful local industry, especially tinning.²⁷ Following the lead of Fox and Padel, we can delve further into the Arundell estate records in order to test some of these more general assertions, to scrutinize the local and sub-regional nature of the medieval Cornish economy, and to consider the ways in which we might, rather more closely, associate behaviour in the extra-manorial economy with the trends or even general patterns of economic activity evident within the manorial economy.

If we were to attempt to map local and regional proto-industries across the area of the Arundell estates, we would certainly find some features consistent with the economic region occupied by the Duchy manors examined by Hatcher, but also some differences. The Arundell estates, generally further to the west than were the Duchy manors, included manors located within or on the very edge of some of the main stannary areas, notably Connerton in the far west of the county and Bodwannick, on the edge of Foweymore. However, almost all of the manors, even those in the north of the county (Lanherne, Trembleath, Treloy) were

²⁵ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. cxi.

²⁶ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. cxi.

²⁷ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. cxxii: 'the obvious tinning manors [...] display no difference from the non-tinning manors. Of course, tinning may have affected other revenues of a manor (not visible in these surveys); but it had no obvious effect on the overall rents'. See, for instance, the references to fairly extensive tinning at Lanhradon by the close of the fifteenth century, a manor where there was stability but little evident growth in rental income, Truro, CornwallRO, AR/2/348/2, m. 2 (face), court of 6 May 1493.

not too distant from the main stannaries, and certainly no further away from the stannaries and the centres of tin production than were those manors in the southeast of the county already identified by Hatcher as relative successes in this period. In addition, the northern manors of the estate, as well as manors further to the west, were located in areas where there was proximity to the fisheries and maritime trade of the Atlantic coast, as well as dairying and pasture of the northern Cornish coastlands. We might reasonably expect to find evidence of a relationship between these features of the sub-regional economy and such traditional indicators as rent and the movement of land within the manorial economy.

Fox and Padel have already suggested that it may have been in the combination of a range of such potentially advantageous factors that the particular success of certain manors on the Arundell estates is to be identified. At Bodwannick, in central Cornwall and only a few miles from Bodmin, a combination of beneficial circumstances may, according to Fox and Padel, have explained the relative buoyancy of the manor in the last decades of the fifteenth century. These included the presence of tinning and local cloth production as well as the proximity of Cornwall's principal town in the fifteenth century. Similarly, Connerton, with a major local tin industry and a relatively successful urban and maritime centre at St Ives also appears to have done well in this period.²⁸ By contrast, Fox and Padel have suggested that those manors located away from areas of proto-industry and relatively distant from towns appear, at least on an initial assessment, to have suffered. Thus, in their initial analysis of rentals and surveys for the estate, the manor of Treloy, in the north of the county and fairly close to the Atlantic coast, does not appear to have enjoyed the advantages of manors elsewhere, its declining income in this period evidence perhaps of its unfavourable situation and a consequent lack of potential tenants for its holdings.²⁹

We can examine more fully the records for a number of manors on the Arundell estates, located in various parts of the county, in order to assess the validity of these conclusions. In so doing we can move beyond the findings drawn from the rentals by making use of the evidence of the court rolls and of some of the relatively few surviving accounts.³⁰ This may also encourage us to reflect upon the particularities of information contained within the estate records and to offer some further modifications to these broader statements on the medieval Cornish

²⁸ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. cxiii.

²⁹ *The Cornish Lands of the Arundells*, ed. by Fox and Padel p. cxiii.

³⁰ A detailed calendar of the Arundell archive is available on-line via the Cornwall Record Office and also through Access to Archives <<http://www.nationalarchives.gov.uk/A2A/default.aspx>> [access date 4 April 2012].

economy. It will also allow us to consider distinctions of approach between the Duchy's estate management and that adopted by another lay landlord within the region and to see such differences, alongside features such as the extent of local urbanization and proximity to local industries and other sources of non-agricultural income, as one of the factors which explains the relative success of manors and estates within the county.

At Treloy, a manor identified by Fox and Padel as declining in the second half of the fifteenth century, there is certainly evidence in the surviving court rolls of pressure upon the manorial structure and of difficulties consistent with a weakened manorial economy. Uptake of land appears to have been fairly slow, as entries admitting tenants for reduced rates 'until better tenants can be found' indicate.³¹ Maintenance of tenements was also poor.³² The lord was, from time to time, obliged to help finance the rebuilding of tenants' buildings.³³ Similarly, at Trembleath, an Arundell manor situated in the same part of the county, in the parish of St Ervan, and also identified by Fox and Padel as showing some evidence of struggle in the second half of the fifteenth century, we can see familiar indices of economic downturn.³⁴ Thus, by 1459, the granary within the manor, at Trevyngonyowe, was in a poor condition, so much so that the lord was required to fund repair to the timbers and to the walls.³⁵ In 1458, two cart-loads of timber, each worth 5s., brought to the manor to effect repairs, were burned by the tenants, apparent evidence for some level of dissension.³⁶

All such indicators certainly suggest difficulties at Treloy and Trembleath in this period, but they can also be set against evidence which argues against an absolute malaise in the local economy there, or at least encourages us to pursue these distinctions a little further. Of particular importance, the movement of holdings on these manors does not suggest a significant reduction in local market activity. At Trembleath, for instance, whose holdings have been tentatively mapped by Fox and Padel, we can see that rents were generally secure, even in the fifteenth century. While rents at Trembleath do not display the kinds of

³¹ Truro, CornwallRO, AR/2/4, m. 1, court of 18 February 1446.

³² Truro, CornwallRO, AR/2/4, m. 2, court of 14 July 1446; Truro, CornwallRO, AR/2/5, m. 1, court of 23 September 1446.

³³ Truro, CornwallRO, AR/2/10, m. 1, court of 17 April 1455.

³⁴ The rental income at Trembleath actually increases quite considerably across the second half of the fifteenth century but Fox and Padel explain this in terms of the abandonment of direct management of the demesne, *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. cxxii.

³⁵ Truro, CornwallRO, AR/2/60, m. 2, court of 28 October 1459.

³⁶ Truro, CornwallRO, AR/2/58, court of 16 May 1458.

increase which Hatcher detected on some manors in later medieval Cornwall, there is relatively little indication of downturn, even in so far as it is possible to judge from pre-Black Death conventional rents.³⁷ What is more there is, unlike on the Duchy manors described by Hatcher, a general, though certainly not absolute, consistency of performance in levels of rent and no evident distinction in rent between more or less propitious holdings.³⁸ This durability and overall consistency of rent level is important for a number of reasons. In its stability of rent, Trembleath offers one further instance of a manor whose tenant rents went against broadly identified trends in this period. In fact, the persistence of rent levels at Trembleath supports the views of both Hatcher and Fox and Padel, namely that it is far from possible to detect simple movement of rent in this period of Cornwall's economic history. However, in contrast to some of Hatcher's observations, the strong performance of rent argues against any significant local drop in demand for land, even in an area of decidedly mixed agricultural performance and where there is some evidence of pressure on lords to maintain the occupation of holdings. To illustrate further this last point, we can note that the properties within the manor of Trembleath were distributed over a wide area, from Harlyn and Trevoze, on the Atlantic coast, to the central moorland of Roche and the holding at Retallick, a dozen or more miles away in the centre of the county. This wide distribution of holdings, with an equally significant distribution of land- and farming-quality, is not evidently reflected in terms of discrete performances in the level of rent. Instead, throughout the manor there appears to have been a broad consistency in the pattern of rent.³⁹

Interestingly, if we compare the recorded economic activity at Treloy and Trembleath with, for example, that surviving for the manors of Bodwannick or Connerton, two manors identified by Fox and Padel as relatively successful and located in areas of proto-industry, we find little to suggest any evident difference. At Bodwannick, the manorial court records some instances of inter-personal litigation but none of this appears to have been substantial and seems to reflect

³⁷ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, pp. 3–6, 54–55, 75–76, 106–07. For mapping of Trembleath's holdings, see *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. clv.

³⁸ It is not clear that manors on the Arundel estates were subjected to regular assessions, as was certainly the case on the Duchy estates throughout the later Middle Ages, *The Cornish Lands of the Arundells*, ed. by Fox and Padel, p. lviii. The regular use of assessions by the Duchy may well have introduced some greater variety and subtlety into rent movement across such a wide range of holdings, Hatcher, 'Non-Manorialism in Medieval Cornwall', pp. 2, 6, 8–16.

³⁹ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, pp. 3–6, 54–55, 75–76, 106–07.

relatively piecemeal and small-scale economic activity.⁴⁰ In fact, if we were to take the court receipts as a rough index of that same activity, we would declare it slight indeed: the seven courts held at Bodwannick between 15 September 1480 and 9 August 1481 generated total receipts of only 19s. 6d., an average of 1s. 7½d. per court.⁴¹ Very few late medieval courts survive for Connerton, with a concentration of manorial courts in the late 1480s; there is some indication of relative advantage in these courts, including the extension of one substantial lease for sixty years and an increase in rent.⁴² In fact, in comparison to manors such as Treloy and Trembleath, there is little else to suggest particular buoyancy. The same is also true of the evidence from the court rolls for Carminow, a manor on the inland edge of the Lizard peninsular and one for which evidence from the late fifteenth-century rentals indicates significant growth; the entries in the manorial rolls offer clear evidence of general economic dealing but little to permit a purchase on the relative strength or weakness of the same.⁴³ Again, if we consider the pattern of transfer and rental arrangements for individual holdings on these manors in the second half of the fifteenth century, we find little significant divergence from the tenurial histories of holdings at Treloy and Trembleath. At Connerton, for instance, we again see a general picture of secure rent and even some slight indication of rent increases for conventional tenants by the close of the fifteenth century.⁴⁴

If, as this further evidence seems to suggest, there is some degree of buoyancy in Arundell manors across the estate in the second half of the fifteenth century, to what degree were they affected by developments within Cornwall's extra-manorial economy? To begin, some of the features with which Fox and Padel characterize a manor such as Treloy, namely its situation outside of the main stannary areas, and away from urban centres, do not entirely accord with other evidence drawn from the manor court rolls. We are, for instance, aware of tin production within the manor, as evidenced by reference in the manor court rolls to toll of tin from

⁴⁰ Truro, CornwallRO, AR/2/386–89.

⁴¹ Truro, CornwallRO, AR/2/386. An analysis of court receipts in ministers' accounts for Downinney in the far east of the county also suggests that, with some very few exceptions, annual receipts from perquisites of court had, by the first quarter of the fifteenth century, settled into a generally low and largely consistent return of between two or three shillings and five shillings *per annum*, Truro, CornwallRO, AR/2/455–460.

⁴² Truro, CornwallRO, AR/2/93, court of 19 October 1489, and more generally, Truro, CornwallRO, AR/2/92–93.

⁴³ Truro, CornwallRO, AR/2/217–20.

⁴⁴ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, pp. 46–49, 90–93, 134–36.

Kestel moor at the end of the fifteenth century.⁴⁵ St Columb, the neighbouring market town, while not so significant an urban centre as Bodmin to the east, was also sufficiently close to the manor to have brought some economic benefit. By the sixteenth century at St Columb, there seems to have been activity consistent with the existence of a small but reasonably vibrant urban and market centre.⁴⁶ Furthermore, we should not overlook the growing and clearly important potential impact of the regional fishing and maritime trade even though it is difficult at this stage to associate it directly with the estate's manors.⁴⁷

For more general and typical indices of extra-manorial activity, the manorial documents, and especially the court rolls from the fifteenth and early sixteenth centuries, are fairly laconic. A good deal of the business of the Treloy manor court in the second half of the fifteenth century arose not from the policies of the estate's administrators in relation to land tenure and transfer, but rather from inter-personal pleas of the manorial tenants and their various parties. There is plentiful evidence to suggest a range of economic dealing within and beyond the manor even if little of it is strongly illustrative of a healthy local economy. While reference to debt and trespass litigation appears with regularity, it does so in the context of default and repeated failure of one or other of the parties. There is, disappointingly for us at least, little in the way of direct reference and description of debts and of credit agreements. In most courts held at Treloy by the second half of the fifteenth century reference to credit and indebtedness appears only in relation to the repeated failure to bring the parties to court, with entries of default in individual cases listed in court after court. In this, the Arundell courts display features entirely consistent with other mid- and late fifteenth-century manorial courts.⁴⁸ The same may also be said to have been the case at Trembleath, another of the manors identified by Fox and Padel as relatively weak in general economic performance in the fifteenth century. There is only occasional evidence of reasonably significant economic dealing between tenants and also those operating from outside of the manor, as for instance, the possibly illegal distraint in Christmass week 1445 of ten head of oxen and cows from the herd of the lord's tenants.⁴⁹

If then the evidence of the courts is only lightly suggestive of the kind and range of non-manorial economic activity which may have engaged tenants on

⁴⁵ Truro, CornwallRO, AR/2/18, court of 14 May 1499.

⁴⁶ Truro, CornwallRO, AR/2/180–84.

⁴⁷ Kowaleski, 'The Expansion of the South-Western Fisheries', p. 445, and, also, see above, p. 00.

⁴⁸ See, for instance, Briggs, 'The Availability of Credit', p. 2, and references there.

⁴⁹ Truro, CornwallRO, AR/2/50, m. 1 (dorse), court of 8 April 1446.

the Arundell estates, this may reflect a downturn in the fortunes of the manor courts on the estate. There are clear hints that litigants especially were taking business beyond the manor court, as indicated, for instance, by the presentment of Thomas Laa at Bodwannick for bringing a plaint against John Germayne in the stannary court at Blackmoor in a matter which, it was claimed, fell within the jurisdiction of the Bodwannick manorial court.⁵⁰ Striking in this respect, though it allows no significant comparative purchase, is the range of economic activity recorded in the Hundred Court of Penwith in the last decades of the fifteenth century. Penwith Hundred, in the far west of the county, and in which the manor of Connerton is located and to which the hundredal rights were attached, passed, through marriage, into the hands of the Arundells in the later thirteenth century.⁵¹ Activity within the hundred court is of a different order than that recorded in the manor court at Connerton or at Carminow, a manor not very far distant, and suggests a vigour in the economy which is not easily detected in the manorial rolls but which is certainly hinted at in the court and account rolls especially when combined with the rental evidence.⁵² Thus, at the Hundred Court, the range of recorded litigation and the evident capacity of the court to oversee its business, effect its own judgement and maintain its administrative structures to the benefit of its users, stands in some contrast to the pattern evident in the smaller manorial courts.⁵³ While multiple defaults on the part of parties to litigation are also plentiful in the hundred court, there is also an abundance of personal actions both coming to court and reaching some form of satisfactory conclusion. Further, details of goods unjustly detained, including copper and tin utensils, candlesticks, silver spoons and rings, as well as the significant sums awarded in damages in such instances, suggest a considerable degree of wealth amongst at least some of those within the Penwith hundred.⁵⁴ It is therefore at

⁵⁰ Truro, CornwallRO, AR/2/387, m. 2 (dorse), court of 20 December 1485; for similar presentments, see also Truro, CornwallRO, AR/2/184, St Columb, court of 22 December 1508; Truro, CornwallRO, AR/2/65/2, m. 2 (face), Trembleath, court of 5 June 1486. Tenants on other estates in Cornwall were also amerced for taking cases to the stannary court, see, for example, manorial courts from the Tywardreath Priory estates, Truro, CornwallRO, AR/2/9/5, m. 6 (face), courts of 19 January and 12 February 1451; also Henderson, 'The Court Rolls', p. 60.

⁵¹ *The Cornish Lands of the Arundells*, ed. by Fox and Padel, pp. xiii–xiv.

⁵² For further comment on the separateness of other kinds of institution, such as the tithing, from a manorial structure in Penwith Hundred, see also Harvey, 'Territoriality, Parochial Development', p. 155.

⁵³ Truro, CornwallRO, AR/2/100–03.

⁵⁴ Truro, CornwallRO, AR/2/101, m. 1, court of 4 September 1486 for details of goods

least possible to argue that what we see from the records of the Arundell estates is evidence for an inconsistent and, at times, faltering *manorial* economy, which displays only the most muted suggestions of regional distinctiveness but does not always accord with the general pattern of the regional economy, as identified by earlier commentators.

It seems reasonable to suppose that, across the county, the Arundell estate officials sought to make the best of what the estate and its tenants could offer, but, if this was the case, their efforts were only scantily rewarded and were directed at their own agrarian base. There is little doubt that the Arundells and their estate officers attempted to make the most of their situation, but that they tended to do so in ways largely consistent with past practice. While there is some evidence for innovation in the way in which the estate was run in the last decades of the fifteenth century, such developments were few and the overall tendency was to seek to maximize benefits according to generally long-standing forms of management. For instance, where demesnes continued in hand, one fairly persistent feature of the Arundell manorial courts in the fifteenth century was the effort made to insist upon the obligations of the customary or conventional tenants. There was a continued effort to raise customary dues and fines, such as heriot and, even occasionally, leyrwite, with heriot especially persisting as an obligation of conventional tenure well into the sixteenth century. At Treloy, there is also evidence of frequent attempts in the 1440s to ensure that tenants performed various precarious services, such as the spreading of dung on the fields.⁵⁵ At Lanherne, tenants who attempted to leave their 'tenures' before the end of their term were penalized with the seizure of crops.⁵⁶ Manorial courts on the Arundell estates were held with a fair degree of frequency throughout the fifteenth century. Most manors appear to have held courts between six and eight times per year. However, receipts from courts were, as we have already seen, piecemeal and a good deal of the business was repetitive, frequently illustrative of a capacity to

impounded. A plea of unjust detention between Robert Talcan (plaintiff) and William Hoskyn (defendant) includes both good instance of such high value goods and the award of twenty marks in damages. If we were also to consider matters recorded in the stannary courts, we might also expect to find a similar distinction; Hatcher, *English Tin Production and Trade*, pp. 52–3, 58, 61–62, 64. For the relative wealth of the far west of Cornwall in the fourteenth century, see, for instance, Campbell and Bartley, *England on the Eve of the Black Death*, p. 326; see also Pounds, 'Taxation and Wealth in Late Medieval Cornwall'.

⁵⁵ Truro, CornwallRO, AR/2/1 m. 1, court of 25 September 1442; Truro, CornwallRO, AR/2/1/ m. 4, court of 29 August 1443.

⁵⁶ Truro, CornwallRO, AR/2/121, m. 1, court of 25 September 1442.

record activity but not to enforce it. This also seems to set the Arundell estates apart from the Duchy estates where, as Hatcher has described, manorial courts were used systematically as a means of boosting revenue in this period.⁵⁷

The Arundells did not reject all and any innovation. There is some general suggestion that Cornish lords such as the Arundells were prepared to seek investment opportunities in economies beyond their traditional agrarian base.⁵⁸ However, it seems highly unlikely that the chief source of income for the family in this period shifted dramatically from rent. As alternatives to persisting with customary rents and long-standing income-generating methods, the Arundells were prepared to adjust tenures and, increasingly it would appear, to let holdings both for differing terms, at lower rents, and to permit accumulation. In this they appear to have responded in ways consistent with the approach of gentry families in other parts of the country. Essentially rentiers, this did not mean that they were inert as landlords.⁵⁹ At Trembleath, for instance, in 1452, two substantial tenements were combined for a term of lives with the expectation that the incoming lessee would improve the property and help effect a major adjustment of agrarian practice upon the estate by undertaking a programme of hedge planting and wide-scale enclosure.⁶⁰ From time to time also the Arundells were prepared to support incoming tenants by covering the costs of repairs and by providing the necessary materials to assist in the maintenance or restoration of buildings. Hatcher treated such policy as an index of the differing economic experience across the Duchy estates in the fifteenth century, noting that such efforts were needed in the central and western manors of the county far more than they were on the estate's manors to the east of the county.⁶¹ However, if we attempt to map such differences of approach across the Arundells' Cornish manors, it is at present difficult to detect any meaningful distinction in approach or in result.

Historians have often pondered the nature of the relationship between indices of agrarian change such as rents and farms with the wider changes in the economy of the later Middle Ages. For the fifteenth century, some historians have seen falling rents as an opportunity for those below the level of landlords to take new

⁵⁷ See above, p. 278; also Hatcher, *Rural Economy and Society*, pp. 165–67.

⁵⁸ For instance, Kowaleski, 'The Expansion of the South-Western Fisheries', pp. 445–46, merchants providing major capital investment though lords might also be involved; Hatcher, *English Tin Production and Trade*, p. 58, and n. 2; the gentry elsewhere were prepared to invest in a variety of 'projects', Carpenter, *Locality and Polity*, pp. 179–88.

⁵⁹ See, for instance, Carpenter, *Locality and Polity*, pp. 163–68.

⁶⁰ Truro, CornwallRO, AR/2/56, m. 2 (dorse), court of 21 April 1452.

⁶¹ See, for instance, Hatcher, 'A Diversified Economy', pp. 222–23.

advantage in an era of apparent redistribution of incomes, while others see them as evidence for a more general malaise, of an indication not only of a reduced demand for land but also a wider and more general reduction in economic opportunity, with landlords keen to maintain tenants who were themselves facing difficulties in a period of widespread economic disruption.⁶² John Hatcher's research on the Duchy estates and on the tin industry in the later Middle Ages encouraged him in the view that the behaviour of the agrarian sector within the region was closely allied to that industry by the close of the Middle Ages; such an association explained the discrete patterns in movement of land and rent which he was able to observe on the Duchy estates. By contrast, the evidence from the Arundell estates suggests that, by the second half of the fifteenth century, a fair proportion of the estate's rents was reasonably robust across the estate and there is relatively little variety; while we can look for some of the explanations for this within the manorial economy itself, it also seems quite clear that the explanation for that robustness must also be detected in the local economy beyond the estate itself.

For scholars working on the fifteenth century, the persistence of estate records which present us with information on changes within the manorial and agrarian economy is a benefit but is also one tempered by the all too evident reduction in the extent and depth of information typically offered by this same body of material. This overall shortfall in the quality of estate records by the close of the Middle Ages, in contrast to the greater significance of the same corpus of material two centuries earlier, may reflect what has been seen as the increased irrelevance of the seigneurial economy to the wider economy of rural England by the late Middle Ages.⁶³ If manorial and estate records tell us less than we might have otherwise hoped about the regional economy, then we are necessarily directed to other potential indices, including both documentary and archaeological/architectural material. John Hatcher's analysis of the Duchy economy is an important one not least because it is founded upon such a relatively rich corpus of material. If his thesis of a diversified and irregular pattern of performance within the regional economy is to be further tested then, in the longer term, historians will need to employ a fuller range of material than just surviving estate records, central as these certainly are.⁶⁴

⁶² See, for a reflection upon these positions, Hatcher, 'The Great Slump', pp. 259–60.

⁶³ Dyer, *An Age of Transition?*, p. 125.

⁶⁴ One such avenue for exploration is the physical record of church building. Parish churches witnessed considerable investment and a relatively late but important campaign of alteration and new construction in the last decades of the fifteenth and the first decades of the

Distinctions between *pays réel* and *pays légal* are, of course, far from unknown in the relevant literature and previous discussion of diversification in medieval Cornwall makes it clear that much of the significant activity in such a regime is likely to remain hidden.⁶⁵ It is also for this reason that some of the hypotheses employed to explain the diversification of the economic experience of later medieval Cornwall, especially the localized patterns of rent movement and their responsiveness to changes in various kinds of industry and proto-industry within the region, will not easily be subjected to close investigation, even though, as John Hatcher was first to point out, such economic diversification clearly existed and must at least be an element, if not in all respects an easily quantifiable element, in the recorded movement of rent. However, not all such avenues are closed, and, as this essay has been intended to show, continued work on the nature of the regional economy of the southwest may shed some light on the inter-relationship of late medieval seigneurial economies and the non-manorial sector.

sixteenth centuries. See, for instance, Mattingly, 'Stories in the Glass', and the observation that 'tin paid for St Neot's glazing in much the same way that Cotswold wool and cloth paid for the Fairford windows' (p. 22); Mattingly, 'The Dating of Bench Ends in Cornish Churches', including reference to considerable investment in the later fifteenth and early sixteenth centuries at Bodmin (p. 59) and Mattingly, *Looking at Cornish Churches*, pp. 26–32; also Cockerham, 'Catacluse, Wood and Plaster'. The work of Mattingly has also illustrated the significance of guilds within the county at the end of the Middle Ages, which the author identifies, in their density, as an indication of a society that was 'neither backward nor impoverished', Mattingly, 'The Medieval Parish Guilds of Cornwall', pp. 308–09; also, Mattingly, 'Going a-Riding', esp. pp. 78–83. I am grateful to Dr Mattingly for discussing her research with me and to Mrs D. J. Schofield and Mr M. G. Dyer for their help in securing one of the above references.

⁶⁵ Hatcher, 'A Diversified Economy'; *The Cornish Lands of the Arundells*, ed. by Fox and Padel; on the issue more generally, see, for instance, Whittle and Yates, "*Pays Réel* or *Pays Légal*?" As Whittle and Yates note, 'it is the non-manorial documents [...] that reveal the substrata of non-manorial tenants and wage labourers, and the full extent of commercial and industrial activity' (p. 25).

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THE LATE MEDIEVAL DECLINE OF ENGLISH DEMESNE AGRICULTURE: DEMOGRAPHIC, MONETARY, AND POLITICAL-FISCAL FACTORS

John Munro*

During the later fourteenth and early fifteenth centuries, a majority of English manorial landlords, lay and ecclesiastical, experienced a significant contraction of their demesne holdings: sometimes by sale or partial abandonment, but more often by leasing them to tenants. J. M. Bean states that ‘there is a general consensus that the crucial years in this process were between 1380 and 1420’, and his view is supported by a number of studies of ecclesiastical estates.¹ Thus, Ambrose Raftis contends that a dramatic ‘collapse’ of the direct management of demesnes on the Ramsey Abbey estates took place during and just after the 1390s.² Barbara Harvey, having examined the accounts of Westminster Abbey’s large number of manors in southern and central England, similarly concluded that ‘the turn of the tide may be placed around the year 1390’.³ Christopher Dyer also found, on the estates of the bishop of Worcester, that ‘the main break [the shift to leasing] came with [Bishop] Wakefield’s death in 1395’.⁴ In his analysis of the manors of the Archbishop of Canterbury, F. R. H. Du Boulay found that ‘by 1400 most of the demesnes, and by 1450, all of them were being leased out’.⁵

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¹ Bean, ‘Landlords’, pp. 526–86.

² Raftis, ‘Peasants and the Collapse of the Manorial Economy’, p. 196.

³ Harvey, *Westminster Abbey and its Estates*, p. 268.

⁴ Dyer, *Lords and Peasants in a Changing Society*, p. 147.

⁵ Du Boulay, ‘Who Were Farming the English Demesnes?’, pp. 445–46.

In the view of most historians, the contraction of demesne holdings was fundamentally the consequence of population decline: perhaps by some forty per cent, or even more, by the later fifteenth century.⁶ Demographic factors alone, however, cannot fully explain the phenomenon of leasing or ‘farming’ the demesnes itself, so that other economic changes, including monetary forces and fiscal policies, must also be examined for a fuller understanding of what was truly a momentous change in the economy and society of later medieval England.

The Ricardian Demographic Model for the Decline of Demesne Agriculture and of Villeinage

In explaining agricultural change in the later Middle Ages, in particular the leasing of manorial demesnes, we should first consider the standard demographic model, one that is based on Ricardo’s economics. The essential argument is that population decline inevitably led to falling grain prices, and thus to falling economic rents (as determined by grain prices), and also to rising real wages, in so far as the alteration of the land:labour ratio (fewer workers per acre of arable) increased labour productivity. This labour scarcity became all the worse, driving up wages even more, as many cottars and landless labourers took up vacated tenancies, at much lower rents, and frequently with few or no obligations to perform ‘customary’ labour services on the demesne. Thus manorial landlords became victims of a vicious price-cost squeeze and falling incomes that ultimately forced them to abandon direct cultivation and to lease demesnes lands to peasant tenants, on the best possible terms that the peasants would accept. However, whether this model fits all the historical facts, in particular those concerning the actual timing of this transformation, remains to be seen.

‘Mind the Gap’: The Time-Lag between the Black Death and the Commencement of Leasing

If the Black Death of 1348–52 was indeed the major demographic catastrophe of the fourteenth century, and yet the first major phase of demesne leasing did not begin until the 1380s, how can we explain this time lag of thirty years or more? A. R. Bridbury offered one intriguing solution in contending that England had been so grossly overpopulated that the Black Death was ‘more purgative than toxic’, in eliminating an excess labour force that constituted ‘disguised unemploy-

⁶ See Hatcher, *Plague, Population, and the English Economy*, pp. 11–73; Hatcher, ‘Mortality in the Fifteenth Century’.

ment', so that only by the later 1370s had ongoing demographic decline become sufficiently severe to bring about the economic changes predicted in the Ricardo model.⁷ Few, if any, historians have accepted his thesis, which Bridbury himself subsequently contradicted in an article contending that England was far from being overpopulated on the eve of the Black Death.⁸

Another more promising explanation for this 'time lag' between the Black Death and the onset of demesne leasing is the supposed 'feudal reaction' that immediately followed the Black Death and then endured for the next three decades.⁹ The essential argument is that many manorial lords reacted to the threat of labour scarcity and rising wages, not so much by 'reimposing' villeinage (serfdom) in areas where it had waned, but rather by intensifying their exactions of customary villein labour services on their demesnes. While there is some evidence for this thesis, a 'feudal reaction' of this nature is very difficult to substantiate as a widespread phenomenon: i.e., sufficiently powerful to repress the changing market forces in both land and labour. The most substantial support for the 'feudal reaction' thesis is the oppressive parliamentary labour legislation imposed to fix maximum wages, evidently at the behest of landlords, immediately after the Black Death, namely the Ordinance of Labourers (1349) and the Statute of Labourers (1351). The final major measure was the Statute of Cambridge (1388). The debate over the effectiveness of this legislation has generated a vast literature that cannot be considered here.¹⁰ One may observe, however, that, despite substantial evidence of prosecutions for statute violations (chiefly of employees, not employers), to the 1380s, manorial wages for both agricultural and industrial workers did rise in the two decades following the Statute, far above the permitted rates. For example, by the 1360s and 1370s, and constantly thereafter to the 1390s, the prevailing daily wage rate for carpenters on various Winchester manors was four pence (4d.), occasionally 5d.: one-third higher than the 3d. rate prescribed in the 1351 Statute.¹¹ That rate was all the more difficult to enforce, because it was an

⁷ Bridbury, 'The Black Death', pp. 557–92.

⁸ Bridbury, 'Before the Black Death'.

⁹ See in particular Britnell, 'Feudal Reaction after the Black Death'; Hilton, *The Decline of Serfdom*, pp. 26–59; Bolton, *The Medieval English Economy*, pp. 214–21; Rigby, *English Society in the Later Middle Ages*, pp. 104–27.

¹⁰ The classic study is Putnam, *The Enforcement of the Statute of Labourers*. See also Given-Wilson, 'Labour in the Context of the English Government'; Penn and Dyer, 'Wages and Earnings in Late Medieval England'; Poos, 'The Social Context of Statute of Labourers Enforcement'; Hatcher, 'England in the Aftermath'.

¹¹ LSE Archives, Beveridge, Boxes A.30–33: for Echinswell, Esher, Taunton, Witney, and

Table 18. Price indexes for the Phelps Brown and Hopkins 'Basket of Consumables' and for the prices of grains, meat, dairy products, and English wools (mean of 1451–75 = 100), 1331–35 to 1446–50

Year	Phelps Brown & Hopkins Composite Price Index (Revised)	Total grains: wheat, rye, barley, peas Price Index	Meat products: beef, mutton, swine Price Index	Dairy products: butter and cheese Price Index	Wools: better qualities: Price Index
	<i>base value in pence (d.)</i> <i>112.801d.</i>	<i>base value in d.</i> <i>21.799d.</i>	<i>base value in d.</i> <i>23.950d.</i>	<i>base value in d.</i> <i>15.579d.</i>	<i>base value in pounds (£)</i> <i>£4.8544</i>
1331–35	109.108	110.302	110.021	95.281	110.614
1336–40	89.256	84.730	96.346	94.622	95.699
1341–45	85.533	81.356	89.666	88.547	101.910
1346–50	100.064	101.499	94.572	97.299	97.093
1351–55	126.472	131.100	113.987	102.921	91.577
1356–60	118.092	115.863	108.455	112.790	108.009
1361–65	137.976	130.413	131.419	104.738	115.474
1366–70	136.460	150.487	131.607	106.830	137.799
1371–75	127.345	133.638	143.653	107.403	162.637
1376–80	109.891	96.219	118.580	105.066	155.243
1381–85	113.190	104.029	110.890	105.709	123.494
1386–90	101.233	83.336	108.055	96.590	104.463
1391–95	103.953	96.639	106.471	73.130	102.039
1396–1400	110.648	105.084	111.064	100.898	107.966
1401–05	112.653	117.530	110.071	102.790	117.455
1406–10	109.927	108.229	106.555	106.878	128.114
1411–15	108.261	91.411	105.599	110.132	122.651
1416–20	113.598	114.066	103.055	107.879	94.586
1421–25	103.740	94.999	93.213	91.331	108.538
1426–30	112.610	107.222	99.581	104.979	103.298
1431–35	109.122	110.106	106.078	106.810	115.634
1436–40	124.218	148.525	109.585	110.342	109.627
1441–45	92.574	75.504	96.624	97.290	107.145
1446–50	101.241	97.399	106.245	106.978	110.796

unusually low rate that had only temporarily prevailed, just before the plague, in the deflationary 1340s (Tables 20B and 21A).¹²

Wycombe. See also Table 21A below, for Farmer's 'national' means of carpenters' wages: with a mean of 4.194d. in the 1370s.

¹² See Munro, 'Wage-Stickiness', pp. 207–11; Munro, 'Before and After the Black Death'.

Sources for Table 18. Wool prices: Lloyd, *The Movement of Wool Prices*, pp. 35–51.

Other commodity prices: based upon the Phelps Brown and Hopkins 'Basket of Consumables' Price Index: LSE Archives, Phelps Brown, Box Ia:324, LSE Archives, Phelps Brown, Box J.IV.2.a. These archives contain Phelps Brown's original hand-written working papers, with prices for individual commodities contained in the Phelps Brown and Hopkins 'basket of consumables' price index, which they had presented in Phelps Brown and Hopkins, 'Seven Centuries of the Prices of Consumables' (with price indexes not in the original).

Apart from correcting hundreds of computational errors in their original series, I constructed an entirely new index based on actual prices rather than their index numbers. Using the data in their worksheets, for each commodity, I first calculated the annual prices for all the commodities in the basket. Then using their commodity weights, I calculated the sum value of those commodities, to calculate the annual value of the basket. I then constructed the price index, with their base, 1451–75 = 100, from the values of the basket for each year in that twenty-five-year base period.

While the original PB&H commodity basket consisted of fixed commodity weights throughout the entire series — so that, for example, grain prices always account for twenty per cent of the total weight in the basket, the commodity weights, in my revised version, change with changes in relative prices. The commodity price weights for the basket are thus fixed only for the base period: 1451–75 = 100.

The Role of Deflation in the Decline of Manorial Demesne Agriculture during the 'bullion famine' of c. 1370–c. 1420

A more effective solution to the problem of the 'time-lag' may be found by resorting to a combined monetary and a related fiscal model, to supplement the demographic model. The essential thesis is that England's manorial economic crisis commenced only with the onset of another severe, prolonged deflation, from the later 1370s to the 1420s, during which not only the Consumer Price Index (CPI) but the prices of all agricultural commodities fell, whereas most agricultural costs did not, thus creating the well-known 'price scissors'.¹³ The related fiscal part of the model is that deflation (including the fall of wool prices) exacerbated the very onerous burden of the wool-export taxes, thereby producing a severe contraction in wool exports, and, presumably, in the demand for manorial (and peasant) wools. The deflation itself was the product of a severe, European-wide monetary contraction, the so-called 'bullion famine' (during this same era), which brought to an abrupt end the three-decade long inflation that had followed the Black Death. The evidence that monetary factors were essentially responsible for this deflation have been set forth in so many of publications by so many historians (including the present author) that they need not be presented here.¹⁴

¹³ See Munro, 'Wage-Stickiness', pp. 185–297; Munro, 'Before and After the Black Death'.

¹⁴ See Day, 'The Great Bullion Famine'; Miskimin, 'Monetary Movements and Market

No monetary explanation, however, can ever be divorced from real factors; and the continuing fall in population may have played a role in reducing the income velocity of money, though commercial disruptions, insecurity, and economic pessimism were probably more important.¹⁵

The severity and extent of this deflation during the 'bullion famine' era cannot be doubted. In England, as Table 18 shows, the quinquennial mean Consumer Price Index (with a base of 1451–75 = 100) fell 23.98 per cent, from 1366–70 (136.46) to 1421–25 (103.74). Over this same period, the quinquennial price indexes for all agricultural commodities fell together, if not exactly in tandem with each other: grains, by 36.87 per cent; meat products, by 29.17 per cent; dairy products, by 14.51 per cent; and wools (better qualities), by 21.24 per cent. Statistical tables for Flanders, published elsewhere, demonstrate a very similar decline in the Flemish CPI and agricultural prices in this same period. As shown in other statistical tables, industrial prices in both England and Flanders also fell, though not by as much as did the agricultural prices, or the CPI.¹⁶ That such a decline in commodity prices, if not in factor prices, was not just confined to grains but was far more general vindicates the view that northwest Europe experienced a genuine monetary deflation during this 'bullion famine' era, to the 1420s.

While the previously discussed demographic model explains why falling population should have led to lower grain prices, that model does not explain the two post-plague series of changes in prices and the price level. In particular, why was the Black Death, producing an indisputably drastic fall in Europe's population, followed not by falling grain prices, as would be expected, but instead by a European-wide inflation that affected all commodity price series

Structures'; Miskimin, *The Economy of Early Renaissance Europe*, pp. 138–50; Spufford, *Money and its Use*, chap. 15, 'The Bullion Famines of the Later Middle Ages', pp. 339–62; Munro, *Bullion Flows and Monetary Policies*; Munro, 'Wage-Stickiness', pp. 211–19.

¹⁵ Note the nature of the variables in the revised Quantity Theorem equation: $M.V = P.y$: in which M is the total stock of money, V is the income velocity of money ('turnover'), P is the price level (CPI), and ' y ' is *real* net national income or national product. Most economists prefer the alternative Cambridge Cash Balances equation: $M = k.P.y$, in which ' k ' (the reciprocal of V) stands for that proportion of net national income that the public chooses to hold in real cash balances. For late medieval income velocities, see Mayhew, 'Population, Money Supply, and the Velocity of Circulation'; and Spufford, *Money and its Use*, pp. 346–47: 'Fear of disorder made men conceal their coin. Fear of not being able to replace coin made men the keener to keep their assets liquid. With scarcity of coin went a reluctance to spend or invest what one had in hand, so that there was a sluggish circulation, which in itself was equivalent to a further reduction in the available quantity of coin'. Nevertheless, he contends, along with most monetary historians, that an increased outflow of bullion to the East was the principal cause of the 'bullion famines'.

¹⁶ Munro, 'Wage-Stickiness', Table 5, pp. 240–44; Tables 8–9, pp. 248–53.

(including grain prices) and one that lasted for thirty years?¹⁷ Why did this post-plague inflationary era come to end in the 1370s, and why was that inflation then followed by the prolonged half-century deflation just described? Such problems in population-based explanations indicate that monetary factors, affecting both money stocks and flows, cannot be ignored.

The Behaviour of Relative Prices for Grains and Livestock Products in Late Medieval England

In answering such questions about changes in prices, we must always distinguish carefully between changes in the price level and changes in the relative prices of various individual commodities. Though monetary factors may have been predominant in determining the overall price level (CPI), a wide variety of real factors, including demographic, and their interactions, especially in their real income effects, together determined the constantly fluctuating changes in relative prices: for example, changes in grain prices compared to changes in meat and dairy prices. In later medieval England, cereal grains accounted for a large share of household expenditures, on both food and drink, for the majority of society (Table 27); and grains had a low price- and income-elasticity of demand, the more so, as their prices fell. Under such circumstances, a steep fall in grain prices that exceeded the fall in the overall CPI and thus the decline in other commodity prices should have liberated substantial household income to be spent on other commodities. Such a shift in household demand would have led to an increase in the *relative* prices of livestock and industrial products, even when their *nominal* prices were also falling.

The conditions of and changes in supply also, of course, played an important role. In general, historically, grain prices fluctuate up and down far more than do other agricultural prices, especially prices for livestock products, which in turn fluctuate more than do industrial prices. To a considerable extent, differences in their respective long-term supply schedules help explain these differences in price changes. The supply schedules for various grains are generally very steeply sloped (highly inelastic), thus helping to explain the sharp decline in their *real* prices with falling aggregate demand. Those for industrial products are only gently sloped (very elastic: with more or less constant-cost production functions); and those for livestock products usually lie in between these two sets of commodities.

¹⁷ For a monetary explanation of the post-plague inflation (c. 1350–c. 1375), see the sources cited in nn. 12, 14, above, in particular Munro, 'Wage-Stickiness', pp. 211–17.

In late medieval England, much evidence indicates that the agricultural sector underwent a relative shift from the production of grains to the production of various livestock commodities (though not wool, for reasons to be explored later). We should not, however, expect that such changes in the supplies of agricultural commodities would have made their longer-term supply schedules any less elastic; and those supply changes would not likely have offset the 'income effects' from falling *real* grain prices. Tables 18 and 19 clearly confirm the foregoing prediction: that the prices for meat and dairy products and for wools fell to a lesser extent than did grain prices, so that (again) their *relative* commodity prices rose in relation to grain prices.

For most manorial landlords in late medieval England, from the 1370s to the 1420s, the fall in all *nominal* agricultural prices, in comparison with agricultural costs, obviously posed severe problems. The plight was the more severe for those who continued to pursue a traditional demesne economy based on both grain and wool, rather than on other livestock products, for reasons that are set out below. For grain producers, engaged in a very labour-intensive form of production, in contrast to the far less labour-intensive and more land extensive forms of livestock production, the equally important concern was the behaviour of factor prices, especially wages for hired labour on the demesnes.

The Behaviour of Factor Prices and the Problem of 'Stickiness'

The related aspect of the monetary model is that, while these agricultural commodity prices fell steeply, the factor costs of production generally did not fall in nominal terms, and indeed rose in real terms. The principal costs to be considered are interest and wages. While they are indeed 'prices', for the use of capital and labour, historically they have never behaved in the same fashion as commodity prices; and they are not included in any consumer price indexes. It is thus a fallacy to believe that all prices must move together during periods of either inflation or deflation. The primary reason why factor prices generally did not move in tandem with commodity prices is factor-price 'stickiness', a phenomenon well known in Keynesian economics.¹⁸ Although this problem has not yet been well studied for interest rates, the most obvious reason lies in the nature of loan contracts, 'recognizances', mortgages, and related legal instruments used in borrowing money. In virtually all such contracts, the annual interest payments were fixed for the duration of the written agreements. To the extent that manorial

¹⁸ Keynes, *The General Theory*, pp. 4–22, 257–79.

Table 19. Ratios of agricultural prices to the Consumer Price Index (Phelps Brown and Hopkins) and to each other (mean of 1451–75 = 100), 1331–35 to 1446–50

Year	Ratio of Wool Prices to PBH CPI (Wool/CPI)	Ratio of Wool Prices to Grain Prices	Ratio of Grain Prices to CPI	Ratio of Meat Prices to Grain Prices	Ratio of Meat Prices to Wool Prices	Ratio of Meat Prices to CPI	Ratio of Dairy Products to CPI
1331–35	101.380	100.283	93.384	99.745	99.463	100.837	87.328
1336–40	107.218	112.945	68.845	113.709	100.677	107.943	106.012
1341–45	119.146	125.265	80.805	110.215	87.985	104.831	103.524
1346–50	97.031	95.659	105.200	93.175	97.403	94.511	97.237
1351–55	72.409	69.853	116.148	86.947	124.471	90.128	81.379
1356–60	91.461	93.222	81.215	93.606	100.413	91.839	95.510
1361–65	83.691	88.545	97.901	100.772	113.809	95.248	75.910
1366–70	100.981	91.568	96.691	87.454	95.507	96.444	78.287
1371–75	127.713	121.700	86.819	107.494	88.327	112.806	84.340
1376–80	141.270	161.343	66.984	123.239	76.383	107.907	95.609
1381–85	109.103	118.711	83.923	106.595	89.794	97.968	93.391
1386–90	103.191	125.351	65.270	129.661	103.438	106.739	95.414
1391–95	98.159	105.588	84.629	110.175	104.344	102.423	70.350
1396–1400	97.576	102.743	89.617	105.691	102.869	100.376	91.188
1401–05	104.263	99.936	94.166	93.653	93.713	97.708	91.245
1406–10	116.545	118.372	85.171	98.453	83.172	96.933	97.226
1411–15	113.292	134.175	73.719	115.522	86.097	97.541	101.728
1416–20	83.264	82.922	93.405	90.347	108.954	90.719	94.966
1421–25	104.625	114.252	74.137	98.120	85.881	89.852	88.039
1426–30	91.731	96.340	91.627	92.874	96.402	88.430	93.223
1431–35	105.968	105.021	86.681	96.341	91.735	97.210	97.881
1436–40	88.254	73.810	120.664	73.783	99.962	88.220	88.829
1441–45	115.740	141.908	53.885	127.972	90.180	104.374	105.095
1446–50	109.438	113.754	93.273	109.081	95.892	104.942	105.667

Sources: see the sources for Table 18.

lords borrowed money through mortgages, in using their land as collateral, they normally engaged in very long-term contracts.¹⁹

¹⁹ For landlord borrowing, see Raftis, *Peasant Economic Development*, pp. 65–70. The universal prohibition against usury (interest) has made it difficult for historians to ascertain interest rates in commercial contracts.

The primary problem that concerned late medieval manorial lords in using capital (for example, that invested in livestock herds) was not nominal but *real* interest rates. The real interest rate is the nominal rate *minus* the annual rate of inflation (percentage annual change in the Consumer Price Index); or, for the period concerned here, the nominal interest rate *plus* the annual rate of deflation. Thus, the deflation of the late fourteenth and early fifteenth centuries inexorably increased the real burdens of the manorial lords' annual interest payments, especially in relation to the much lower prices fetched for the sales of agricultural products. Indeed, Raftis depicts the growing plight of the Ramsey Abbey estates in the 1370s and 1380s as 'a period of lower prices and increasing capital costs on the demesne'.²⁰

The Novel Problem of Nominal 'Wage Stickiness' in Late Fourteenth-Century England

In relation to money wages, the problem of 'stickiness' is all the more complex. The flexibility of long-term wage movements depends upon the nature of the prevailing price movements. During periods of inflation, in medieval and early modern Europe, money wages generally did rise, but sluggishly, with significant time lags, and thus almost never in pace with the rise of commodity prices. Therefore, real wages necessarily fell during most periods of inflation, according to the standard formula, expressed in index numbers: $RWI = NWI/CPI$ (the real wage index = the nominal money wage index divided by the Consumer Price Index). In later medieval and early modern Europe, during periods of deflation, wages were far more rigid, so that real wages rose directly with falling prices. In this respect, what is now called 'downward wage-stickiness' is clearly related to monetary phenomena, in so far as they determine changes in the Consumer Price Index.

Henry Phelps Brown and Sheila Hopkins were amongst the first historians to call attention to this particular 'wage-stickiness' phenomenon, though they called it the 'elbow-joint' or 'ratchet effect'. They also contended that it was a new phenomenon in England, dating only from the later fourteenth century, but one that continued to prevail during subsequent periods of deflation, until the 1920s.²¹ As they noted, and as did Beveridge and Bridbury, the 1370s marked the first time that money wages did not fall with the Consumer Price Index, as they had done earlier, in the deflationary 1330s and 1340s.²² The same patterns of nominal wage-

²⁰ Raftis, *Peasant Economic Development*, p. 68.

²¹ Phelps Brown and Hopkins, 'Seven Centuries of Building Wages', pp. 7–8.

²² Phelps Brown and Hopkins, 'Seven Centuries of Building Wages', pp. 8–10. See in par-

stickiness during deflationary periods can also be demonstrated for the late medieval and early modern Low Countries.²³ Keynes observed that, while an inflation-induced fall in real wages rarely provokes hostile responses from organized labour, during deflationary periods, ‘every trade union will put up some resistance to a cut in money-wages, however small’, generally for fear that such losses may never be fully recouped.²⁴ John Langdon’s recent study on this issue confirms patterns of wage-stickiness in medieval England, but even before the Black Death.²⁵ The complex reasons for wage-stickiness, which cannot be the focus of this study, have been explored at length in several of my recent publications.²⁶

The Evidence of Manorial Wages in Later Medieval England

The collected evidence for manorial wages, both agricultural and industrial, in later fourteenth- and early fifteenth-century England is presented in Tables 20A–B to 21A–B. Only those purely money rates for labour alone, paid in silver pence, have been utilized, so that any wage payments that combined money and kind (food, drink, clothing) have been deliberately excluded.²⁷ The most important series are those for such seasonal agricultural workers as threshers and winnowers, reapers and binders, and mowers, presented in Table 20A, in five-year means. They are based the annual index-number data that David Farmer published in two volumes of the *Agrarian History of England and Wales*.²⁸ Farmer’s data have

ticular Beveridge, ‘Westminster Wages in the Manorial Era’, p. 31. See also Bridbury, ‘The Black Death’, p. 582.

²³ Munro, ‘Wage-Stickiness’, pp. 185–97; Munro, ‘Money, Prices, Wages, and “Profit Inflation”’.

²⁴ Keynes, *The General Theory*, p. 15. The late medieval Low Countries provide examples of labour strikes (textile guilds) and civic revolts when authorities attempted to cut money-wages, during deflationary periods, even though real wages were then rising. See Munro, ‘Gold, Guilds, and Government’.

²⁵ Langdon, ‘Waged Building Employment in Medieval England’.

²⁶ See in particular Munro, ‘Wage-Stickiness’; Munro, ‘Before and After the Black Death’.

²⁷ Farmer, ‘Prices and Wages’, pp. 760–78, 811–17; and Farmer, ‘Prices and Wages, 1350–1500’, pp. 467–90, 516–24; Phelps Brown and Hopkins, ‘Seven Centuries of Building Wages’, pp. 8–12; Beveridge, ‘Wages in the Winchester Manors’, pp. 22–43: ‘in the Winchester manors there is no reason for suspecting any general practice of supplementation’ of money wages, when food payments are not specified. When they are, they differ from the money-wage alone ‘as a rule by 2d. per day’ (pp. 36–37). See also Munro, ‘Wage-Stickiness’, pp. 194–212, and esp. pp. 202–04, and n. 48 (p. 275), for a critique of the view that supplementary wage-payments in kind were used to thwart the wage ordinances: as recently argued in Hatcher, ‘England in the Aftermath’.

²⁸ See also his earlier study: Farmer, ‘Crop Yields, Prices and Wages’.

Table 20A. National means of manorial agricultural wages in England: Piece-work rates for processing agricultural commodities (threshing and winnowing; reaping and binding) in silver pence and in index numbers (base: 1451–75 = 100) with calculations of real wages based on the Phelps Brown and Hopkins Consumer Price Index, 1331–35 to 1446–50

Years 5-year period	THRESHING AND WINNOWING GRAINS Piece rates per razed quarter (8 bushels)				REAPING AND BINDING GRAINS per acre of grains		
	CPI: based on Phelps Brown Hopkins (revised)	Threshing & Winnowing razed quarter of grains (Pence)	Threshing & Winnowing razed quarter of grains Index: 1451–75 = 100	RWI = NWI/CPI 1451–75 = 100 harmonic means	Reaping & Binding per acre of grains (Pence)	Reaping & Binding per acre of grains Index: 1451–75 = 100	RWI = NWI/CPI 1451–75 = 100 harmonic means
1331–35	109.108	5.358	51.692	46.586	6.402	64.242	58.730
1336–40	89.256	5.358	51.692	57.893	5.919	59.394	66.710
1341–45	85.533	5.402	52.107	60.912	6.076	60.970	71.277
1346–50	100.064	5.832	56.259	55.738	7.055	70.788	66.331
1351–55	126.472	6.262	60.411	46.468	7.876	79.030	62.273
1356–60	118.092	5.746	55.429	46.704	6.572	65.939	55.741
1361–65	137.976	6.252	60.307	43.542	8.033	80.606	58.291
1366–70	136.460	6.671	64.355	46.566	8.299	83.273	60.776
1371–75	127.345	7.414	71.518	55.280	8.480	85.091	65.891
1376–80	109.891	7.704	74.320	67.418	9.954	99.879	90.925
1381–85	113.190	8.038	77.538	68.007	9.072	91.030	78.986
1386–90	101.233	7.500	72.348	71.425	9.205	92.364	91.244
1391–95	103.953	7.414	71.518	68.700	8.734	87.636	83.473
1396–1400	110.648	7.962	76.811	69.165	8.734	87.636	77.934
1401–05	112.653	8.436	81.378	69.795	9.241	92.727	82.430
1406–10	109.927	8.726	84.181	76.101	9.918	99.515	90.550
1411–15	108.261	7.812	75.358	69.618	10.038	100.727	93.009
1416–20	113.598	8.920	86.049	74.925	9.857	98.909	86.918
1421–25	103.740	8.317	80.237	77.243	9.362	93.939	90.009
1426–30	112.610	8.221	79.302	70.570	9.048	90.788	79.884
1431–35	109.122	8.070	77.849	71.231	9.386	94.182	86.265
1436–40	124.218	10.254	98.920	77.342	9.561	95.939	77.596
1441–45	92.574	9.415	90.824	97.297	10.981	110.182	118.832
1446–50	101.241	8.920	86.049	84.038	9.942	99.758	98.561

Sources: *Consumer Prices*: see the sources for Table 18. *Wages*: Farmer, 'Prices and Wages', pp. 760–78, 811–17; Farmer, 'Prices and Wages, 1350–1500', pp. 467–90, 516–24. For the Phelps Brown and Hopkins CPI: see the sources for Table 18.

been converted into both silver pence and index numbers for both nominal and real wages, with the Phelps Brown and Hopkins base (1451–75 = 100), which is used in all other tables in this study. The ‘real wage’ calculations in Tables 20A and 20B are based not on his price index but on my revised Phelps Brown and Hopkins ‘Basket of Consumable’ Index used in the other tables (see Table 27).

The wage data for medieval English agricultural workers are highly problematic, in two respects. In the first place, these are piece-work wages: payments for the quantity of work done, without any reference to the time taken to fulfil these tasks. Rising piece rates might have meant less work done per day, though of course they still represented a higher labour cost for manorial lords, especially if, in contradiction to traditional economic theory, rising real wages did not represent increased productivity.²⁹ In the second place, the annual fluctuations of these piece-work wages do not clearly demonstrate the phenomenon of wage-stickiness, especially downward wage-stickiness during deflation. The problem here lies in the compilation of the data as ‘national averages’ by a method that suffers from ‘compositional’ errors. Because of both frequent annual gaps in the manorial data and regional wage variations, the calculations of the mean wage for each class of agricultural worker each year do not necessarily reflect actual wage changes in each and every region but changes in the composition of the data, so that the absence of either higher or lower wage manors in any given year skews the results. Furthermore, the piece rates varied according to the type of grain that was threshed and winnowed (wheat, barley, and oats); and not all were consistently recorded. Thus, even within each manor, annual changes in the composition of the piece-work wage group by such grains would also have skewed the results and produced spurious fluctuations.³⁰

Taking account of all these caveats, we observe from Table 20A that the nominal piece-work wages of threshers and winnowers (in index numbers) did indeed rise, as expected, after the Black Death: by 23.51 per cent from 1341–45 to 1366–70. That increase in nominal wage rates did not, however, match the inflationary rise in the Consumer Price Index, so that the real wage index actually fell

²⁹ Recently, Gregory Clark has sought a remedy for this vexing problem by using regression analysis (based on other wage data) to convert English agrarian piece work wages into daily wages (again, on a ‘national means’ basis); but his results are so strikingly at variance with the evidence produced here that they cannot reasonably be used in this study. Clark, ‘The Long March of History’, p. 101 and Table 1 at pp. 99–100.

³⁰ Munro, ‘Wage-Stickiness’, pp. 196–97. For varying rates according to the type of grain threshed (not made clear in Farmer), see Beveridge, ‘Wages in the Winchester Manors’, Table II, p. 39.

Table 20B. National means of manorial agricultural wages in England: Piece-work rates for processing agricultural commodities (mowing and spreading) in silver pence and in index numbers (base: 1451-75 = 100) with calculations of real wages based on the Phelps Brown and Hopkins Consumer Price Index, 1331-35 to 1446-50

MOWING AND SPREADING PER ACRE OF PASTURE				
per acre of meadow lands				
Years 5-year period	CPI: based on Phelps Brown Hopkins (revised)	Mowing & Spreading per acre of meadow Pence	Mowing & Spreading per acre of meadow Index: 1451-75 = 100	RWI = NWI/ CPI 1451-75 = 100 Harmonic means
1331-35	109.108			
1336-40	89.256			
1341-45	85.533			
1346-50	100.064			
1351-55	126.472	6.452	97.486	76.788
1356-60	118.092	6.181	93.381	78.689
1361-65	137.976	6.328	95.605	68.743
1366-70	136.460	7.618	115.102	83.481
1371-75	127.345	7.641	115.444	89.996
1376-80	109.891	7.505	113.391	103.194
1381-85	113.190	7.811	118.009	104.173
1386-90	101.233	7.392	111.681	110.193
1391-95	103.953	6.883	103.985	99.552
1396-1400	110.648	6.724	101.591	91.630
1401-05	112.653	6.764	102.189	89.673
1406-10	109.927	7.273	109.885	99.923
1411-15	108.261	6.962	105.182	95.792
1416-20	113.598	6.735	101.762	89.307
1421-25	103.740	7.200	108.774	104.626
1426-30	112.610	6.684	100.992	89.487
1431-35	109.122	6.226	94.065	86.110
1436-40	124.218	6.764	102.189	82.098
1441-45	92.574	6.407	96.802	104.580
1446-50	101.241	6.305	95.263	93.925

Sources: *Consumer Prices*: see the sources for Table 18. *Wages*: Farmer, 'Prices and Wages', pp. 760-78, 811-17; Farmer, 'Prices and Wages, 1350-1500', pp. 467-90, 516-24. *For the Phelps Brown and Hopkins CPI*: see the sources for Table 18.

by a striking 23.55 per cent over this same period, as a mirror image. Reapers and binders experienced a steeper rise in their nominal wages in this period: a mean of 36.58 per cent, from 1341–45 to 1366–70, though also with a temporary decline in 1356–60; and again, nominal wages rose by only by only 5.36 per cent from 1351–55 to 1366–70. Similarly their real wages also fell after the Black Death: by 21.80 per cent, from 1341–45 to the trough of 1356–60; and, though rising thereafter, their real wages in 1366–70 were still only 85.37 per cent of what they had earned in the early 1340s. Thus we may thus assume that the rise in nominal wages was largely a monetary phenomenon, as part of the post-plague inflations.³¹

In the deflationary era that ensued, from the later 1370s, real wages did rise, as expected, for the various manorial agricultural workers. If we compare real wages in the quinquennium 1366–70 with those for three decades later, in 1396–1400, we find that those for threshers and winnowers had risen by 48.53 per cent; those for reapers and binders, by 28.23 per cent; and those for mowers, by only 9.76 per cent.³² The nominal wage-rates for threshers in 1396–1400 were 19.36 per cent higher than in 1366–70, but they were virtually unchanged from 1371–75 to 1391–95 (having increased just before and just after those dates). Those for reapers were just 6.5 per cent higher, while those for mowers were, in fact, 11.74 per cent lower (for reasons not readily explained). This evidence suggests that the real wage gains were derived from a combination of monetary deflation and varying degrees of institutional wage-stickiness, though one possibly distorted by the calculation of national means, and by the nature of the occupations.

From the end of the fourteenth century through the first three decades of the fifteenth century, we find moderate fluctuations in the price level, but general stability in the CPI from 1396–1400 to 1426–30. During this thirty-year period, nominal wages changed overall by very modest amounts: a rise of 3.24 per cent, for threshers; a rise of 3.60 per cent for reapers, but a decline of 2.34 per cent for mowers. Consequently, the mowers suffered a small decrease of 2.34 per cent in real wages, while the first two groups enjoyed only minimal real-wage gains: 2.03 per cent and 2.50 per cent, respectively. These observations do not justify any important conclusions about relative labour scarcities during the first third of the fifteenth century.

³¹ Munro, 'Wage-Stickiness', pp. 95–291; Munro, 'Before and After the Black Death', pp. 335–64.

³² Note from Tables 20–23 that the quinquennial mean real wages are computed by the harmonic mean, which is always somewhat lower than the arithmetic mean. For an explanation of these two means, see Munro, 'Wage-Stickiness', pp. 278–79, n. 83. Farmer supplied no wages for mowers before 1350.

Table 21A. National means of manorial building wages in England: Daily wages for master carpenters and thatchers (and mates) in silver pence and in index numbers (base: 1451–75 = 100) with calculations of real wages based on the Phelps Brown and Hopkins Consumer Price Index, 1331–35 to 1446–50

Year Michaelmas Five-year period	CARPENTERS: MANORIAL in pence per day				THATCHER & MATES: MANORIAL in pence per day		
	Phelps Brown & Hopkins CPI (Revised)	Carpenter solo per day Pence	Carpenter solo per day Index: 1451–75 = 100	Real Wage Index RWI = NWI/CPI harmonic means	Thatcher & mate per day Pence	Thatcher & mate per day Index: 1451–75 = 100	Real Wage Index RWI = NWI/CPI harmonic means
1331–35	109.108	3.243	58.877	54.050	3.792	41.639	38.030
1336–40	89.256	3.136	56.945	63.373	3.882	42.625	47.834
1341–45	85.533	2.999	54.444	63.364	3.553	39.011	45.560
1346–50	100.064	3.293	59.786	59.090	4.204	46.156	45.180
1351–55	126.472	3.524	63.992	50.181	4.682	51.413	40.626
1356–60	118.092	3.956	71.835	60.774	4.608	50.591	42.687
1361–65	137.976	4.188	76.040	55.102	5.333	58.558	42.389
1366–70	136.460	4.332	78.654	57.697	5.685	62.418	45.798
1371–75	127.345	4.194	76.154	59.602	5.887	64.635	50.731
1376–80	109.891	4.194	76.154	69.304	6.066	66.606	60.747
1381–85	113.190	4.319	78.427	69.095	6.171	67.756	59.676
1386–90	101.233	4.207	76.381	75.388	6.119	67.181	66.293
1391–95	103.953	4.269	77.518	74.465	6.313	69.317	66.240
1396–1400	110.648	4.276	77.631	70.193	6.253	68.660	62.010
1401–05	112.653	4.639	84.224	74.644	6.567	72.109	63.613
1406–10	109.927	4.733	85.929	77.377	6.829	74.984	67.938
1411–15	108.261	4.344	78.882	72.716	6.552	71.945	66.124
1416–20	113.598	4.582	83.201	73.118	6.882	75.558	66.445
1421–25	103.740	4.657	84.565	81.328	6.171	67.756	65.038
1426–30	112.610	4.970	90.248	80.267	7.667	84.182	74.515
1431–35	109.122	4.826	87.634	79.953	7.443	81.718	74.736
1436–40	124.218	5.396	97.977	79.105	8.774	96.337	77.113
1441–45	92.574	5.064	91.953	99.365	8.767	96.255	102.614
1446–50	101.241	5.283	95.931	94.597	8.804	96.666	95.316

Sources: *Consumer Prices*: see the sources for Table 18. *Wages*: Farmer, 'Prices and Wages', pp. 760–78, 811–17; Farmer, 'Prices and Wages, 1350–1500', pp. 467–90, 516–24. *For the Phelps Brown and Hopkins CPI*: see the sources for Table 18.

Some useful comparisons may be made with the piece-work wage data that Lord Beveridge published so long ago for threshing and winnowing on eight Winchester manors, though regrettably only in decennial means.³³ For the thirty-year period from 1340–49 to 1360–69, the threshers' piece-work wages rose, on average, by 21.27 per cent, from 5.03d. to 6.10d. per quarter (= 8 bushels), and thus by less than half the rate of inflation: a 48.40 rise in the CPI. Over the same period, Farmer's 'national wage data' for threshers rose somewhat less: by 15.03 per cent (from 5.62 d to 6.46 d per quarter). The Beveridge wage data for threshers also continued to rise after the inflation had ceased. If we examine the threshing rates for the individual Winchester manors we find that threshing rates had peaked at 7.25d. per quarter at Downton in 1370–79, at Meon in 1380–89, and at both Overton and Ecchinswell (Itchingswell) in 1400–09. They had peaked at the higher rate of 7.50d. in Wycombe in 1370–79, and at both Wargrave and Farnham in 1380–89. Thereafter, those threshing rates remained fixed in all these manors until the Beveridge data terminate in the 1450s. Thus they demonstrate the same wage stickiness found in English (and Flemish) industrial wages during prolonged deflation.³⁴

The Evidence of Manorial and Urban Wage Data for Building Craftsmen

The 'national mean' daily wage rates for manorial building craftsmen are presented in Table 21A, but only for masters (carpenters, masons, thatcher, and tilers/slaters). This wage-rate series is again based on Farmer's published data, which are subject to similar caveats previously noted.³⁵ If we focus only on carpenters, we do find the expected rise in nominal daily wages after the Black Death: by 44.47 per cent from the mean of 1341–45 (3.00d.) to the mean of 1366–70 (4.33d.); and this table also reveals the same fall in real wages, because the CPI had risen so much more during this period. While these 'national' wage data do not portray the same wage-stickiness found elsewhere, they do reveal a remarkable stability in nominal wages, from the early 1360s to the late 1390s, never varying by more than 1.40 per cent from the mean wage of 4.247d. for these three decades. If, however, we examine the annual wage data for carpenters

³³ Beveridge, 'Wages in the Winchester Manors', pp. 22–43. Data are missing for Witney and Esher manors in the later fourteenth and fifteenth centuries; but the Esher data are excluded from the Beveridge mean.

³⁴ Munro, 'Wage-Stickiness', Table 6, pp. 243–44; Tables 10–15, pp. 252–63.

³⁵ See above pp. 309–11 and n. 27.

on individual Winchester manors we do indeed find that expected 'wage-stickiness': carpenters' wages that are constantly at 4d. from the 1370s to the 1390s at Ecchinswell, Taunton, Witney (some at 5d.), and Wycombe; and constantly at 5d. at Esher, for these same three decades.³⁶

In Farmer's 'national' wage means for carpenters for the fifteenth century, we find another rise in nominal wages during the first-quarter: overall, by 8.91 per cent, from a mean of 4.276d. in 1396–1400 to one of 4.657d. in 1421–25. That rise parallels the rise shown in Tables 21A/B for urban carpenters. Thereafter, however, unlike these urban wage data, the 'national' means of nominal manorial industrial wages continue to rise (despite two quinquennial declines), reaching a mean, for carpenters, of 5.283d. in 1446–50, when they are 23.57 per cent higher than the nominal wages of the late 1390s. Over this same half-century period, the real wage index (for carpenters) also rose — and even more — by 34.77 per cent.³⁷

In nominal money values, Farmer's 'national' average daily wage for manorial master carpenters in the base period 1451–75 was 5.508d., which is 91.8 per cent of the Phelps Brown and Hopkins mean wage for small-town master carpenters: 6.000d. (Table 21A). At the end of the fourteenth century, Farmer's 'national' average daily money wage for manorial carpenters (4.276d. in 1396–1400) was 85.52 per cent of the urban daily wage (5.000d.). Earlier, in 1361–65, the gap had been even wider: 83.76 per cent (Tables 20B and 21A). This growing convergence of manorial and urban industrial wages may reflect one or even both of the following possibilities. The first possibility is a growing relative labour scarcity in rural areas, possibly in response to urban industrial competition, aided by an enhanced rural labour mobility — itself a reflection of manorial economic decline.³⁸ The second but speculative possibility to explain this growing wage convergence is the continual abandonment of direct demesne cultivation from the 1370s to the 1420s; for that may have left only fewer and possibly more profitable manorial and higher wage-paying demesnes to record wage payments, in documents that are indeed very sparse by the mid-century.

Finally, we may supplement Farmer's and Beveridge's 'wage means', presented in Tables 22 and 23, with annual data extracted from several individual manorial accounts: for the Battle Abbey manors, Westminster Abbey, Bury St Edmunds Abbey manor of Redgrave (Suffolk), Croyland Abbey, and for eight of the Winchester manors (Downton, Ecchinswell, Esher, Ivinghoe, Overton, Taunton,

³⁶ LSE Archives, Beveridge, Boxes A.30–33.

³⁷ See Table 21A: the percentage changes are calculated by the index numbers.

³⁸ See Raftis, *Tenure and Mobility*.

Table 21B. National means of manorial building wages in England: Daily wages for slaters (and mates), and masons in silver pence and in index numbers (base: 1451–75 = 100) with calculations of real wages based on the Phelps Brown and Hopkins Consumer Price Index, 1331–35 to 1446–50

Year Michaelmas Five-year period	SLATER/TILERS & MATES				MASONS solo		
	Phelps Brown & Hopkins CPI (Munro)	Slater/ Tiler & mate per day Pence	Slater/ Tiler & mate per day Index: 1451–75 = 100	Real Wage Index RWI = NWI/ CPI harmonic means	Mason solo per day Pence	Mason solo per day Index: 1451–75 = 100	Real Wage Index RWI = NWI/ CPI harmonic means
1331–35	109.108	5.565	57.381	52.569			
1336–40	89.256	5.135	52.946	59.428			
1341–45	85.533	5.246	54.095	63.104			
1346–50	100.064	5.172	53.329	52.674			
1351–55	126.472	6.011	61.980	49.061	3.901	68.495	54.123
1356–60	118.092	6.117	63.075	53.339	4.031	70.770	59.784
1361–65	137.976	6.499	67.017	48.544	4.331	76.039	55.057
1366–70	136.460	7.041	72.602	53.385	4.215	74.003	53.838
1371–75	127.345	7.668	79.063	60.777	4.488	78.793	60.605
1376–80	109.891	7.052	72.711	66.205	4.713	82.745	75.299
1381–85	113.190	7.519	77.530	68.059	4.788	84.062	73.735
1386–90	101.233	7.492	77.256	76.249	4.269	74.961	73.418
1391–95	103.953	7.190	74.135	71.409	4.528	79.511	75.455
1396–1400	110.648	7.381	76.106	68.835	4.324	75.919	68.453
1401–05	112.653	8.050	83.005	73.674	4.651	81.667	71.885
1406–10	109.927	7.848	80.924	73.568	5.054	88.732	80.270
1411–15	108.261	7.816	80.596	73.867	4.849	85.140	77.680
1416–20	113.598	8.326	85.852	75.202	5.296	92.983	80.323
1421–25	103.740	8.358	86.180	83.027	5.429	95.318	91.175
1426–30	112.610	8.167	84.209	74.237	5.313	93.282	82.142
1431–35	109.122	8.454	87.166	79.566	4.979	87.415	78.991
1436–40	124.218	9.006	92.860	74.641	5.569	97.773	77.873
1441–45	92.574	9.091	93.736	101.119	5.224	91.726	98.609
1446–50	101.241	9.154	94.393	92.497	5.531	97.114	95.690

Sources: see the sources for Tables 20A and 20B.

Table 22. Wages for master building craftsmen (masons and carpenters) in small towns of southern England (excluding London) compared with the Phelps Brown and Hopkins (Revised) Consumer Price Index and with the value of the annual real wage income expressed in PBH 'Consumer Baskets'. From 1331-35 to 1446-50 in quinquennial means (arithmetic and harmonic) RWI = NWI/CPI; Real Wage Index = Nominal Wage Index/Consumer Price Index (base: 1451-75 = 100)

5-Year Mean	Total Value of PBH Basket in pence (d. sterling) Arithmetic	PBH Prices Consumer Price Index Munro version 1451-75 = 100 Arithmetic	Master Nominal Day Wage in pence (d. sterling) Arithmetic	Master Mason: Nominal Wage Index 1451-75 = 100 [= 6d. daily] Arithmetic	Master Mason: Real Wage Index (Munro) 1451-75 = 100 Arithmetic	Master Mason: Real Wage Index (Munro) 1451-75 = 100 Harmonic	Master RWI No. of Baskets Consumed in one year (210 days) Harmonic
1331-35	123.074	109.108	4.000	66.667	62.454	61.102	6.825
1336-40	100.682	89.256	3.600	60.000	68.025	66.986	7.482
1341-45	96.482	85.533	3.000	50.000	58.586	58.457	6.530
1346-50	112.873	100.064	3.000	50.000	50.478	49.968	5.582
1351-55	142.661	126.472	3.600	60.000	48.657	46.552	5.200
1356-60	133.209	118.092	4.600	76.667	64.902	64.611	7.217
1361-65	155.637	137.976	5.000	83.333	60.609	60.397	6.746
1366-70	153.928	136.460	5.000	83.333	62.159	61.068	6.821
1371-75	143.646	127.345	5.000	83.333	65.966	65.439	7.310
1376-80	123.958	109.891	5.000	83.333	76.871	75.832	8.471
1381-85	127.679	113.190	5.000	83.333	73.729	73.622	8.224
1386-90	114.191	101.233	5.000	83.333	82.501	82.319	9.195
1391-95	117.259	103.953	5.000	83.333	81.269	80.165	8.955
1396-1400	124.812	110.648	5.000	83.333	75.701	75.314	8.413
1401-05	127.073	112.653	5.100	85.000	76.605	75.156	8.395
1406-10	123.998	109.927	5.800	96.667	88.612	88.115	9.843
1411-15	122.119	108.261	6.000	100.000	92.491	92.369	10.318
1416-20	128.139	113.598	6.000	100.000	88.744	88.030	9.833
1421-25	117.020	103.740	6.000	100.000	96.599	96.395	10.767
1426-30	127.025	112.610	6.000	100.000	90.703	88.802	9.919
1431-35	123.090	109.122	6.000	100.000	91.801	91.641	10.236
1436-40	140.118	124.218	6.000	100.000	84.039	80.504	8.992
1441-45	104.424	92.574	6.000	100.000	108.344	108.022	12.066
1446-50	114.200	101.241	6.000	100.000	98.912	98.774	11.033

Sources: English consumer prices: see the sources for Table 18. Wages for building craftsmen (masters and labourers): Phelps Brown and Hopkins, 'Seven Centuries of Building Wages'; Munro, 'Builders' Wages in Southern England and the Southern Low Countries'.

Witney, Wycombe).³⁹ For the period immediately following the Black Death, all extant manorial accounts indicate a rise in the daily money wages for master carpenters, masons, and other building craftsmen (daubers, tilers, thatchers) from about 3d. (or less) to 4d.; but, as just noted, 4d. had been the prevailing daily money wage in the 1330s (at Redgrave, Croyland Abbey, Westminster, and Overton — though not at Wycombe and Ecchinswell). By the later fourteenth or early fifteenth century, the prevailing daily money wage for master carpenters on these manors had risen from 4d. to 5d. For the 1450s (when the Winchester manorial wage accounts cease), Beveridge has computed a decennial mean average daily wage of 5.23d. for carpenters on eight Winchester manors.⁴⁰ The analysis of the aforesaid individual various manorial accounts indicates that the following were the prevailing daily wage rates for carpenters in the 1440s and 1450s: 5d. and sometimes 6d., at Ecchinswell, Esher, Ivinghoe, Witney, and Wycombe; 5d., at Overton and Taunton; 5d. or 6d., at Winchester College; 5d., at Oakington (Croyland Abbey); 5d., at Redgrave; 4d., 5d., or even 6d., at Battle Abbey (but many at 3d. or 4d. with food).⁴¹ In so far as the very sparse subsequent manorial evidence indicates, these rates prevailed into the early sixteenth century.

The overall picture of late fourteenth- and early fifteenth-century agrarian wages is quite clear. Despite the evidence for wage-stickiness and despite evidence for some periodic if modest declines in other agrarian wage data, previously cited, the costs of employing labour on English demesnes had generally risen to a very high level by the early fifteenth century, while the prices of the primary agricultural commodities (along with the consumer price index) continued to fall, sometimes sharply, during the first quarter of this century, as may be clearly seen in Tables 18 and 19. Hence, the price-cost scissors was becoming even worse for so many manorial lords.

The Debate about Real Wages and Labour Productivity

While the 'price-cost scissors' theorem is expressed in terms of purely nominal prices and wages, the vexing question of real wages still has considerable relevance for this debate, in so far as it also concerns the important issue of changes in labour productivity. The evidence for the real-wage changes are presented in

³⁹ LSE Archives, Beveridge, Box A.33 (Winchester Manors); LSE Archives, Beveridge, Box F.8 (Winchester College); LSE Archives, Beveridge, Box G.10 (Croyland); LSE Archives, Beveridge, Box G.14 (Redgrave); LSE Archives, Beveridge, Box H.10 (Battle Abbey).

⁴⁰ Beveridge, 'Wages in the Winchester Manors', Table III at p. 40.

⁴¹ See n. 39 above.

Table 23. Wages for labourers of master building craftsmen in small towns of southern England (excluding London). Compared with the Revised Phelps Brown and Hopkins 'Basket of Consumables' Consumer Price Index and with the annual real wage income expressed in PBH 'Consumer Baskets' in quinquennial means (arithmetic and harmonic), 1331–35 to 1446–50, base: 1451–75=100 RWI = NWI/CPI: Real Wage Index = Nominal Wage Index/Consumer Price Index

5-Year Means	PBH Prices Consumer Price Index Revised version 1451–75 = 100 Arithmetic	Labourer Nominal Day Wage in pence (d. sterling) Arithmetic	Labourer's Wage as Percentage of Master Arithmetic	Mason Labourer Nominal Wage Index 1451–75 = 100 [= 4d. daily] Arithmetic	Mason Labourer Real Wage Index (Munro) 1451–75 = 100 Arithmetic	Mason Labourer Real Wage Index (Munro) 1451–75 = 100 Harmonic	Labourer RWI No. of Baskets Consumed in one year (210 days) Harmonic
1331–35	109.108	2.000	50.00%	50.000	46.841	45.826	3.413
1336–40	89.256	1.800	50.00%	45.000	51.019	50.239	3.741
1341–45	85.533	1.500	50.00%	37.500	43.939	43.843	3.265
1346–50	100.064	1.500	50.00%	37.500	37.858	37.476	2.791
1351–55	126.472	1.800	50.00%	45.000	36.492	34.914	2.600
1356–60	118.092	2.600	56.22%	65.000	54.943	54.039	4.024
1361–65	137.976	3.000	60.00%	75.000	54.548	54.357	4.048
1366–70	136.460	3.000	60.00%	75.000	55.943	54.961	4.093
1371–75	127.345	3.000	60.00%	75.000	59.369	58.895	4.386
1376–80	109.891	3.000	60.00%	75.000	69.184	68.249	5.082
1381–85	113.190	3.000	60.00%	75.000	66.357	66.260	4.934
1386–90	101.233	3.000	60.00%	75.000	74.251	74.087	5.517
1391–95	103.953	3.000	60.00%	75.000	73.142	72.148	5.373
1396–1400	110.648	3.000	60.00%	75.000	68.131	67.782	5.048
1401–05	112.653	3.200	62.73%	80.000	72.499	70.065	5.218
1406–10	109.927	3.800	65.45%	95.000	86.910	86.562	6.446
1411–15	108.261	4.000	66.67%	100.000	92.491	92.369	6.879
1416–20	113.598	4.000	66.67%	100.000	88.744	88.030	6.555
1421–25	103.740	4.000	66.67%	100.000	96.599	96.395	7.178
1426–30	112.610	4.000	66.67%	100.000	90.703	88.802	6.613
1431–35	109.122	4.000	66.67%	100.000	91.801	91.801	6.824
1436–40	124.218	4.000	66.67%	100.000	84.039	80.504	5.995
1441–45	92.574	4.000	66.67%	100.000	108.344	108.022	8.044
1446–50	101.241	4.000	66.67%	100.000	98.912	98.774	7.356

Sources: see the sources for Table 22.

Tables 20–23.⁴² The previously advanced thesis (that the rise of real wages from the 1370s to about 1400 was due essentially to a combination of monetary deflation and downward wage-stickiness) fails, however, to explain the early fifteenth-century rise in real wages for industrial craftsmen, both manorial and urban. Why did their nominal wages rise even more, without any significant adjustments in the Consumer Price Index? As noted earlier, however, the evidence for purely agricultural manorial workers (threshers, reapers, mowers) is mixed, without any consistent overall trend in either nominal or real wages.⁴³ We may well ask how the English economy produced and maintained or justified any sustained rise in nominal wages in and from the early fifteenth century. Was it primarily a question of increased labour productivity, or of Total Factor Productivity (combining land, labour, and capital)? For one answer (but not a definitive one), we may revert to the alternative formula of the real wage, which now must be properly defined as: $RW = MRPL$: that is, the Real Wage is a function of the *Marginal Revenue Product of Labour*. Thus, if the worker's labour productivity rose but the *real* market value of his output fell, the expected increase in his real wage would have been indeterminate (or even negative).

In this respect, we should reconsider the Ricardian argument advanced earlier in this study, and the one that most economic historians continue to favour: namely, that the post-plague fall in population and the consequent alteration of the land:labour ratio necessarily led to a sharp rise in labour productivity. Indeed, Gregory Clark, in a recent article, stoutly defending the Malthusian-Ricardian approach to European economic history, has presented two dramatic graphs on this issue. The first shows a tripling of labour productivity in English agriculture, apparent from immediately after the Black Death, reaching its peak in the mid-fifteenth century; and the second shows a comparable tripling in agricultural real wages over this same period.⁴⁴ The evidence presented in this study, while certainly substantiating the view that real agrarian wages ultimately did rise (from the 1370s), does not support Clark's conclusion that they 'tripled'.⁴⁵

There are two major problems in using the Ricardian 'real wage' model on rising labour productivity to explain a price-cost squeeze, and specifically one that led to the abandonment of manorial demesne cultivation. The first is theoretical.

⁴² See Munro, 'Wage-Stickiness', pp. 185–297.

⁴³ See above, pp. 312–13. Downward wage-stickiness once again became important during the second deflationary 'bullion famine' from the 1440s to the 1470s, for both England and the Low Countries. See Munro, 'Wage-Stickiness', pp. 217–30.

⁴⁴ Clark, 'The Long March of History', Figure 2, p. 104; Figure 3, p. 106; and Figure 4, p. 109.

⁴⁵ See above, pp. 315–19.

If rising 'real' wages had been the product of an increasing marginal productivity of labour, with a much smaller quantity of more efficient labour working far better residual lands, why would manorial landlords have been concerned? For their total wage bill, with fewer workers per arable acre, might have decreased, not increased. Furthermore, why would any medieval English landlord have been concerned if his hired labourers earned a higher 'real' wage because their cost of living had fallen, with so much cheaper foodstuffs? To be sure, in accordance with Ricardian theory, the economic rent ('Ricardian surplus') on his demesne lands would have declined over time, but we may doubt that such manorial lords would have gained any more by leasing such lands at a presumably lower annual rental income. Answers to this first problem may be found in an examination of the second problem.

The second problem concerns the evidence on arable labour productivity, evidence that Clark neglected to consider. Several recent studies indicate that labour productivity in arable agriculture very likely fell, not rose, from the Black Death to the late fourteenth century, though they do not explain this paradox.⁴⁶ One possible solution is revealed in earlier studies of Bruce Campbell. He had utilized Esther Boserup's well known demographic-agrarian thesis to contend that, in the later thirteenth and early fourteenth centuries, growing population pressures on relatively inelastic supplies of arable land had provided the requisite spur for innovations that led to productivity increases, especially in multiple-course crop rotations designed to reduce the proportion of land in fallow.⁴⁷ The subsequent fall in population, especially after the Black Death, resulting (as already noted) in more abundant supplies of land and falling grain prices, thus evidently removed the incentives to use the more advanced fallow-reducing techniques. At the same time, many of those techniques were labour intensive, so that labour scarcities may have prevented their proper implementation.

Tables in Campbell's recent publications clearly demonstrate a steady decline in crop yields and thus in agricultural productivity (Total Factor Productivity), following the Black Death, and well into the fifteenth century. In Norfolk, the weighted annual cereal yields fell from a mean of 11.9 bushels per acre in 1325–49 to one of 8.0 bushels per acre in 1400–24.⁴⁸ Various other various studies (Raftis,

⁴⁶ Raftis, 'Peasants and the Collapse of the Manorial Economy', pp. 191–206; Farmer, 'The Famuli'. See also: Stone, 'Medieval Farm Management and Technological Mentalities'; Stone, 'The Productivity of Hired and Customary Labour'; Stone, 'The Productivity and Management of Sheep'; Stone, *Decision-Making in Medieval Agriculture*.

⁴⁷ Boserup, *Population and Technological Change*; Campbell, 'Agricultural Progress in Medieval England'; Campbell, 'Arable Productivity in Medieval England'; and Campbell, 'Progressiveness and Backwardness'.

⁴⁸ Campbell and Overton, 'A New Perspective', esp. Table 5, p. 70; Campbell, *English*

Farmer, Stone, Dyer) on arable productivity in post-Plague English agriculture also indicate, however, a corresponding rise in labour productivity in pastoral or livestock agriculture, in that fewer persons were employed to look after a given flock of sheep or herd of cattle.⁴⁹

The Shift from Manorial Arable to Pastoral (Livestock) Agriculture: Price Incentives and Evidence

Changes in relative agricultural prices in the later fourteenth century further explain why many manorial landlords, in retaining their demesnes, shifted more and more from arable to pastoral agriculture, though not necessarily in the form of wool-growing. As previously noted, and as may be seen again in Table 19, *relative commodity prices* clearly moved in favour of livestock products, especially meats and dairy products, though that favourable movement did not persist into the fifteenth century, except briefly for dairy products.⁵⁰ Furthermore, Christopher Dyer has contended that the sustained rise of real wages, by the later fourteenth century, had led to a substantial increase in the consumption of meat and dairy products.⁵¹

To substantiate this thesis of a shift from arable to pastoral agriculture, we may cite Bruce Campbell's abundant evidence on the use of manorial demesne lands for arable and livestock agriculture. He found that arable sown areas fell from a mean of 172.10 acres (or 69.65 hectares) per demesne ('retained in hand') in 1300–49 to a one of 147.10 acres in 1350–99 and then to one of 142.80 acres in 1400–50: an overall decline of 17.02 per cent. Over these same three periods, the percentage sown in grain (as opposed to legumes, etc.) fell from 90.47 per cent to 82.21 per cent of total sown acreage. For those 'home' counties servicing the

Seigniorial Agriculture, Table 7.13, p. 374; Campbell, 'Matching Supply to Demand', Tables 4–5, pp. 837, 840.

⁴⁹ See sources cited in n. 46 above; and see also Dyer, *Lords and Peasants in a Changing Society*, pp. 150–51: noting that, on the Worcester manors, in 1449–50, one shepherd managed flocks of 400–500 sheep, compared to a ratio of one shepherd to 250–300 sheep on these manors in the late 1380s.

⁵⁰ In these commodity price ratios the price-index for the commodity being considered is the numerator, and that for the product being compared is the denominator. If the ratio moves above 100, the change favours the first product (numerator), if the ratio falls below 100, the change favours the other product (denominator).

⁵¹ Dyer, 'English Diet'; Dyer, 'Changes in Diet'; Dyer, *Standards of Living*, especially chaps 5–8; Dyer, 'The Consumer and the Market'. See *Revolution and Consumption*, ed. by Hicks.

Table 24. Prices and price indexes for wools, livestock products and the Phelps Brown and Hopkins Composite Price Index, and wool export taxes, in quinquennial means, from 1331–35 to 1446–50 (base: 1451–75 = 100)

Year 5-year means	All Wools: Mean Prices per sack £ sterling	Wool Price Index: 1451–75 = 100 £3.4917	Better Wools:* Mean Price per sack £ sterling	Better Wools:* Price Index 1451–75 = 100 £4.8544	CPI: Phelps Brown & Hopkins 1451–75 = 100	Denizen Export Duties on Wool Sacks shillings	Denizen Export Duties as Percen- tage of Prices for Better Wools	Alien Export Duties on Wool Sacks shillings	Alien Export Duties as Percentage of Prices for Better Wools
1331–35	5.031	144.080	5.370	110.610	109.108	10.373	9.66%	14.559	13.56%
1336–40	4.264	122.110	4.646	95.700	89.256	29.556	31.81%	41.501	44.67%
1341–45	4.498	128.830	4.947	101.910	85.533	40.247	40.68%	43.333	43.80%
1346–50	4.222	120.910	4.713	97.090	100.064	40.000	42.43%	43.333	45.97%
1351–55	3.923	112.360	4.446	91.580	126.472	40.000	44.99%	43.333	48.74%
1356–60	4.050	116.000	5.243	108.010	118.092	40.000	38.14%	43.333	41.32%
1361–65	4.306	123.310	5.606	115.470	137.976	44.110	39.34%	46.110	41.13%
1366–70	5.624	161.080	6.689	137.800	136.460	49.650	37.11%	50.000	37.37%
1371–75	6.422	183.920	7.895	162.640	127.345	51.584	32.67%	53.333	33.78%
1376–80	6.582	188.490	7.536	155.240	109.891	51.584	34.22%	53.333	35.38%
1381–85	5.097	145.960	5.995	123.490	113.190	51.584	43.02%	53.333	44.48%
1386–90	4.111	117.740	5.071	104.460	101.233	50.100	49.40%	52.166	51.43%
1391–95	4.266	122.170	4.953	102.040	103.953	51.414	51.90%	53.163	53.66%
1396–1400	4.814	137.860	5.241	107.970	110.648	51.584	49.21%	56.555	53.95%
1401–05	5.065	145.050	5.702	117.460	112.653	52.771	46.28%	61.187	53.66%
1406–10	4.974	142.440	6.219	128.114	109.927	51.584	41.47%	60.000	48.24%
1411–15	5.426	155.380	5.954	122.650	108.261	51.584	43.32%	60.000	50.39%
1416–20	4.155	119.000	4.592	94.590	113.598	51.584	56.17%	68.000	74.05%
1421–25	4.205	120.420	5.269	108.540	103.740	45.425	43.11%	62.658	59.46%
1426–30	4.613	132.110	5.015	103.300	112.610	51.584	41.46%	53.333	53.18%
1431–35	4.928	141.130	5.613	115.630	109.122	41.584	37.04%	57.103	50.86%
1436–40	4.440	127.160	5.322	109.630	124.218	41.584	39.07%	62.267	58.50%
1441–45	4.188	119.930	5.201	107.150	92.574	41.584	39.97%	63.333	60.88%
1446–50	4.119	117.960	5.379	110.800	101.241	41.584	38.66%	63.333	58.88%

* Prices for wools from Wiltshire, Hampshire, and St Swithin's manors (all of the bishop of Winchester's manors), Wiltshire and the Berkshire Downs, the Vale of White Horse to Thames Valley; Oxfordshire, Berkshire, and adjacent parts of Wiltshire; Worcestershire, the Cotswolds (Oxfordshire, Gloucestershire, and adjacent parts of Wiltshire); the Chilterns (Oxfordshire, Buckinghamshire, Hertfordshire); north-east Oxfordshire and north Buckinghamshire.

Sources for Table 24: *English Wood Prices*: Lloyd, *The Movement of Wool Prices*, Statistical Appendix, pp. 35–51, cols 2–5, 10–13; *English Wool Export Duties*, including the Calais duty on denizen exports to Calais (from 1363): *Calendar of the Fine Rolls*, IV (*Edward II, 1327–1337*) to XXI (*Edward IV, Edward V, Richard III, 1471–1485*); *Rotuli parliamentorum*, II–V; Barnes, ‘The Taxation of Wool’; Gras, *The Early English Customs System*, pp. 75–80; Carus-Wilson and Coleman, *England’s Export Trade*, pp. 194–96; Ormrod, ‘The Crown and the English Economy’. *Consumer Prices (based upon the Phelps Brown and Hopkins ‘Basket of Consumables’ Price Index*: LSE Archives, Phelps Brown, Box Ia:324, LSE Archives, Phelps Brown, Box J.IV.2.a. See also the sources for Table 18.

London market, during a different set of comparisons periods, 1288–1315 and 1375–99, the mean cropped or sown arable demesne areas fell even more: 23.21 per cent, from a mean of 224.0 acres to one of 172.0 acres.⁵² Campbell’s other tables make clear that a corresponding shift to livestock raising had taken place on the surviving demesnes. From the first half of the fourteenth century through the first half of the fifteenth, mean livestock units, per 100 grain acres in demesne, increased from 64.80 units to 89.30 units.⁵³ Finally, his statistical tables also demonstrate a relative shift in manorial demesne incomes from their arable to their livestock sectors, between the late thirteenth and late fourteenth centuries. In the period 1288–1315, in the counties servicing the London market, manorial demesne revenues from arable lands constituted 64.40 per cent of the total, and livestock for the remaining 35.60 per cent. For 1375–1400, the proportions were almost reversed: only 47.80 per cent of incomes came from arable agriculture and the remaining 52.20 per cent came from livestock raising.⁵⁴

The Economics of Wool Production and of Wool Exports in the Fourteenth Century

Nevertheless, the relative shift from arable to pastoral farming, even in the classic Midlands manorial zone of ‘sheep-corn’ husbandry, had not necessarily favoured wool production *per se*. Rather, as Tables 19 and 24 indicate, changes in the relative prices ratios, from the 1380s, became more favourable to meat and to dairy products than to wools. Of much more concern for many manorial land-

⁵² Campbell, ‘Matching Supply to Demand’, Tables 4–5, pp. 837, 840; Campbell, *English Seigniorial Agriculture*, Table 4.07, pp. 174–75.

⁵³ Campbell, *English Seigniorial Agriculture*, Table 4.07, pp. 174–75. ‘All national means are the weighted product of six regional means: Norfolk, eastern counties, southeast, midlands, south-west, and the north: 41 counties and districts’. The livestock units are: horses = 1.0; oxen and adult cattle = 1.2; immature cattle = 0.8; sheep and swine = 0.1.

⁵⁴ Campbell, *English Seigniorial Agriculture*, Table 4.10, pp. 184–85.

lords (and peasants) was the fate of the wool-export trade in the later fourteenth century. As Table 25 demonstrates, total raw wool-exports fell precipitously and drastically: by 58.39 per cent, from the post-plague peak of 1356–60 (32,666.4 sacks) to the trough of 1411–15 (13,593.2 sacks), a decline that was not fully offset by the cloth export trade until the late fifteenth century.

The explanation for this drastic decline is to be found in changes in both the overseas and domestic economies that had begun as early as the 1290s, with the almost incessant warfare that spread throughout the entire Mediterranean basin and western Europe and merged into the Hundred Years War (1337–1453). Those wars, directly and indirectly, led to steep increases in both transportation and transactions costs that virtually destroyed long distance trade in the cheaper textiles from northwest Europe to their principal markets in the Mediterranean basin.⁵⁵ The only surviving export-oriented textile producers in this region were those (with few exceptions) that marketed very costly luxury woollens, but directed to very much smaller, wealthier markets. They did so from the 1320s and 1330s, by changing from ‘price-takers’ into ‘price-makers’: engaging in a ‘monopolistic competition’ based not on price but on the distinctively superior qualities of their woollens. So costly were these ultra-luxury cloths that transportation and transaction costs constituted a far smaller proportion of their sales prices than those for cheaper textiles. By far the most successful cloth manufacturers were those in the Low Countries (Flanders, Brabant, and Holland), and northern Italy (Lombardy, Tuscany: with much closer access to still lucrative Mediterranean markets). The English cloth industry underwent a similar transformation, from the 1350s, but less successfully than these foreign rivals, at least before the 1460s (see Table 25).⁵⁶

England, however, had greatly benefited from this industrial-commercial transformation, from its outset, simply because its high grade wools were the *sine qua non* for luxury woollen-cloth production. The very best wools, which encountered no serious rivals before the sixteenth-century improvement of Spanish *merino* wools, were those from the ‘Welsh Marches’ of Herefordshire and Shropshire, the Cotswolds (Gloucestershire, Worcestershire, Wiltshire,

⁵⁵ Munro, ‘Industrial Transformations in the North-West European Textile Trades’; Munro, ‘The Origins of the English “New Draperies”’; Munro, ‘The “Industrial Crisis” of the English Textile Towns’.

⁵⁶ Munro, ‘The “Industrial Crisis” of the English Textile Towns’, pp. 103–41; Munro, ‘The Symbiosis of Towns and Textiles’; Munro, ‘Medieval Woollens: The Western European Woollen Industries’, pp. 231–48.

Table 25. Exports of English wools (in sacks) and woollen broadcloths (pieces) in quinquennial means, 1331–35 to 1446–50

Year	Denizen Wool Exports		Alien Wool Exports		Total Wool Sacks Exported	Equivalent Broadcloths Exported	Broadcloth Exports	Total as Equivalent Broadcloths
	in sacks	% of total	in sacks	% of total exports				
1331–35	24,633.000	73.21%	9,012.600	26.79%	33,645.600	145,797.490		145,797.490
1336–40	13,180.000	64.21%	7,344.800	35.79%	20,524.800	88,940.730		88,940.730
1341–45	10,565.510	58.45%	7,510.070	41.55%	18,075.580	78,327.430		78,327.430
1346–50					27,183.130	117,793.450	2,555.667	120,349.120
1351–55	10,169.400	33.07%	20,581.000	66.93%	30,750.400	133,251.630	1,921.200	135,172.830
1356–60					32,666.400	141,554.290	9,061.000	150,615.290
1361–65	20,899.950	69.37%	9,229.250	30.63%	30,129.200	130,559.770	11,717.200	142,276.970
1366–70	16,345.600	61.79%	10,106.200	38.21%	26,451.800	114,624.380	14,527.200	129,151.580
1371–75	16,712.020	64.61%	9,155.780	35.39%	25,867.800	112,093.710	12,211.400	124,305.110
1376–80	16,898.000	82.55%	3,572.200	17.45%	20,470.200	88,704.130	13,642.600	102,346.730
1381–85	13,886.800	79.27%	3,630.600	20.73%	17,517.400	75,908.670	22,242.200	98,150.670
1386–90	15,574.200	80.65%	3,737.800	19.35%	19,312.000	83,685.270	25,610.000	109,295.270
1391–95	13,593.200	73.42%	4,920.600	26.58%	18,513.800	80,226.400	39,525.200	119,751.600
1396–1400	14,515.800	85.95%	2,373.800	14.05%	16,889.600	73,188.210	38,775.100	111,963.310
1401–05	11,803.400	91.47%	1,100.800	8.53%	12,904.200	55,918.160	34,569.600	90,487.760
1406–10	13,392.800	89.48%	1,575.400	10.52%	14,968.200	64,862.150	31,746.200	96,608.350
1411–15	12,633.200	92.94%	960.000	7.06%	13,593.200	58,903.820	27,183.400	86,087.220
1416–20	13,355.400	92.97%	1,009.600	7.03%	14,365.000	62,248.290	27,977.200	90,225.490
1421–25	13,363.600	93.81%	881.600	6.19%	14,245.200	61,729.150	40,274.600	102,003.750
1426–30	12,429.000	93.04%	929.600	6.96%	13,358.600	57,887.220	40,405.600	98,292.820
1431–35	8,679.400	92.49%	705.200	7.51%	9,384.600	40,666.570	40,027.400	80,693.970
1436–40	4,197.800	78.04%	1,181.000	21.96%	5,378.800	23,308.120	47,072.000	70,380.120
1441–45	6,502.200	80.98%	1,527.200	19.02%	8,029.400	34,794.040	56,455.800	91,249.840
1446–50	9,176.800	93.97%	588.400	6.03%	9,765.200	42,315.830	45,846.800	88,162.630

One woolsack = 26 stone = 364 lb. (165.1 kg); and one woolsack = 4.333 broadcloths of assize (24 by 1.75 yards)

Sources: Carus-Wilson and Coleman, *England's Export Trade*, pp. 36–119; Bridbury, *Medieval English Clothmaking*, appendix F, pp. 118–22.

Oxfordshire, and Berkshire), and Lincolnshire (Kesteven and Lindsey).⁵⁷ The rapid reorientation of the Flemish cloth industry towards luxury products, from the 1330s, may well explain why, despite the population losses from the Black Death, the English wool export trade grew from a mean 18,075.6 sacks in 1341–45 to the aforesaid peak of 32,666.4 sacks in 1356–60.⁵⁸

The Wool Export Duties of Edward III and the Calais Staple

These economic transformations also explain how and why Edward III and his successors came to finance the Hundred Years' War: by heavily taxing the export of wools, which then accounted for about ninety per cent of total exports by value.⁵⁹ Edward's new fiscal policy began modestly with a special export levy of twenty shillings per sack: in addition to the Old Custom of 6s. 8d. per sack (from 1275), and, for aliens, the additional New Custom (1303) of 3s. 4d.⁶⁰ As the costs of war mounted, so did the wool taxes. By the 1370s, total export taxes had risen to 50s. 0d. a sack for denizens and 53s. 4d. for aliens. From 1336–50 to 1371–75, the mean prices of better quality wools (those exported to Calais), including the export taxes, and Calais duty, had risen from £6.124 to £10.474 per sack, an increase of 71 per cent (Table 24). Initially, the tax 'incidence' or burden was born more by the domestic wool growers (in lower real prices) than by the foreign customers and thus was not immediately injurious to the export trade. As Tables 19 and 24 demonstrate, the ratio of wool prices to grain prices and to the CPI itself moved sharply against wool prices from the mid-1340s until the early 1360s. Noble and gentry landowners in both houses of parliament

⁵⁷ Munro, 'Medieval Woollens: Textiles, Textile Technology', pp. 186–91; Munro, 'Spanish Merino Wools and the *Nouvelles Draperies*'; Munro, 'Wool-Price Schedules'.

⁵⁸ A post-plague hedonistic spending spree, especially of inherited cash balances, may also have boosted a relative demand for luxurious textiles and also contributed to an increased income velocity of money that fuelled inflation, from the 1350s to the 1370s. See Lopez and Miskimin, 'The Economic Depression of the Renaissance'; Miskimin, *The Economy of Early Renaissance Europe*, pp. 134–50; Van der Wee and Peeters, 'Un Modèle dynamique de croissance interseculaire du commerce mondiale'; Day, 'Crises and Trends'.

⁵⁹ See Munro, 'Medieval Woollens: The Western European Woollen Industries', pp. 241–55, 269–83; and Lloyd, *The English Wool Trade*, pp. 288–317. In the early 1640s, wool and wool-based textiles still accounted for 92.3 per cent of total export values. See Clay, *Economic Expansion and Social Change*, Table XIII at p. 144.

⁶⁰ For the following see, Barnes, 'The Taxation of Wool'; Gras, *The Early English Customs System*, pp. 75–80; Power, *The Wool Trade*, pp. 63–85; Ormrod, 'The Crown and the English Economy'; Lloyd, *The English Wool Trade*, pp. 144–224.

soon mounted a strenuous opposition to the wool export taxes. In March 1363, Edward III sought to resolve this problem by establishing an official staple for all wool exports to northern Europe, at the recently conquered French port of Calais (1347), just across the Channel, later exempting (1378) Italian and Spanish wool shipments by sea, via Gibraltar, to the Mediterranean.

The administration of the new Company of the Staple, vested in the hands of twenty-four merchant-aldermen, with full powers to supervise and control all wool sales at Calais, endeavoured to shift the newly increased export-tax burden more fully on to the foreign buyers. At the same time, the Company enforced an older policy of stipulating minimum wool prices, county by county, in order to thwart internal competition.⁶¹ The Calais Staplers soon found, however, that parliament was undermining its monopoly powers. Parliament did so, first, by selling various Staple exemptions or export licences; and then second, by periodically removing the Staple itself from Calais: in 1369–76, in 1382–88, and 1390–92. Finally, in 1392, parliament restored the Staple permanently to Calais (until the port's loss to France in 1558), and the Staple's full powers, while also agreeing to sell fewer export licences for Staple exemptions (generally allowing them only for the cheaper wools that could not be sold at Calais). By this time, when the Staple finally became an effective cartel, the heavy alien duties (Table 24) had virtually eliminated the Italian merchants from the wool export trade. As Table 25 indicates, the alien share of total wool exports fell from 38.21 per cent in 1366–70 to just 8.53 per cent in 1401–05.⁶²

By the 1390s, the deepening deflation had severely increased the wool-export tax burden, because the taxes were *specific* (fixed per sack) and not *ad valorem* (percentage): thus, the real tax burden rose as prices fell. As Table 24 demonstrates, that tax burden for denizen exporters had now risen to over fifty per cent of the current wholesale export price (though diminishing somewhat in the early fifteenth century). Unfortunately, for both exporters and importers, these English wools accounted for very high proportions of pre-finishing production costs in the luxury woollen draperies in the Low Countries: ranging from sixty-five to seventy-five per cent of the total.⁶³ It would appear that the Low Countries' wool-

⁶¹ See Lloyd, *The English Wool Trade*, pp. 193–256; Power, *The Wool Trade*, pp. 81–85; Munro, 'Medieval Woollens: The Western European Woollen Industries', pp. 278–85. The Nottingham Assembly, which had granted Edward III's first wool subsidy in 1336, initiated this policy of fixed minimum prices by county. See Munro, 'Wool-Price Schedules', pp. 135–37.

⁶² See Lloyd, *The English Wool Trade*, pp. 193–256; Power, *The Wool Trade*, pp. 86–103; Munro, 'Medieval Woollens: The Western European Woollen Industries', pp. 278–85.

⁶³ For the data sources, see Munro, 'Industrial Protectionism in Medieval Flanders', Table 13.2 at p. 256; Munro, 'The Medieval Scarlet', pp. 13–70, Table 3.12, p. 52.

len draperies had a relatively inelastic demand for fine quality English wools.⁶⁴ But, as economists will argue, a producer's demand for industrial inputs is derived from the market demand for the final product. The demand for luxury goods is by definition elastic, all the more so if there were effective available substitutes. Even if one argues that luxury apparel was a social 'necessity' for much of the European nobility and for the upper bourgeoisie, they were now finding substitutes in a wide variety of Italian-made and imported silk fabrics and other luxury textiles.⁶⁵

The Dire Fate of the Luxury Woollen Cloth Industries in the Late Fourteenth-Century Low Countries

The effect of this wool export-tax burden (admittedly combined with other negative factors) for both English wool exports and woollen cloth production in the southern Low Countries can be seen in Tables 25 and 26: in particular, for the urban draperies of Gent (Ghent), Mechelen, and Leuven in the fourteenth century and, in the first half of the fifteenth century, of Ieper (Ypres) as well (for which no data are available before 1406). They tell a tale even more dismal than that for the English wool trade (whose decline of almost sixty per cent, by the early fifteenth century, has already been stressed).⁶⁶ The Gent and Leuven indices reflect a slow decline to about the 1360s, and then a very precipitous decline, into the early fifteenth century (with an unfortunate lacuna for Gent in the 1390s).

⁶⁴ As noted earlier (p. 326 and n. 57), Spanish *merino* wools would not finally rival the best English wools until the sixteenth century; but they were being imported into the Low Countries by the 1430s. The major urban draperies refused to consider using them, fearing the loss of customers by damaging their reputation for the ultra-luxury qualities of their finer woollens. Only their upstart small-town rivals, known as the *nouvelles draperies*, who were then marketing cheaper imitations of traditional luxury woollens, dared to experiment with *merino* wools, although mixing them with the finer English wools. See Munro, 'Spanish *Merino* Wools and the *Nouvelles Draperies*', pp. 431–84.

⁶⁵ The most luxurious and most costly of all textiles worn in later medieval and early modern Europe were silks. For the late medieval silk industry, see Muthesius, 'Silk in the Medieval World'; Molà, *The Silk Industry of Renaissance Venice*. For the very high prices of some silk fabrics in fifteenth-century England, with comparison with woollens' prices, see Munro, 'The Medieval Scarlet', Table 3.15, p. 69; and Munro, 'Industrial Protectionism in Medieval Flanders', Table 13.3, Part 1, pp. 257–60.

⁶⁶ See Table 25. If we focus, however, only on the denizen exports, which chiefly went to Calais, and only from the imposition of the Calais Staple in 1363, we find a less drastic decline: one of 34.96 per cent, from the mean of 20,899.95 sacks in 1361–65 to a mean of 13,593.2 sacks in 1391–95.

Table 26. Exports of English woolsacks and broadcloths and production indices for the woollen draperies of the southern Low Countries, 1331–35 to 1446–50 in quinquennial means, 1331–35 to 1446–50

Years	English Wool Exports	English Broadcloth Exports	Total English Wool & Cloth Exports	Gent Drapery Farms A	Gent Drapery Farms B	Ieper Drapery Farms	Ieper: no. of stalls	Mechelen Drapery Farms	Leuven Drapery Farms
	in Sacks	in pieces	as Cloths	in £ groot Flemish	in £ groot Flemish	in £ groot Flemish	rented in Lakenhalle	in £ oude groot	in £ oude groot
1331–35	33,645.600		145,797.490	108.485	150.283			1,563.710	
1336–40	20,524.800		88,940.730	87.913	123.660			1,045.045	
1341–45	18,075.580		78,327.430	84.015	125.070			782.313	
1346–50	27,183.130	2,555.670	120,349.120	67.240	109.378			506.862	250.292
1351–55	30,750.400	1,921.200	135,172.830	68.875	114.505			707.914	240.809
1356–60	32,666.400	9,061.000	150,615.290	61.720	112.785			467.723	351.436
1361–65	30,129.200	11,717.200	142,276.970	55.778	96.825			496.240	709.398
1366–70	26,451.800	14,527.200	129,151.580	34.590	67.425			597.661	803.344
1371–75	25,867.800	12,211.400	124,305.110	22.800	47.721			540.698	525.557
1376–80	20,470.200	13,642.600	102,346.730	19.355	39.311			471.236	564.943
1381–85	17,517.400	22,242.000	98,150.670	14.402	22.421			397.290	394.331
1386–90	19,312.000	25,610.000	109,295.270	11.743	23.550			353.349	259.114
1391–95	18,513.800	39,525.200	119,751.600	missing	missing			297.670	224.730
1396–1400	16,889.600	38,775.100	111,963.310	missing	missing			300.804	169.338
1401–05	12,904.200	34,569.600	90,487.760	5.885	15.433			270.285	135.072
1406–10	14,968.200	31,746.200	96,608.350	7.654	16.030	183.192	407.000	272.011	170.875
1411–15	13,593.200	27,183.400	86,087.220	7.309	15.498	266.902	426.000	275.450	143.177
1416–20	14,365.000	27,977.200	90,225.490	8.253	17.782	266.912	489.300	276.334	81.769
1421–25	14,245.200	40,274.600	102,003.750	8.623	20.619	265.633	410.000	357.119	58.932
1426–30	13,358.600	40,405.600	98,292.820	9.331	23.648	249.817	356.600	352.707	
1431–35	9,384.600	40,027.400	80,693.970	7.267	22.314	235.327	319.400	220.532	
1436–40	5,378.800	47,072.000	70,380.120	4.267	14.783	156.022	192.600	186.976	
1441–45	8,029.400	56,455.800	91,249.840	4.418	14.431	176.453	182.400	190.881	
1446–50	9,765.200	45,846.800	88,162.630	4.773	14.512	177.450	152.200	162.950	

One woolsack = 26 stone = 364 lb. (165.1 kg) = 4.333 broadcloths of assize

Sources: *English Wool and Cloth Exports*: Carus-Wilson and Coleman, *England's Export Trade*, pp. 36–119; Bridbury, *Medieval English Clothmaking*, appendix F, pp. 118–22. *Gent (Ghent) A: Total Drapery Excise Farms*; *Gent B: Excises for 'Ramen en nieuwe huisgeld' only*: all from Gent, Stadsarchief, Stadsrekeningen, 1335–1520, 400:3.1–17.2; Algemeen Rijksarchief, Rekenkamer, 34,862. *Ieper (Ypres)*: Algemeen Rijksarchief, Rekenkamer, 38,635–722. *Mechelen*: Mechelen, Stadsarchief, Stadsrekeningen, 1316–1550, Series I: nos. 3–225; Algemeen Rijksarchief, Rekenkamer, 41,219–85. *Leuven*: Leuven, Stadsarchief, Stadsrekeningen, 1345–1500, nos. 4986–5124.

This sharp decline may indicate that, even from its inception, the Calais Staple had a significant impact in shifting the wool-tax burden from English growers to the Flemish and Brabantine woollen draperies. From the mean of 1356–60 to that of 1401–05, the Gent A series data fell by 90.46 per cent; the Gent B series data fell by 86.32 per cent; the Leuven data, from the peak of 1366–70, fell by 83.19 per cent; the Mechelen data fell by 61.82 per cent from the earlier mean of 1351–55 to the 1401–05 mean.⁶⁷

The explanations for this decline of the Low Countries' urban draperies are very complex, involving a myriad of factors, domestic and foreign, all of which have been considered at length in numerous recent publications.⁶⁸ Some of the latter are considered in the debate about the so-called 'Great Depression' of the later Middle Ages, including the continued negative impact of warfare on the economy: especially in terms of the rising burden of taxation, and continuous disruptions of international trade, and continuously falling population, which, however, cannot account for all of the indicated industrial decline.⁶⁹

The Rise of the English Cloth Export Trade: Its Impact on Manorial Demesne Economies

As is well known, the sharp decline of the English wool export trade was countered by a rise in woollen cloth exports, which clearly bore a major responsibility for the decline of both the wool-export trade and of the Low Countries' luxury cloth industries. As Tables 25 and 26 indicate, the English cloth trade had enjoyed only a very minimal importance before the Black Death, or indeed before the imposition of the heavier wool-export duties. The major if quite unintended beneficiaries of English fiscal policies were the producers and exporters of English woollens, because domestic clothiers were able to purchase the same fine English wools (the same as those sold in the Low Countries) tax free, while cloth exporters paid only minimal duties. Denizens had in fact paid no duties

⁶⁷ These are not based on cloth outputs but on the sale of tax farms: i.e., the right to collect taxes imposed on the production and sales of woollen cloths (taxes on both the inputs for cloth production and on the cloth outputs). Since they were sold at competitive annual auctions, they should reflect the dire economic realities, though possibly they exaggerate them as well (if tax rates declined with economic adversities).

⁶⁸ See in particular Munro, 'Medieval Woollens: The Western European Woollen Industries', pp. 244–62, 269–91; Munro, 'The Symbiosis of Towns and Textiles'.

⁶⁹ See the sources cited above, in nn. 14 and 58; and also Postan, 'The Trade of Medieval Europe'; Hatcher, 'The Great Slump'; Nightingale, 'England and the European Depression'.

at all, until the imposition of the Cloth Custom of 1347, which levied a very small export tax of 1s. 2d. per standard broadcloth of assize. German Hanseatic merchants refused to pay this new duty, claiming their 1303 *Carta mercatoria* privilege of paying only 1s. 0d. per broadcloth; but other alien merchants were forced to pay both duties, for a total of 2s. 4d. per cloth, and later a five-per cent 'poundage' tax, as well.⁷⁰ Not surprisingly, English and Hanse merchants together soon achieved an overwhelming dominance in the English cloth export trade, usually commanding seventy-five to eighty-five per cent of the total.⁷¹ Their low export duties amounted to about 2.5 per cent of the mean value of broadcloths that they shipped: about £2 to £2 10s. 0d. per broadcloth, in the early fifteenth century. The cost advantage of the English cloth trade over its Flemish rivals has been calculated at about twenty-five to thirty per cent. By the early fifteenth century, the mean export prices of English woollens were only about thirty-five to forty per cent of the prices for the finer Flemish and Brabantine woollens, though English woollens were not of the same quality.⁷²

As Tables 25 and 26 also indicate, English broadcloth exports enjoyed a twenty-one-fold increase in the second half of the fourteenth century: from a mere 1921.2 cloths in 1351–55 to a peak of 39,525.2 in 1391–95 (in quinquennial means). Thereafter, for reasons explained elsewhere, those exports declined to a mean of 27,183.4 cloths in 1411–15; but then English cloth exports recovered to reach a mean of 40,274.6 cloths in 1421–25.⁷³ Despite the impressive expansion of the English cloth-export trade, and then its strong recovery by the 1420s, it did not offer manorial landlords much hope of maintaining the prosperity of

⁷⁰ Carus-Wilson and Coleman, *England's Export Trade*, pp. 13–18, 194–98; Gras, *The Early English Customs System*, pp. 66–85; Munro, 'Medieval Woollens: The Western European Woollen Industries', pp. 278–88, 292–96; Munro, 'Industrial Protectionism in Medieval Flanders', pp. 229–68; Munro, 'The Symbiosis of Towns and Textiles'. Broadcloths that were dyed either partially or wholly in 'grain' (in kermes, the scarlet dye) were subjected to much higher duties; but very few were exported in the later medieval era. See also nn. 71–72 below.

⁷¹ See Munro, 'Medieval Woollens: The Western European Woollen Industries', Table 5.4, pp. 306–07. See also Munro, 'Hanseatic Commerce in Textiles'.

⁷² Munro, 'Medieval Woollens: The Western European Woollen Industries', Table 5.10, pp. 318–24; Munro, 'Industrial Protectionism in Medieval Flanders', Table 13.3, pp. 257–62, Table 13.5, pp. 266–67; Munro, 'The Origins of the English "New Draperies"', Tables 1–2, pp. 39–40, Table 3, pp. 42–44; Munro, 'The Symbiosis of Towns and Textiles', Table 2, p. 50; and especially Munro, 'Three Centuries of Luxury Textile Consumption', Tables 1.3–1.4, pp. 20–25; Tables 1.5–1.6, pp. 27–29; Table 1.7, pp. 31–32; Tables 1.11–1.17, pp. 39–50.

⁷³ See Munro, 'Medieval Woollens: The Western European Woollen Industries', pp. 283–88; Munro, 'Hanseatic Commerce in Textiles', pp. 97–102.

their wool-growing demesnes during the later fourteenth and early fifteenth centuries. As the final column in Table 25 clearly indicates, the combined total volume of wool and of cloth exports, expressed as broadcloths (at the accepted ratio of 4.333 broadcloths per wool sack), had fallen by 32.27 per cent: from a mean of 150,615.29 cloths in 1356–60 to one of 102,003.75 cloths in 1421–25. Furthermore, evidence from taxes on domestic production (from the aulnage accounts) indicates that the English home market absorbed an increased domestic production of only 2800 broadcloths, by 1390s (when the evidence ceases), chiefly displacing the former foreign imports.⁷⁴ Furthermore, the fact that a broadcloth fetched a higher value when exported than did the same quantity of raw wool in a woosack (apart from taxes) clearly benefited domestic clothiers and cloth merchants, but did not directly benefit the wool-sellers.⁷⁵ Presumably, manorial and peasant wools were sold to domestic clothiers at the same price as those wools sold to agents of the Staplers.

*The Late Medieval Changes in Manorial Demesne Economies:
The Varieties of Landlord Responses*

Not all manorial lords were experiencing severe economic difficulties or the same difficulties in the late fourteenth and early fifteenth centuries. As already indicated, some benefited from switching to the production of other livestock

⁷⁴ For the aulnage accounts, see Gray, 'The Production and Exportation of English Woollens', esp. Appendix II, p. 34. The fourteenth-century accounts are available for only two periods: 1353–58 and 1394–98; and they have lacuna for London, Norfolk, Shropshire, and Worcestershire. If we subtract the annual means for total cloth exports from those for total taxed cloth outputs, for 1356–58 and 1394–98, we find that the net balance, presumably indicating domestic consumption, were 5445 cloths and 8256 cloths, respectively, a difference of 2811. For cloth exports, see Carus-Wilson and Coleman, *England's Export Trade*, pp. 76, 85–86. For foreign cloth imports see also Beardwood, *Alien Merchants in England*, Appendix C:3: pp. 161–77.

⁷⁵ On the basis of the standard ratio of 4.333 woollen broadcloths per sack of raw wool, and a mean export value of £2.25 per broadcloth, in the early fifteenth century, a sack of finer wools (those exported to Calais) was worth, on average, £5.269 in 1421–25 (Tables 24 and 25); and the same amount of wool exported in manufactured broadcloths would have been worth £9.750, or 85.04 per cent more; i.e., the wool content was worth 54.04 per cent of the value of the broadcloth. But when denizen export taxes were added, the woosack was worth, on average, £7.540: or 75.46 per cent as much as the 4.333 broadcloths, with export taxes (£9.993). See also the relevant statistical data in the tables presented in Munro, 'Three Centuries of Luxury Textile Consumption', pp. 1–60.

products (other than wool): especially meat (beef, mutton, pork), dairy products, hides (leather). J. M. Bean notes that many gentry landowners maintained sheep flocks more for meat (and for manure) than for the wool clips in the later fourteenth and early fifteenth centuries, and that 'the abandonment of pastoral activities occurred later than that of arable farming'.⁷⁶ J. N. Hare similarly found that many ecclesiastical manors in Wiltshire had retained sheep flocks long after having leased their arable demesne lands, as did Christopher Dyer on the bishop of Worcester's estates.⁷⁷ While the agrarian changes in some manors had involved only a shift from wool production to other forms of livestock production within the pastoral sector, that reorientation had required, in many other manors, a major shift in demesne land use from arable to pasture, as indicated earlier, with Campbell's extensive data.⁷⁸

However, not all manorial lords were able to make such adjustments and to cope well with the new, harsh economic realities. Their failure was due to several reasons. The first was institutional. Many manorial lords had chosen to have their demesne lands intermixed with those of their tenants, in the form of plough strips, often in order to take advantage of their tenants' communal ploughing. But, in doing so, they had subjected their own demesne strips to the rigidities of communal or Open Field arable agriculture in the Midlands region.⁷⁹ They would have had great difficulty in converting such lands to livestock raising without engrossing and enclosing such lands, in most cases by evicting tenants. That was hardly a common practice in the late fourteenth and early fifteenth centuries, and would not become so until the 1460s.⁸⁰

⁷⁶ Bean also contended that 'lay magnates continued to maintain large flocks of sheep beyond 1420'; and that not until the 1440s did the Duchy of Lancaster give up its large sheep flocks. Bean, 'Landlords', pp. 574–76. See also Dyer, *Lords and Peasants in a Changing Society*, pp. 148–54; Bolton, *The Medieval English Economy*, pp. 228–29; Power, *The Wool Trade*, pp. 38–40: she also acknowledges that many manorial lords retained sheep flocks longer than they did grain cultivation on their demesnes — but does not mention the products consumed from these sheep.

⁷⁷ Hare, 'The Monks as Landlords', pp. 85–87; Dyer, *Lords and Peasants in a Changing Society*, pp. 150–54.

⁷⁸ See above, p. 323–25.

⁷⁹ See Tawney, *The Agrarian Problem in the Sixteenth Century*, maps I–V, between pp. 166–67: of Salford, Edgeware, Maids Morton, Weedon Weston manors, in the 1590s, showing the intermixing of demesne lands with those of tenancy lands (plough strips).

⁸⁰ For the beginnings of the late Yorkist and Tudor Enclosure movement, see Blanchard, 'Population Change, Enclosure'; Clay, *Economic Expansion and Social Change*, chap. 3, 'Rural Society', pp. 53–101; and chap. 4, 'The Progress of Agriculture', pp. 102–41. See also n. 83 below.

The second problem was one of capital (affecting both landlords and peasants). Any extensive conversion of arable lands into pasture required very large amounts of new capital to acquire and build up herds of cattle and flocks of sheep. As already noted, *real* capital costs were rising with deflation (especially with no evidence of any significant fall in nominal interest rates during the later fourteenth and fifteenth centuries). By no means all manorial landlords had ready access to capital, especially in an era when, according to both Pamela Nightingale and Chris Briggs, supplies of credit were seriously contracting, in both the urban and rural economies. Their research provides further evidence that credit instruments were not a remedy for periodic coin shortages (at least in England) and that, instead, access to credit diminished with the effective money supply, especially if lenders feared that they would not be repaid in coin.⁸¹

The third problem was, again, one of labour supplies. To be sure, livestock raising required much less labour, per acre, than did arable cultivation; and, as noted earlier, later medieval labour productivity in pastoral agriculture was evidently rising.⁸² Nevertheless, in the Midlands zone of classic 'sheep-corn' mixed husbandry, many manorial lords, in first encountering manifestations of crisis in the late fourteenth century, were unwilling to contemplate a total abandonment of arable, especially because of the symbiotic relationship between arable and pastoral agriculture (for example, sheep-folding on the post-harvest arable), simply to save on labour costs.⁸³ They soon found, furthermore, that the problem was not just rising wages (nominal and real) but the actual supply of available labour, even for pastoral agriculture. That was especially the plight of those manorial lords who had previously relied on at least some customary labour services on their demesnes. We hardly need now belabour the often cited point, so well developed in the literature on the decline of English serfdom or *villeinage*, during this era, that so many manorial lords found it more and more difficult

⁸¹ Nightingale, 'Monetary Contraction'; Briggs, *Credit and Village Society*; and especially Briggs, 'The Availability of Credit'. In establishing 'a substantial late-medieval decline in debt litigation (evidently greater than the demographic decline), and hence in real levels of (agrarian) credit' (p. 23), Briggs suggests that institutional changes in courts that handled debt litigation were also responsible, especially in between the two 'bullion famine' eras. See also Raftis, *Peasant Economic Development*, p. 68; Munro, 'Wage-Stickiness', pp. 216–17; and Spufford, *Money and its Use*, pp. 346–47, and n. 15 above.

⁸² See above pp. 322–23 and nn. 46, 49.

⁸³ For other reasons why a shift from arable to pasture was not necessarily profitable (nor all that labour-saving), before the 1520s, see Blanchard, 'Population Change, Enclosure', pp. 427–45, esp. pp. 437–38; and Appendix A, pp. 443–45.

to exact labour services from their villein tenants.⁸⁴ Kosminsky, having focused on this particular problem, concluded that the lesser manorial lords, the gentry small holders, fared better than did the great magnates, lay and ecclesiastical, in this economically depressed era, because they had relied to a far lesser degree on villein labour; but he did not take full account of the sharp rises in piece-work rates for hired agricultural labourers.⁸⁵

*The Economic and Social Varieties of Demesne Leasing:
Benefits and Costs for Landlords and Tenants*

Finally, more and more manorial lords, perhaps beginning with the greater magnates, found that their simplest solution, and an increasingly popular one by the 1390s, was to lease out more and more of demesne lands into leasehold tenancies, and to convert vacant villein tenancies into leaseholds, with fewer or no servile obligations. When they chose, finally, to do so, evidently depended on their particular economic and social circumstances. Many indeed may have leased their lands not specifically because of a price-cost scissor, or because of an actual lack of capital and labour, but because of problems of personal indebtedness and lack of ready cash.

Published studies by various historians indicate a very wide variety of leaseholds, from short to long term; but the historical tendency by the early fifteenth century was towards much longer leases: of thirty to forty years, and more.⁸⁶ During the deflationary era from the 1370s to the 1420s, most landlords preferred a longer term over a short term lease, and as just indicated, came to insist on longer term leases. Thus, a general fall in consumer prices *ipso facto* meant that the *real* value of fixed annual leasehold-rents was steadily rising (even if rents on new leases were lower). Consequently the burden of sustaining rising operating costs in commercial agriculture generally had to be born by the tenants, especially if they were unable to depend wholly on family labour and had to hire agricultural labourers now in scarce supply.

⁸⁴ See Hilton, *The Decline of Serfdom*, pp. 52–59; Hatcher, ‘English Serfdom and Villeinage’; and other sources cited in nn. 1–4 above.

⁸⁵ Kosminsky, *Studies in the Agrarian History of England*, ed. by Hilton, pp. 256–82.

⁸⁶ Hilton, *The Decline of Serfdom*, pp. 45–46; Hare, ‘The Monks as Landlords’, pp. 18–21; Dyer, *Lords and Peasants in a Changing Society*, pp. 210–11; Kerridge, *Agrarian Problems*, p. 47: giving examples of leases for forty, sixty, or even ninety-nine years, in the early sixteenth century.

Table 27. The Commodity Price Index for England, 1300–1500, mean of prices for 1451–75 = 100 (a revision of the Phelps Brown and Hopkins (PBH) 'Basket of Consumables' Price Index)

Commodity	Amount	Unit	Metric Measure	Percent by PBH weights	Value in d. sterling	Percentage by value (Munro)
Farinaceous						
Wheat	1.250	bu.	45.461		9.967	8.84%
Rye	1.000	bu.	36.369		6.279	5.57%
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	20.00%	21.799	19.33%
Drink						
Barley (or malt)	4.500	bu.	163.659	22.50%	24.227	21.48%
Total Farinaceous	7.917	bu.	287.917	42.50%	46.026	40.80%
Meat, Fish, Dairy						
Sheep	0.500	no.	0.050		8.532	7.56%
Pigs	0.500	no.	0.050	21.00%	15.418	13.67%
Herrings	40.000	no.	40.000	4.00%	6.595	5.85%
Butter	10.000	lb.	4.536		10.238	9.08%
Cheese	10.000	lb.	4.536	12.50%	5.341	4.74%
Sub-total				37.50%	46.124	40.89%
Industrial						
Charcoal	4.250	bu.			3.813	3.38%
Candles	2.750	lb.			3.475	3.08%
Lamp Oil	0.500	pt		7.50%	0.865	0.77%
Canvas/Linen	0.670	yd			2.757	2.44%
Shirting	0.500	yd			2.718	2.41%
Coarse Woollens	0.330	yd		12.50%	7.023	6.23%
Sub-total				20.00%	20.651	18.31%
TOTAL				100.00%	112.801	100.00%

Abbreviations: no. – number; bu. – bushel = 36.39 litres; lb. – pound avoirdupois = 16 ounces = 453.59 grammes; pt – pint = 20 fluid ounces = 0.57 litres; yd – yard = 36 inches = 0.91 metres.

Sources: LSE Archives, Phelps Brown, Box Ia:324, J.IV.2a; Phelps Brown and Hopkins, 'Seven Centuries of the Prices of Consumables'.

The positive 'trade-off' for such peasants, economic and social, lay in having that much more land to work, and, if they were villeins by ancestry, greater freedom, and especially dignity as well, and greater freedom to conserve their labour for working their own lands: that is, if manorial lords who had abandoned direct cultivation of their former demesnes had thereby reduced their demand for villein labour services.

All these changes did not mean that there was ever a formal 'abolition of serfdom', and did not necessarily mean the abolition of other servile obligations, such as *merchet* and *heriots*.⁸⁷ But they did lead to an inexorable erosion of villeinage. Rodney Hilton commented that 'as customary [villeinage] tenures were turned into copyhold, as was general by the beginning of the fifteenth century, the servility associated with them seemed [...] to melt away'.⁸⁸ But in so many cases, what also 'melted away' was security of tenure for themselves and their offspring, i.e. inheritance rights that applied when villeins and their offspring were bound to the estate, since so many copyhold tenures were either 'at will' or were held from one to three 'lives'. As Eric Kerridge has observed, 'twenty-one years and three lives were regarded as equivalents and were of much the same length in practice', at least in the sixteenth century.⁸⁹ If so, that change to copyhold tenures meant a substantial loss of the inheritance and thus property rights actually enjoyed by so many (if not all) *villein* tenants.⁹⁰

The variety of these agrarian changes is far too great and far too complex to be considered fully in this study, all the more so since the extant estate accounts are so few, and often incomplete. But one very recent study of the Norfolk Cathedral Priory's Benedictine manors, for the later fourteenth and fifteenth centuries, does provide concrete evidence on prices, production costs, transport and storage costs, and annual profits (and losses) to justify all of the conclusions presented in this current study.⁹¹ At the risk of oversimplification, we may view these changes in the English agrarian economy and society, from the 1380s to the 1420s, as almost the mirror image of the subsequent transformation of the east

⁸⁷ See Hilton, *The Decline of Serfdom*, pp. 51–59 ('The last profits of serfdom').

⁸⁸ Hilton, *The Decline of Serfdom*, p. 47. Also, p. 31: 'Villeinage was never abolished; it withered away'. 'Copyhold' means: tenure 'by copy of the court roll according to the custom of the manor'. See Tawney, *The Agrarian Problem in the Sixteenth Century*, p. 47. He cites Norden, *The Surveyor's Dialogue*, to note that 'All copyhold land is commonly customary, but all customary land is not copyhold'.

⁸⁹ Kerridge, *Agrarian Problems*, p. 47.

⁹⁰ Hatcher, 'English Serfdom and Villeinage'.

⁹¹ Slavin, 'Church and Food Provisioning'.

German agrarian economy: from *Grundherrschaft* to *Gutsherrschaft* (from the later fifteenth to early seventeenth centuries).⁹² The latter is a manorial economy in which the landlord derived the bulk of his incomes from the direct commercial exploitation of his demesne lands, using chiefly servile labour; and the former is a manorial economy in which the landlord, with few demesne lands, derived the bulk of his incomes instead from the money rents of a largely free peasant tenancy. In this context, one might view the subsequent Tudor Enclosure movement as an English reversion to a form of *Gutsherrschaft* (but with no servile labour). That, however, is another story to be told.

⁹² Hagen, 'How Mighty the Junkers?'; Brenner, 'The Rises and Declines of Serfdom'; Blum, 'The Rise of Serfdom in Eastern Europe'.

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Part III
Trade and Industry

SELLING FOOD AND DRINK IN THE AFTERMATH OF THE BLACK DEATH

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As John Hatcher's work has shown, the years after arrival of the Black Death, which struck down some forty to fifty per cent of England's population, saw a transformation of the social fortunes of the lower orders.¹ The Ordinance and Statute of Labourers, sumptuary legislation, chronicles, and literature all complained about the new social, economic, and political realities which the plague had produced, bemoaning the demands of labourers and deriding them as lazy and greedy. Those in the upper classes were discomforted by the belligerence and assertiveness of their tenants. Within a few years of the Black Death, lords and state had employed the full panoply of 'religious, ideological and legal weaponry' in an attempt to keep down wages and to bolster seigneurial revenues. However, such efforts to reassert the status quo were rarely successful so that, even before the downturn in grain prices in the mid-1370s and the revolt of 1381, common people managed to obtain 'substantial improvements in the rewards they obtained for selling their labour'.² The peasantry had raised their economic and social horizons and were prepared to challenge authority, emboldened by heightened living standards and greater market opportunities. The impact of the plague led to equally significant changes in the structure of England's markets and retail trade and in the patterns of demand, consumption

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¹ Hatcher, 'England in the Aftermath of the Black Death'.

² Hatcher, 'England in the Aftermath of the Black Death', pp. 32–35.

and supply.³ As well as complaining about idle and greedy labourers, commentators in this period expressed anxiety about the new-found wealth and assertiveness of victuallers and petty traders, regarding them as upstarts who disregarded the common good.⁴ Just as wage-earners and peasant landholders were confronted with a new economic landscape that shaped their attitudes to law and authority, so too market traders had opportunities to grasp and barriers to confront. This paper seeks to explore the changes experienced in the everyday marketplaces of medieval England in the aftermath of the Black Death. A brief survey of the broader commercial developments of the late fourteenth century will provide the context for a more detailed examination of trends that can be discerned in the small market town of Clare (Suffolk). In particular, this study concentrates on sellers of food and drink and how their market practices and opportunities were not only driven by changing patterns of consumption and generally higher standards of living, but were also influenced by seigneurial interference and court administration.

I

The demographic collapse following the Black Death reduced aggregate demand for grain as the overall number of townsfolk, labourers, and smallholders declined. However, there was also an accompanying shift in consumption patterns and a redistribution of incomes down the social scale. It is generally agreed that the late fourteenth and fifteenth centuries witnessed improvements in the standard of living for many ordinary people. This stimulated developments in patterns of consumption for foodstuffs, with the diets of labourers now including more meat, fresh fish, white bread, and ale. This was reflected in an expanding pastoral sector, with animals now kept as much for meat as for milk, wool, or traction. Archaeological evidence of faunal remains suggests an increasing con-

³ Bailey, 'Trade and Towns in Medieval England', p. 209; Dyer, *Standards of Living*; Bailey, *Medieval Suffolk*, p. 264; Britnell, *The Commercialisation of English Society*, pp. 160–71; Kowaleski, 'A Consumer Economy', p. 238; Dyer, *Making a Living*, pp. 298–313; Dyer, *An Age of Transition?*, pp. 3, 128–32; Britnell, 'The Economy of British Towns', pp. 314–16; Campbell, 'A Fair Field Once Full of Folk'; Campbell, 'Land, Labour, Livestock, and Productivity Trends'; Goldberg, *Medieval England*, pp. 171, 192–93.

⁴ Gower, *Mirour de l'Omme*, ed. by Wilson, pp. 341–46, ll. 25981–26353; *Piers Plowman: The A Version*, ed. by Kane, A.III.65–84; *Piers Plowman: The B Version*, ed. by Kane and Donaldson, B.III.76–94; *Piers Plowman: The C Version*, ed. by Russell and Kane, C.III.77–122; Lydgate, *The Minor Poems*, ed. by MacCracken, II, 429–32, no. 9, esp. ll. 46–52. See: Bennett, *Ale, Beer, and Brewsters in England*, chap. 7.

sumption of younger animals (veal and lamb), reared specifically for meat, during the fifteenth century.⁵ Also, instead of the cheaper grains that predominated before the Black Death, such as rye and dredge, grain production shifted towards high-quality bread grains and barley.⁶ Bruce Campbell has argued that such agricultural developments were suggestive of ‘a substantial per capita increase in ale consumption’ or, at least, of stronger ale.⁷ Even if there was an absolute decline in food consumption, better-quality bread, stronger ale, fresh fish, and meat may all have been consumed at an increased level in *per capita* terms.⁸

In addition to these changes in the market for food and drink, there was a greater demand for variety and better quality in manufactured durables and clothing.⁹ More luxury goods were imported, increasingly through London, and distributed through networks of chapmen and pedlars in the provinces.¹⁰ Maryanne Kowaleski argued that, as these imported goods circulated, the demand for commodities produced by occasional craftsmen and retailers fell away and producers became more specialized. During the fifteenth century, they operated in larger units of production and followed the fashions of a ‘nascent consumer revolution.’¹¹ Local, cheap manufactures were displaced and the archaeological evidence shows an increase in finds of dress accessories and of tableware, such as drinking vessels and bowls.¹² In general, goods with higher elasticities of demand, rather than basic staple goods, benefitted from the new economic conditions, including woollen cloth, cutlery, leather goods, wine, quality foodstuffs, and pewterware.¹³

These changes were remarked upon by both legal and moral commentators, who were in no doubt that consumption patterns had changed and that the lower classes were eating and dressing above their station. In a well-known passage from William Langland’s *Piers Plowman*, his labourers would not eat beans and bran

⁵ Astill, ‘Archaeology and the Late-Medieval Urban Decline’, pp. 228–29.

⁶ Galloway, ‘London’s Grain Supply’; Galloway, ‘Driven by Drink?’, pp. 97–100; Campbell, ‘Matching Supply to Demand’.

⁷ Campbell, *English Seigniorial Agriculture*, pp. 399, 430–35.

⁸ Dyer, *An Age of Transition?*, pp. 131–32; Dyer, ‘Did the Peasants Really Starve?’; Dyer, ‘Changes in Diet’.

⁹ Bailey, ‘Historiographical Essay’, pp. 299–300.

¹⁰ Dyer, ‘Small Places with Large Consequences’, p. 17; Davis, “‘Men as March with Fote Packes’”.

¹¹ Kowaleski, ‘A Consumer Economy’; Bailey, *Medieval Suffolk*, p. 264.

¹² Astill, ‘Archaeology and the Late-Medieval Urban Decline’, p. 229.

¹³ Bailey, ‘The Rabbit and the Medieval East Anglian Economy’.

but wanted bread ‘bote cocket and cler matin, and of clene white’, while also demanding the strongest ale that brewers could supply.¹⁴ Other late fourteenth-century writers, such as John Gower, Geoffrey Chaucer, and Henry Knighton, all commented disparagingly on dress and fashions whereby the lower classes sought to enhance their status or emulate their betters.¹⁵ The sumptuary legislation of 1363 similarly railed against ‘the outrageous excessive apparel of divers people against their estate and degree’.¹⁶

More generally, in the late fourteenth century, medieval markets became subject to a flurry of royal and urban legislation, partly as a reaction against higher labour costs and improving standards of living.¹⁷ The Ordinance of Labourers (1349) and Statute of Labourers (1351) were swift reactions to the economic changes wrought by the collapse of population. Not only did this legislation seek to maintain the social *status quo* by holding back wages and controlling the movement of labour, it also targeted the prices of manufactures and foodstuffs. The Ordinance of Labourers thus stated that:

Butchers, fishmongers, hostellers, brewers, bakers, poulters, and all other sellers of all manner of victual, shall be bound to sell the same victual for a reasonable price, having respect to the price that such victual be sold at in the places adjoining, so that the same sellers have moderate gains, and not excessive, reasonably to be required according to the distance of the place from whence the said victuals be carried.¹⁸

Bailiffs and urban officials who were negligent in enforcing this ordinance were to pay damages worth treble the sold items to the affected party. The legislation itself suggests that the profits of market traders had risen in the immediate aftermath of the Black Death.¹⁹

¹⁴ *Piers Plowman: The B Version*, ed. by Kane and Donaldson, B.iv.304–06.

¹⁵ Gower, *The Major Latin Works*, ed. by Stockton, pp. 210, 259; Gower, *Mirour de l’Omme*, ed. by Wilson, p. 347 (ll. 26,449–60); *The Canterbury Tales*, ‘General Prologue, ll. 361–78 (*The Riverside Chaucer*, ed. by Benson, p. 29); *Knighton’s Chronicle*, ed. by Martin, p. 509; Hatcher, ‘England in the Aftermath of the Black Death’, pp. 15–19. See also: Hatcher, ‘Labour, Leisure and Economic Thought’, pp. 78–80.

¹⁶ 37 Edw[ard]. III cc. 5–11 (1363): *Statutes of the Realm*, I, 379–81.

¹⁷ Britnell, *Growth and Decline in Colchester*, pp. 134–35; Britnell, *The Commercialisation of English Society*, pp. 173–75; Britnell, ‘Price-Setting in English Borough Markets’, p. 4; Britnell, *Britain and Ireland*, p. 356; Seabourne, *Royal Regulation of Loans and Sales*.

¹⁸ 23 Edw. III cc. 1–7, at c. 6 (1349): *Statutes of the Realm*, I, 307–08. For the Statute of Labourers, see: 25 Edw. III, st. 2, cc. 3–5 (1350–51): *Statutes of the Realm*, I, 312–13.

¹⁹ Hatcher, ‘England in the Aftermath of the Black Death’, pp. 5–6.

Further legislation over the next four decades reasserted a need to control victuallers. In 1353, a statute proclaimed that many hostelers and regraters were causing shortages of foodstuffs and needed to be punished by justices.²⁰ The Sumptuary Legislation of 1363 determined that the price of poultry should not pass certain prices due to 'great dearth' in many places, and specific prices were set out 'as may be agreed betwixt the seller and the buyer'.²¹ A Statute for Victuallers and Hostellers in 1389–90 similarly stated that victuallers should have reasonable gains according to the discretion of the justices.²² However, much of the legislation merely reiterated older laws regarding forestalling, weights and measures, the price of bread and ale, market hygiene, and the dimensions of cloth.²³ The legal apparatus for markets after the Black Death perhaps developed more in emphasis and quantity than substance.²⁴ Such laws can only provide glimpses of the potential changes taking place in retail markets after the Black Death.

The broader social and economic developments outlined certainly had the potential to cause repercussions in local marketplaces. Markets from 1050 to 1330 had been chiefly geared towards the distribution of grain to a growing population, with standards of living generally poor.²⁵ Richard Britnell has argued that the level of specialization in the thirteenth century, particularly for food trades, was low, with few specialist butchers, bakers, and brewers. Most were part-time and engaged in mixed employments and casual work as a strategy for survival in the prevalent economic conditions.²⁶ This changed with a declining population. Even though there was an overall reduction in retail activity and output, new trades and specializations were encouraged by a higher *per capita* expenditure and

²⁰ 27 Edw. III st. 1 c. 3 (1353): *Statutes of the Realm*, I, 330.

²¹ 37 Edw. III c. 3 (1363): *Statutes of the Realm*, I, 378–79. However, this legislation was repealed in the next parliament. Rigby, 'English Society', p. 34.

²² 13 Ric[hard]. II st. 1 c. 8 (1389–90): *Statutes of the Realm*, II, 63, reiterated in 4 Hen[ry]. IV c. 25 (1402): *Statutes of the Realm*, I, 140. See also 2 Hen. VI c. 18 (1423): *Statutes of the Realm*, II, p. 225.

²³ Laws against forestallers continued to be enacted: 25 Edw. III st. 3 c. 3 (1350–51): *Statutes of the Realm*, I, 315; 27 Edw. III st. 1 cc. 5–8 (1353): *Statutes of the Realm*, I, 331; 27 Edw. III st. 2 c. 11 (1353): *Statutes of the Realm*, I, 337–38; 28 Edw. III c. 13 (1354): *Statutes of the Realm*, I, 348–49; 2 Ric. II st. 1 c. 2 (1378): *Statutes of the Realm*, II, 8; 6 Ric. II st. 1 c. 11 (1382): *Statutes of the Realm*, II, 28–29 — repealed a year later: 7 Ric. II c. 11 (1383): *Statutes of the Realm*, II, 34. However, there were none after the 1380s until the early sixteenth century, e.g. *Tudor Royal Proclamations*, ed. by Hughes and Larkin, I, 99–100, no. 66 and 172–74, no. 118.

²⁴ Seabourne, *Royal Regulation of Loans and Sales*, pp. 160–62.

²⁵ Britnell, *The Commercialisation of English Society*, pp. 171–72.

²⁶ Britnell, 'Specialization of Work in England'.

generally less volatile demand and supply. Christopher Dyer notes how the variety of traders and artisans in Basingstoke rose from seventeen to twenty-eight over the course of the early fifteenth century, to include more specialists like braisers, haberdashers, and hosiers.²⁷ Brewers became more professional in reaction to developing consumer demand, but also diversified into selling other victuals or goods. There is evidence of an increasing supply of bread and meat from outside sources, as bakers and butchers sought to expand their commercial reach.²⁸ Other historians have argued that the late-fourteenth and fifteenth centuries saw more trade taking place in shops, inns, taverns, and alehouses.²⁹ In general, there is a suggestion that retailing underwent a structural change in the century after the Black Death, in reaction to changing patterns of consumption and living standards. Market traders were more likely to be full-time and professional, though often diversifying in the products they sold as a way to meet both a declining aggregate demand and a growing *per capita* consumption.³⁰

However, the precise chronology of change in retail markets needs further refinement. Some historians have argued, counter to John Hatcher, that improvements in standards of living before the 1370s should not be overemphasized, while others have suggested that the marketplace was not immediately reactive to the upheavals of the Black Death. Prices for grain remained relatively high up to 1376, and the disruption caused by heightened mortality, poor harvests, or an increase in money supply *per capita* may have affected the market, thus ramping up food and drink prices.³¹ Few had the resources to take advantage of available opportunities and any immediate improvements in living standards for labourers and smallholders were marginal at best. Only in the late 1370s, when grain prices fell, might increased wages have manifested themselves in changing patterns of demand.³² Equally, peasant farmers who had accumulated larger holdings were affected as much as lords by high labour costs and fluctuating grain prices, and this tempered their spending power.³³ Alternatively, institutional restraints, such as the Statute

²⁷ Dyer, 'Small Towns', pp. 513–14.

²⁸ Dyer, *Lords and Peasants in a Changing Society*, p. 349; *The Bailiff's Minute Book of Dunwich*, ed. by Bailey, p. 20; Dyer, *Bromsgrove*, p. 32.

²⁹ Dyer, *Lords and Peasants in a Changing Society*, pp. 346–49; Rosser, *Medieval Westminster*, pp. 121–23; Bailey, 'Rural Society'; Hilton, 'Lords, Burgesses and Hucksters', p. 14; Carlin, *Medieval Southwark*, pp. 192–200; Dyer, 'Did the Peasants Really Starve?', pp. 67–68.

³⁰ Dyer, 'Small Towns', p. 529.

³¹ Rigby, *English Society in the Later Middle Ages*, p. 99.

³² Dyer, *Standards of Living*, p. 218; Farmer, 'Prices and Wages, 1350–1500'.

³³ Bailey, 'Demographic Decline in Late Medieval England', pp. 9–10.

of Labourers or the control of lords over market practices, may have worked in keeping wages down and production costs up, thus hampering opportunities for retailers until some years after the plague. Longer-term patterns of change into the fifteenth century must also be considered, with some arguing that a ceiling of demand was reached in the early fifteenth century, as well as an economic slump exacerbated by problems of money supply.³⁴ We should not assume that any structural changes in the market were a process of continuous evolution. There were peaks and troughs in both demand and supply throughout the late fourteenth and fifteenth centuries, as well as varying constraints to market development.

II

This paper looks anew at the trade in food and drink in one small town — Clare in Suffolk (in East Anglia) — in order to examine the immediate and longer-term impact of the Black Death. The interweaving forces of falling population, supply and demand, standards of living, seigneurial reaction and lower-class aspirations are all encapsulated in this case-study, demonstrating varied influences upon the livelihoods of market traders. Clare lies in the hundred of Risbridge in southwestern Suffolk and had a population of about eight hundred in the late fourteenth century.³⁵ Despite its relatively low population, Clare's urban character was apparent in its prescriptive weekly market, its topographical layout of a market-square and burgage tenements, and in the diverse, non-agrarian occupations of its inhabitants. In the court rolls from 1377 to 1425, some fifteen non-agricultural occupations are directly mentioned.³⁶ The town also had nominal borough sta-

³⁴ Bailey, 'The Rabbit and the Medieval East Anglian Economy'; Bailey, 'Demographic Decline in Late Medieval England', pp. 9–10; Hatcher, 'The Great Slump'.

³⁵ Four hundred and twenty-five people were listed in the 1377 poll tax. In order to convert this number into a plausible population figure, historians have suggested multipliers anywhere between 1.5 and 2.2, while Rigby argues for a multiplier of 1.9. Rigby, 'Urban Population', pp. 398–99; *The Poll Taxes of 1377, 1379 and 1381*, ed. by Fenwick, II, 500. For a history of medieval Clare, see: Thornton, *A History of Clare, Suffolk*.

³⁶ These occupations are: baker, barber, barker, brewer, butcher, cook, dyer, fisher, fuller, maderer, merchant, miller, tailor, tanner, weaver. A further thirty-seven occupations are indicated by surnames, but this is not a reliable guide since surnames had become increasingly hereditary by this time: brasier, cardmaker, carter, chapman, chandler, clerk, coalmaker, cordwainer, cornmonger, cooper, currier, draper, fletcher, gardener, glover, goldsmith, lawyer, maltster, mason, midwife, mustarder, quiltmaker, pedlar, porter, roper, saddler, spicer, skinner, smith, sewster, taverner, thatcher, tiler, turner, vintner, woolman, wheelwright.

tus, evident ever since forty-three burgesses were enumerated in the Domesday Book.³⁷ By the time of the plague it was still a small borough under the firm control of the lords of the Honor of Clare, for which Clare was the administrative centre. The burgesses received some minimal concessions, such as burgage tenure, exemptions from tolls and stallage, the election of some officials (bailiffs, constables, aletasters), and a few trading liberties, in return for an annual 10s. fine to the lord. However, they never attained full autonomy and self-government through a charter, and Clare was to remain a seigniorial borough. Clare's lord from 1314 to 1360 was Elizabeth de Burgh, founder of Clare College, Cambridge, and she spent much time in the town's castle managing her extensive East Anglian holdings, as well as the town itself. She was succeeded by Lionel of Clarence, earl of Ulster, who died in 1369, and then the Mortimer family until 1425. The lands then reverted to the young Richard, duke of York, and eventually to his son in 1460, who soon after became King Edward IV.

Clare was thus a well-established, but modest, seigniorial market town on the eve of the Black Death. Its taxable quota of seventy-five pounds in the 1334 lay subsidy put it amongst the middling market towns, ranked below thirty-five other markets in the county. Suffolk was a highly commercialized county, with good arable land, navigable rivers, numerous markets, and a high proportion of freemen.³⁸ There were numerous marketing opportunities and Clare was at the heart of the developing Stour Valley cloth industry, though the number of its clothworkers never rivalled those of nearby Lavenham, Long Melford, or Sudbury. Nevertheless, by the fifteenth century, there were several prosperous clothiers in Clare, such as John Tryklowe and John Horold, who helped sustained a fairly healthy woollen-cloth trade in the town.³⁹ Like many small market towns, Clare's economy was highly dependent upon the sales and purchases of those who lived in its immediate hinterland, with basic agricultural produce sold by peasant farmers, and petty manufactures, food and drink purchased. The town thus served as a local market centre for its hinterland, for travellers, and for resident aristocratic and ecclesiastical households (including a house of Augustinian friars). As shall be shown, a large proportion of the residents of Clare were involved in selling food and drink, even if only intermittently.

Urban governments, whether in small towns or corporate boroughs, focused heavily on the supply and sale of food and drink, monitoring brewers, butchers,

³⁷ *Domesday Book: Suffolk*, ed. by Rumble, II, 389b.

³⁸ Bailey, *Medieval Suffolk*, chaps 2 and 3.

³⁹ Thornton, *A History of Clare, Suffolk*, pp. 144–92.

fishmongers and cooks, as well as small-scale retailers such as regraters, hucksters, tranterers, gannockers, and tapsters. Many engaged in dealing foodstuffs on a part-time basis, especially women. They would brew according to their available surpluses, local demand and needs of the household.⁴⁰ Market traders thus consisted of people from a variety of social standings, including irregular and poor hucksters or well-off and regular retailers.⁴¹ The trade itself often determined whether its practitioners were generally professional and specialized, such as bakers, or whether they included greater numbers of part-timers and by-employment, such as brewing.

The market trade of a small town can be partially tracked through court rolls, via debt pleas or lists of offences against trade regulations. Court cases demonstrate recurrent concerns about prices, supply, profiteers, weights and measures, quality, debts, and hygiene. The manor court of Clare was ostensibly run by the lord and the steward for the lord's interests and income. However, in most small seigneurial towns a group of local notables tended to control the main court and town offices and thus the levers of administration.⁴² Indeed, in addition to their few burgess privileges, Clare's market was officially farmed to the burgesses for six pounds a year from at least 1425.⁴³ This meant that they could manage the tolls, stallage, and other everyday matters to their own benefit. However, the main trading infractions theoretically remained under the supervision of the lords and their stewards through the private franchise of the view of frankpledge, exercised in the leet court. Two leet courts were held each year in Clare around Easter and Michaelmas, and a significant number of court rolls survive (see Appendix). Capital pledges presented the infringements of their tithingmen, while aletasters and jurors would judge the assizes of bread and ale and other trading misdemeanours. The assize of ale crudely stipulated a standard price of a gallon based on the price of barley and also monitored the quality of the product. The assize of bread similarly sought to enforce price and quality standards, though it was a little more sophisticated in varying the weight of a

⁴⁰ Mate, *Daughters, Wives, and Widows after the Black Death*, p. 74.

⁴¹ Hilton, 'Small Town Society in England before the Black Death', p. 87.

⁴² Personal communication with Mark Bailey; Miller and Hatcher, *Medieval England: Towns, Commerce and Crafts*, pp. 350–51.

⁴³ Kew, TNA, DL 29/994/10; Thornton, *A History of Clare, Suffolk*, pp. 41–42; Thornton, 'A Study in the History of Clare', pp. 100–02. There was a market farm to unnamed lessees as far back as 1325, becoming more regular after 1370. Kew, TNA, DL 29/992/15 and Kew, TNA, DL 29/993/7.

farthing loaf according to the current market price of wheat.⁴⁴ Leet jurisdiction also encompassed other retail trades such as the sale of meat and fish. We consequently have lists of people who were presented before the biannual court for breaking the assizes, but whether these reflected actual offences or functioned as a system of licensing is a matter that many historians have discussed.⁴⁵

The administration of market law in a small town like Clare was expected to follow a conventional format. As regards the production and sale of ale, brewers, often women, were ordered to place their broom or alestake outside their home when they had a batch of ale prepared. This would theoretically summon Clare's elected aleasters to inspect the ale for price, quality, and measure, though it is likely that brewers were also expected to send for them personally. Indeed, brewers who avoided the supervision of aleasters were additionally punished. The aleasters then supposedly presented at the leet court all those brewers who had broken the stipulations of the assize. However, historians have long recognized that courts commonly listed all brewers and not just those who cheated.⁴⁶ In many courts, particularly from the fourteenth century onwards, brewers were charged a regular, unpunitive sum in lieu of potentially breaking the assize. In other words, the lists of offenders were a legal fiction that maintained the auspices of market control without the accompanying enforcement costs, while also providing income for the lord. The same procedure seemingly applied to bakers. Whether such 'licensing schemes' extended to other types of traders is less certain and practice probably varied. Formulaic lists of regraters, butchers, fishmongers, cooks, tanners, and dyers were not uncommon, with the same names, standard ameracements and non-specific accusations recurring in each court. At other times, however, butchers and fishmongers might be presented for very specific offences, such as corrupt meat or fish, which were outlined in more detail than the usual generic phrases used for assize presentments. Nevertheless, it was very rare for court rolls to record the use of corporal punishment, such as the pillory or tumbrel, even though statute law stipulated that this should be used for recidivists.

⁴⁴ Davis, 'Baking for the Common Good'.

⁴⁵ Bennett, *Ale, Beer, and Brewsters in England*; Britnell, *Growth and Decline in Colchester*, pp. 89–90; Postles, 'An English Small Town', pp. 15–16; Hilton, *The English Peasantry*, pp. 45, 104; Goldberg, 'Women in Fifteenth-Century Town Life', p. 116; Graham, "A Woman's Work", pp. 140–41.

⁴⁶ Bennett, *Ale, Beer, and Brewsters in England*, p. 4; Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, pp. 131–36; Britnell, *Growth and Decline in Colchester*, pp. 89–91, 195–97, 269–71.

This might appear to be a lax approach to market regulation. Indeed, a statute of 1389–90 ordered that no amercements should be taken for defaults of the assize when the law ordained that the offender should suffer corporal punishment.⁴⁷ Similarly, the London *Liber albus*, which was compiled by John Carpenter in c. 1412, stated that ‘no sheriff shall take a fine from bakers or from brewsters in lieu of the pillory or hurdle.’⁴⁸ There were increasing concerns about the enforcement of statute law in the marketplace amidst changing economic circumstances. However, the apparent laxity of assize enforcement in the towns and markets often hid the pragmatic complexities of commercial practice. We should not dismiss the assizes of ale and bread as lacking in any regulatory effect. The continued presence of the assizes at leet courts reminded brewers and bakers of their social duty to supply wholesome food and drink, while occasional indictments of flagrant offenders ensured that the law was not a dead letter and market users recognized the margins of acceptable behaviour. Indeed, in many markets, the number of brewers meant that competition and informal constraints were the main monitoring force, but flagrant fraudsters could still face the full force of punishment in the pillory or cucking-stool.

In the aftermath of the Black Death, many markets struggled to maintain their role in the new economic environment. Falling demand from rural neighbours had a demonstrable effect on the prosperity of any market, and the stark loss of population inevitably depressed the aggregate demand for agricultural produce. It is estimated that two-thirds of village markets ceased to function in the century after the plague.⁴⁹ There was thus a restructuring of the commercial networks. If any markets survived, and even prospered, it tended to be those of small towns of medieval England, though they were competing strongly for the residual market share. Much work has been done on the characteristics and fortunes of small towns in fourteenth- and fifteenth-century England, particularly by Christopher Dyer and Mark Bailey.⁵⁰ They argue that small towns offered more choice than village markets and responded better to the changing demands of the peasantry,⁵¹ but also that they asserted less rigorous supervision than large borough markets. However,

⁴⁷ 13 Ric. II st. 1 c. 8 (1389–90): *Statutes of the Realm*, II, 63.

⁴⁸ Carrel, ‘Food, Drink and Public Order’, p. 192.

⁴⁹ Bailey, ‘A Tale of Two Towns’, pp. 353–54; Britnell, *The Commercialisation of English Society*, pp. 160–61; Masschaele, ‘The Multiplicity of Medieval Markets Reconsidered’.

⁵⁰ Dyer, ‘Small Places with Large Consequences’, p. 23; Bailey, ‘A Tale of Two Towns’, pp. 351–54; Britnell, ‘The Economy of British Towns’, pp. 331–32.

⁵¹ Bailey, ‘A Tale of Two Towns’, p. 354; Dyer, ‘The Consumer and the Market’, p. 325.

competition was still very keen between market venues in this leaner marketing structure, because although consumer demand *per capita* had risen for some goods, this did not necessarily compensate for a decline in the total volume of trade.⁵²

Clare was fairly well-placed in terms of its market access given its relative location on both river and road networks and its relationship to the growing cloth centres of the Stour Valley. In comparison with other Suffolk towns and their taxable assessments in the 1334 and 1524/5 lay subsidies, Clare improved its ranking from 58th (out of 387 assessed vills) to 24th (391) in 1524, but only 40th (460) in 1525.⁵³ Only a third of Suffolk's medieval market foundations survived into the sixteenth century, but this included Clare; the town was ranked 36th out of 98 Suffolk markets in 1334, while its equivalent ranking in 1525 was 23rd out of the 32 surviving markets. It could be argued that Clare's economy was resilient, but that the town did not take full advantage of nearby industrial developments, perhaps due to strong local competition. In addition, Gladys Thornton has argued that Clare was under close control by its lords, with little opportunity to wrest extra privileges that might have aided its burgesses in developing the town and its market. She suggested that this did not change significantly even when the lordship of Clare reverted to absentee hands, because the steward remained a visible and strong presence while administering the Honor lands from the town. Although the burgesses gradually exerted more *de facto* control over the market, Thornton considered that Clare's 'borough development was retarded' during the fifteenth century.⁵⁴ Nevertheless, as will be shown, much did change in Clare's retail trade by the fifteenth century, and this was partly due to a shift in court and market control towards the burgesses.

III

The Black Death struck Clare in early 1349 and the leet court of 28 April that year noted that eight brewers were now dead from a total of forty-one offenders since the last court. If this was a direct reflection of the death-rate in Clare it would suggest that just twenty per cent of the town had succumbed, but the plague was still ravaging the town and the ultimate death toll was surely higher.⁵⁵ Indeed,

⁵² Britnell, *The Commercialisation of English Society*, pp. 158–59, 166.

⁵³ *The Lay Subsidy of 1334*, ed. by Glasscock, pp. 284–96; Sheail, *The Regional Distribution of Wealth in England*, ed. by Hoyle, I, 28–29; II, 321–36.

⁵⁴ Thornton, *A History of Clare, Suffolk*, pp. 31–46.

⁵⁵ Eighty free tenants were recorded in the 1307 subsidy, but this is difficult to translate into

there is a striking difference in the names that appear in the brewing presentments before and after April 1349. If we look at those brewers who appeared in the leet courts of September 1348 and April 1349 and compare them to those in leet courts from October 1349, only thirteen brewers appear again whereas twenty-three brewers (whether husband or wife) do not. Two more brewers disappear from the figures after October 1349. In contrast, thirty-three new names appear in the presentments during 1350 and 1351. This included new wives for both Thomas le Barker and Hugh de Godeston, whose previous wives are recorded as dead in the April 1349 court. Not all these disappearances would have been due to plague deaths and admittedly some brewers were sporadic in their appearances in the court rolls even before the Black Death struck Clare. It is also possible that a few found other economic opportunities, either within or beyond the borough, and turned their back on brewing. Nevertheless, such a turnover in brewer presentments was highly unusual and indicative of the disruption caused by the extensive population loss.

A similar turnover is seen amongst Clare's regraters, where at least seventy per cent of the regraters listed in the April 1349 court do not appear again. This is partly accounted for by a move into the more lucrative opportunities of commercial brewing, such as by the wives of Walter Bory, John Curteys, and William Fretheryk, but many others simply disappear from the record. Looking beyond brewers and regraters, the court rolls do not directly record any deaths of Clare's bakers, but John Ailyth, Maurice le Mellere, Thomas Mone, and John atte Temple, who constituted the main backbone of the town's baking industry, all failed to appear in any courts after October 1349. They were replaced by a new generation of men like John le Baker, Nicholas le Baxstere, and, eventually, Thomas Mone junior, after other members of the Mone family seem to have kept the household's trade afloat in the interim. This bleak picture can be supported by the lucrative trade of butchers, where eight can be traced from April 1349 and through the Black Death, but another eight are lost to the record. These are, of course, only impressionistic figures and do not reveal those who had simply left the trade. Nevertheless, seven of these 'lost' butchers had been presented at least three times in the previous four leet presentments, so it is reasonable to assume that the Black Death was instrumental in the change.

The figures from Clare's leet courts thus suggest that the death rate was close to fifty per cent and this was bound to have significant effects. The longer-term economic upheaval for the market of Clare will be discussed below, but there were notable immediate repercussions and tensions. In particular, the mortality crisis

of 1349–50 generated friction between the lady of the manor and brewers of the town. During the ten years following the plague, the lady, steward, aletasters and brewers became embroiled in disputes that imply that the Black Death had greater ramifications than merely commercial disruption. The court rolls from 1350 to 1353 show more problems with brewers, including a refusal to send for aletasters, than in any similar period of the court rolls between 1312 and 1482. Many of these cases took place outside the usual leet jurisdiction and instead fell within the remit of the manorial court. On 7 December 1350, John Medwe and his wife, Amicia, was ordered to respond to the lord as to why they were selling ale at 3d. and 2½d. per gallon without sealed measures, contrary to the prohibition of the bailiff. In April 1351, John de Stoke was threatened with a fine of 40d. for selling by cups and not by proper measures, before being pardoned by order of the lady. In May 1351, the capital pledges were specifically warned by the steward to ensure that all brewers were assized correctly, under threat of an extensive communal fine. In September 1351, William Brokhole (a servant of the lady) sold ale at 2d. a gallon before he sent for the aletasters, while in October, the wife of Simon Shereman refused to sell ale to a servant of the lord and her husband was ordered to be distrained. Both John Medwe and Simon Shereman were in trouble again in early 1352 for not holding the assize and they forfeited 12d. and 7d. worth of ale respectively. In June 1352, John Medwe was not selling by the correct measures and forfeited his ale, while Robert le Skynnere concealed his ale from the tasters. In July 1352, Walter Bory and his wife Isabel, along with Andrew and Matilda de Braundon, were presented as forestallers of malt and amerced 12d. and 6d. respectively.

In this sample of cases over just a couple of years, social tensions after the Black Death are evident. Individual cases presented outside the normal and formulaic leet court lists of brewers can be confidently discerned as actual offences rather than mere legal fictions. However, the underlying reasons behind such an unusual flurry of infringements are more difficult to ascertain. It is possible that the disruption and uncertainties of the plague had led to difficulties for brewers in maintaining their livelihood and thus they reverted to malpractices beyond the normal assize margins. Complaints from customers may have led the bailiffs and aletasters to pursue malefactors more strictly. Alternatively, these cases could be interpreted as a reaction to the stipulations of the Ordinance and Statute of Labourers, which encouraged urban authorities to regulate prices according to the notion of what was ‘reasonable’.⁵⁶ The terminology of ‘reasonable price’ had

⁵⁶ 23 Edw. III cc. 5–6, *Ordinance of Labourers* (1349): *Statutes of the Realm*, I, 307–08; 25 Edw. III st. 2 cc. 3–4, *Statute of Labourers* (1350–51): *Statutes of the Realm*, I, 312. See also 28

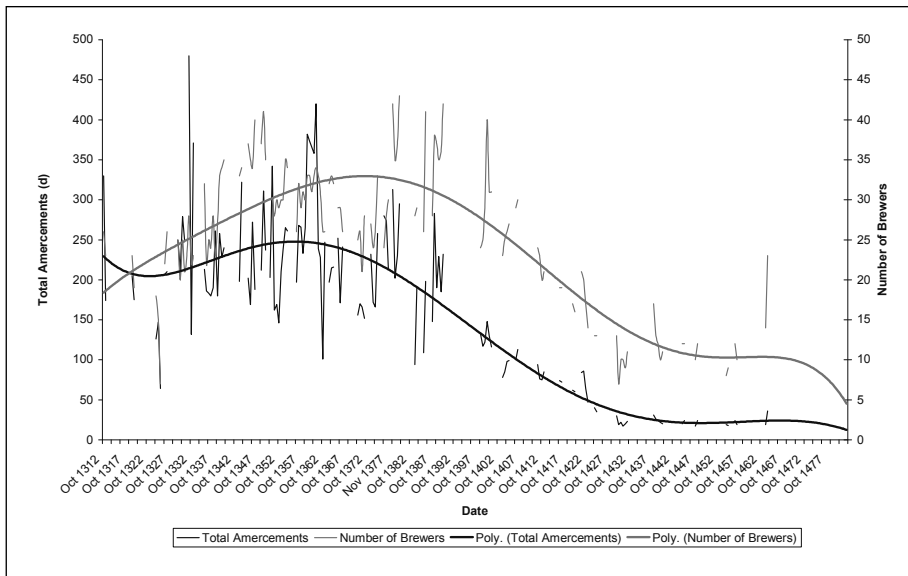


Figure 38. Clare brewers and total amercements, 1312–1482

Source: Kew, TNA, SC2/203/38–72 (see Appendix).

been used before, particularly in civic ordinances and royal commissions, but this was another step forward in creating a national legislative framework. Many of Clare's cases imply that the brewers and alesellers were charging high prices, perhaps reacting to market supply and demand. Wages were already on the increase, but there had also been a bad harvest following the plague. An additional factor could be the lady of the manor, Elizabeth de Burgh. She was a wealthy landlord who undoubtedly supported the labour legislation during difficult times for the nobility. The evidence shows that her household income had fallen significantly, from *c.* £3500 *per annum* in the 1340s to *c.* £2300 in 1349–50,⁵⁷ and she may have wished to see the new price and wage laws strictly enforced.

Edw. III c. 5 (1354): *Statutes of the Realm*, I, 345.

⁵⁷ Bailey, *Medieval Suffolk*, p. 180; Thornton, *A History of Clare, Suffolk*, pp. 106–13. The value of the manor had certainly fallen between the inquisition post mortem of 1314 and that for Elizabeth de Burgh's death in 1360, from £66 3s. 4d. to £34 11s. 6½d., though the revenues of the borough had remained fairly consistent at about £10. Thornton provides further information regarding the more general effects of the Black Death upon the manor, including the mention of 'chivagium' (chevage), remittances of winter and summer works, and the gradual change in tenures (copyhold) and tenants' status.

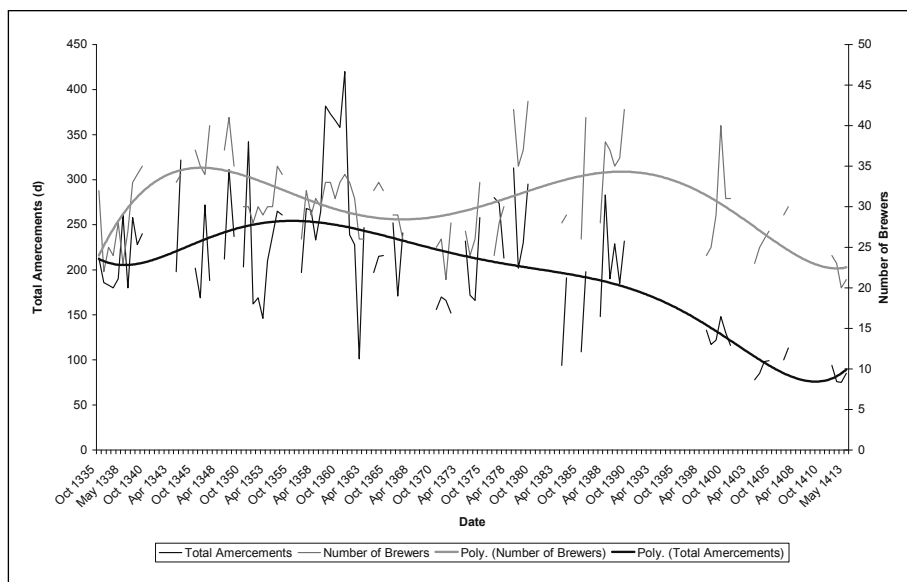


Figure 39. Clare brewers and total amerancements, 1335–1413

Source: Kew, TNA, SC2/203/38–72 (see Appendix).

Was the lady also assertive in ensuring that the assizes were kept in order to keep up her income? Developments over the following years suggest that this may well have been the case.

On 17 July 1352, matters came to a head and the aleasters, Edmund le Tailour and Richard Pye, were presented before the steward, Thomas de Frobisher. Although they were pardoned from any amercement, they were specifically warned by the court, under a threatened penalty of half a mark, to check that the brewers were undertaking their activities according to the statutes.⁵⁸ This injunction, taking place between leet court sessions, was very unusual and perhaps indicates that something was amiss in the aftermath of the Black Death. The steward wanted normal services resumed and had instigated remedial action. Accompanying this statement, eighteen brewers were amerced 2d. each for unsealed measures, probably in response to the steward's intervention. Two weeks later, on 2 August, Thomas le Masoun (whose wife, Margaret, was a regular brewer) was presented for verbally insulting Edmund le Tailour while Edmund was undertaking his aleasting duties.

⁵⁸ Kew, TNA, SC2/203/49.

The reasons for such a clamp-down become clearer when we examine the total amercements derived from the assize of ale. The previous leet court in April 1352 and the subsequent one in October 1352 took place as usual, but both the average and total amercements had fallen sharply since 1349–50 (see Appendix and figs 38–40). In April 1349 the court had still claimed some 311d. (an average per brewer of 7.6d.), despite the ravages of the plague, but this fell to 237d. (6.8d. average) in October 1349 and 203d. (6.8d. average) in October 1350. This probably reflected the harvests and grain prices of the previous year, as highlighted by Henry Knighton, who stated in early 1349 that the previous harvest had been so good that ‘there was such an abundance of grain that almost no one cared for it.’⁵⁹ However, after the harvest of 1349, Knighton was very clear about the upheavals caused by the plague:

In the following winter there was such a want of hands, for every kind of work, that people believed that the like shortage had never been known at any time in the past [...]. And thus the necessities of life became so dear, that what in previous times was worth 1d. now cost 4d. or 5d.⁶⁰

Yet, a return of 342d. (11.4d. average) by May 1351 perhaps encouraged the lady and her steward that the crisis had passed and that they could even benefit from a new-found urban wealth among the survivors. Such hopes were dashed by a massive drop in revenue at the next three courts, in October 1351, April 1352 and October 1352, where only 162d. (5.8d. average), 169d. (5.6d. average), and 146d. (5.0d. average) respectively were collected, despite the number of brewers remaining almost constant (see figs 39–41).

The intervention by the steward in July 1352 was probably driven by finance, in order to raise the lady’s revenue through a stricter enforcement of the assizes. It could also be interpreted as an attempt by the lady to reassert her authority upon the brewers, aletasters, and burgesses in general. Indeed, there is other evidence that Elizabeth de Burgh was an assertive landlord in the post-Black Death period. In 1357, she sent her servant, William de Brokhole to Barton (near Mildenhall) in order to retrieve cattle ‘for customs and services due to her’, which were to be driven back to Clare and impounded ‘according to the law and custom of the realm’. However, de Brokhole faced resistance from the chaplains and men of Barton and Mildenhall, who raised the hue and cry against him and put him in the stocks. Elizabeth paid to have him released, but still obtained the payment

⁵⁹ *Knighton’s Chronicle*, ed. by Martin, pp. 100–01.

⁶⁰ *Knighton’s Chronicle*, ed. by Martin, pp. 104–05.

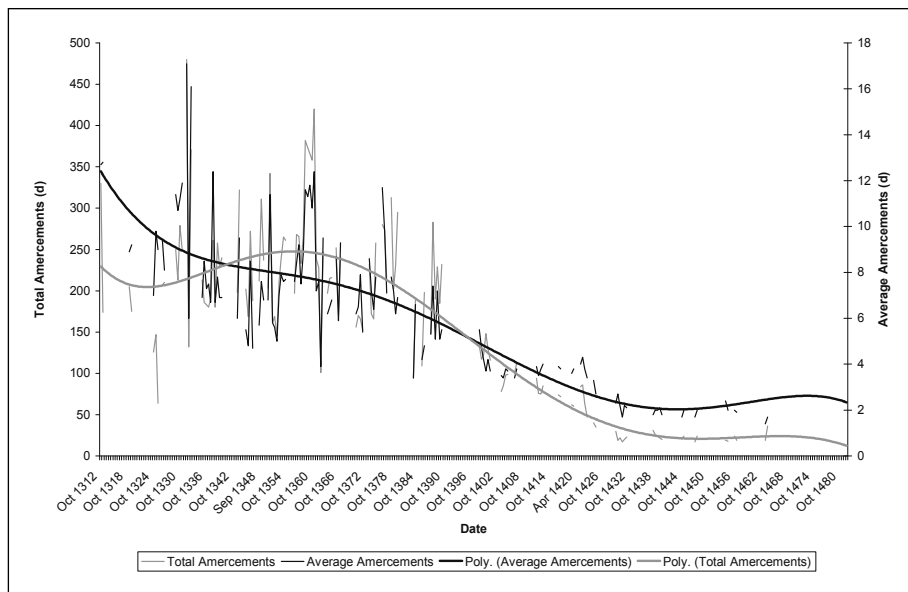


Figure 40. Clare brewers: Total and average amercements 1312–1482

Source: Kew, TNA, SC2/203/43–67 (see Appendix).

due to her and subsequently a commission of oyer and terminer was issued after she complained to the king.⁶¹ The lady's desire to keep her revenues bouyant and her seignorial authority intact should not be underestimated.

The immediate impact of the steward's admonitions was not obvious at the October 1352 leet court, but thereafter the pressure of greater stringency began to tell. In June 1353, twenty-two households (including eight of those presented the previous year) were amerced between 1d. and 4d. for using unsealed measures. That same month, Alice Pollard forfeited 10d. of ale because she had 'prejudiced the common town by selling ale' at 3d. By April 1353 the total dividend from the assize of ale had returned to 210d. (7d. average) and it continued to climb back to c. 260d. and above for the remainder of the 1350s, reaching a peak of 420d. (12.4d. average) in April 1361. The decline in average amercements had also been reversed (see figs 38–40). Whether this was entirely due to the entreaties of the steward towards the aletasters and affeerers or due more to a growth in demand for ale, it appears that the pressure upon brewers had not let up. In 1357, the bailiffs of Clare were ordered to repair 'le Cuckynstol' in case corporal punishment of

⁶¹ Thornton, *A History of Clare, Suffolk*, p. 102; CPR: Edward III, x, 655.

brewers was required.⁶² On 26 February 1359, again within the manor court rather than the leet, the bailiffs and alestasters dragged twenty-six brewers before the court to answer to the steward why they were brewing ale against the assize. This was repeated on 19 March and 9 April 1359 and each time a specific examination was made concerning how well they had kept the assize. All brewers were ordered to respond at the next leet court. The subsequent jump in total assize amercements (from 265d. on 2 October 1358 to 382d. on 30 April 1359) is perhaps unsurprising given this amount of persistent attention. In addition to the basic assize amercements, they were additionally amerced 3d. each (eight shillings in total) for using unsealed measures, adding yet more to the lady's coffers.

Elizabeth de Burgh died in 1360 and the new lord, Lionel of Clarence, did not live on the manor as his predecessor had. He was replaced in 1369 by the Mortimers, who were also absentee lords. Although a permanent steward maintained a residence in Clare, it appears that the driving impetus of the lord declined. The total amercements for brewing fell again after their peak in April 1361, almost by half in the following year and just 101d. was received in October 1362 (see figs 38–39). This was largely due to a significant drop in the average amercement for each brewer (see fig. 40). The totals never really regained their former strength and oscillated between 94d. and 313d. to the end of the fourteenth century, averaging 195d. for the next forty years. Nevertheless, the steward initially responded in June 1363 by demanding that all brewers should be distrained to respond to the lord why they broke the assize and were unwilling to submit to the authority of the alestasters. In July, all brewers were amerced for failing to call the alestasters when required. This pressure did appear to have an effect, for the average amercement retained some of its former ground by April 1364 (see fig. 39). However, by 1367, individual brewers were back to showing contempt to the alestasters and refusing to sell their ale to those who demanded it.

When the Mortimers took over in 1369, the tension between steward, alestasters, and brewers appears to have relented. Concerns in the 1370s switched to a few specific cases of brewers selling ale at excessive price. For instance, in July 1371, Cristina Pacher sold a gallon of ale at 4d., while other brewers sold theirs at 3d., which was itself deemed over-priced, and they were each amerced 2d. Brewers in Clare were probably expected to sell their ale at between 1½-2d. for most of the early 1370s. In late 1351, when barley was at relatively high levels of seven to eight shillings per quarter, several brewers were correctly selling their ale at 2d. a gallon and John Medwe was attached by six gallons of ale valued at a

⁶² Kew, TNA, SC2/203/53.

market price of 12d. However, brewers and alesellers presented to the court in the 1370s were charging as much as a fifty per cent mark-up on the stipulated assize price, perhaps serving a growing demand for ale by selling with mugs from within alehouses. Nevertheless, ale was still cheap and readily available. Previous presentments that accused brewers of not calling for the aletaster had all but disappeared. The 1370s thus appear to mark a new approach to monitoring the marketplace of Clare.

This pattern of post-Black Death assize of ale enforcement demonstrates how amercements for both brewers and aletasters were as much the product of social and political interests as of economic factors. Lords saw the assizes as an important revenue source and also a means of social control, and Elizabeth de Burgh was clearly trying to maintain her authority. Her efforts could be interpreted as an example of a broader 'seigneurial reaction' to the economic upheavals.⁶³ In contrast, burgesses were asserting their new economic bargaining power, while possibly seeking to reduce their level of expense during changing and competitive economic circumstances. One might even argue that this shows how the jurisdictional power of lords over their tenants was eroding in the twin face of economic reality and local resistance. Clare's residents were not adverse to belligerent action; a number are known to have taken part in the Peasants' Revolt of 1381.⁶⁴ It is possible that the economic changes led burgesses to seek a redefinition of their role in the community and court, as well as a relaxation of assize amercements, even while the lady was seeking to bolster her income.

A new lord meant a different level of rigour or a new focus. After 1425, when the manor reverted to the young ward, Richard, duke of York, the lord's lack of intensive involvement in market affairs is noticeable. For the first time, the lessees of the farm of the market are formally identified as the burgesses, as the new lord sought clarification of the borough's resources. There then appear to be administrative changes, with the lord opting out of the daily running of the town. By 1431, the election of court officials has become entirely at the discretion of the burgesses and there are no further entries in the rolls for the admission of burgesses.⁶⁵ The townsfolk had seemingly gained *de facto* control of the market and court.

Often, in small towns like Clare, it was market traders who effectively ran the court and market as bailiffs, capital pledges, constables, jurors, affeerers, and

⁶³ See: Britnell, 'Feudal Reaction after the Black Death'; Hargreaves, 'Seigniorial Reaction and Peasant Responses'.

⁶⁴ Ridgard, 'The Uprising of 1381'.

⁶⁵ Kew, TNA, SC2/203/68; Thornton, *A History of Clare, Suffolk*, p. 39.

aletasters. This occurred despite statutes in 1318 and 1382 that attempted to prevent any victualler from exercising a judicial function in towns, though the legislation exempted places where no other sufficient men could be found.⁶⁶ Many decisions were in the hands of bakers, brewers, and butchers, and the tensions evident in the decade after the Black Death reflected a desire to assert their own interests against those of the lord. Local officials increasingly recognized the need to be flexible towards buyers and sellers in the new economic conditions, while freedom from excessive feudal demands benefitted marketing efficiency and lowered operational costs. This same pattern develops in Clare, where the evidence suggests that the burgesses continued to struggle against seigneurial authority, but eventually gained a significant degree of informal autonomy, aided by the increasing absence and repositioning of new lords.

Marjorie McIntosh's study of Havering highlighted the importance of relative freedom from seigneurial control in allowing inhabitants to pursue their market interests and profit without undue exploitation.⁶⁷ These urban dwellers wanted to buy and sell land freely, control their own time, movement, and resources, and reduce the anxieties that came from arbitrary taxation.⁶⁸ In the absence of excessive outside control, certain families dominated the manorial court and encouraged market enterprise. They reduced the level of regulation upon individuals, but also recognized that an orderly, communal environment was needed for business to prosper. Indeed, traders might theoretically want to be free of regulation, but they still want others to be regulated, whether vendors or consumers. The authority of the court and, in turn, the status of the town elite, had to be maintained. Similarly, seigneurial demands and local customs still had to be met, because it was vital that the lord acquiesced in allowing the manorial court to be used as a legal and coercive buttress for commercial endeavours.

The independence of the steward could be curtailed. Only through the information of local jurors, capital pledges, aletasters, and affeerers could the steward function effectively, and local people often channelled that information to the community's advantage. In particular, they would decide which offences needed to be reported and the level of punishment required.⁶⁹ This was a pragmatic amalgam of individual and collective interests in order to lay the potential foundations for commercial success.

⁶⁶ 12 Edw. II c. 6 (1318): *Statutes of the Realm*, I, 178; 6 Ric. II st.1 c. 9 (1382): *Statutes of the Realm*, II, 28.

⁶⁷ McIntosh, *Autonomy and Community*, pp. 51, 89, 136–38, 152–66, 176–78.

⁶⁸ See Rigby, *Medieval Grimsby*, pp. 46–47.

⁶⁹ McIntosh, *Autonomy and Community*, pp. 181–86.

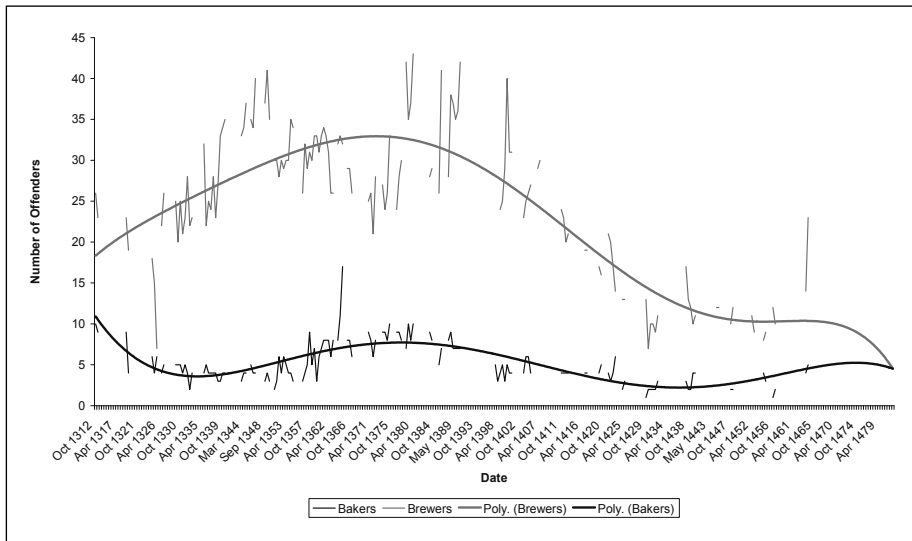


Figure 41. Numbers of brewers and bakers in Clare, 1312–1482

Source: Kew, TNA, SC2/203/38–72 (see Appendix).

However, the manipulation of court procedures in pursuit of the aims of leading locals means that we have to be wary about the information contained within court rolls.⁷⁰ Presentments were often related to the priorities of capital pledges and aletasters, and thus Clare's leading men decided on the level of behaviour conducive to the effective running and reputation of their market. It could be also argued that Clare's court gave traders a freer hand by the fifteenth century and this was reflected in the pattern of presentments and amercements. The number of brewers and total amercements began to fall after the 1390s (see fig. 38), but was this a direct reflection of production and consumption or a consequence of slackening seigneurial authority and more flexible market administration? We need to be cautious in discerning whether the assizes were less an indicator of moral disrepute or criminality than a testing ground between seigneurial authority and tenant interests.

IV

Despite the demographic consequences of the Black Death, the number of brewers presented at each leet court maintained a surprisingly steady rate for

⁷⁰ McIntosh, *Autonomy and Community*, pp. 201–04.

some fifty years (see fig. 41). There was only a slight decrease in their number after the plague, with the number of brewers presented in the ten (surviving) courts before the plague averaging thirty-five, while in the ten after 1349 it was thirty-one. Indeed, by the late 1370s the average number had risen back to pre-plague levels. The concerted decline in Clare's brewers took place only from the 1410s onwards, but it was then quite stark. This is the same time that Keene noted that the increase in quantity of ale brewed and sold in Winchester came to an end.⁷¹ There may have been wider economic reasons for the sudden drop in the number of brewers, such as a decline in demand linked to the war in France, taxation from 1417, and the debasement of the coinage from 1412. It is also possible that the continuing fall in population had come to outweigh increases in *per capita* expenditure, while the lack of labour was taking its toll more widely in urban economies. Alternatively, there may have been procedural changes in the way brewers were presented at court, thus hiding a large number of producers, but one would expect a change in the format or text used to accompany such an administrative adjustment. Although it is possible that very occasional brewers were no longer being monitored and thus escaped assize lists, the court rolls do not give any indication of such a policy.⁷²

From the early fourteenth century through to the fifteenth century, there was a definite downward trend in total and average amercement levels for brewers (see fig. 40), even if there were fluctuations within this time period. During much of the fifteenth century brewers were amerced fairly consistently at just one to three pence each, and the level of supervision appears to have declined. The number of bakers also fluctuated slightly throughout the period, actually increasing after the Black Death before falling again in the 1390s. However, from the 1420s to 1460s, there were rarely more than four bakers and more commonly two or three, similar to the 1330s. This means that there was no distinct downward trend over the long chronological period. Indeed, there was a slight rally in the number of bakers to between three and six in the 1460s and beyond. The total amercements for the assize of bread tend to follow the number of bakers being amerced (see fig. 42), except in the early fourteenth century when they were significantly higher. The average amercement for bakers was fairly substantial before the Black Death and rallied at times after the plague. However, after the 1360s–70s, there was a steady decline in its value.

The post-Black Death patterns seen in Clare are broadly comparable to those in nearby Sudbury, where the number of bakers briefly rallied in the 1370s but

⁷¹ Keene, *Survey of Medieval Winchester*, I, 268–69.

⁷² Britnell, *Growth and Decline in Colchester*, pp. 92–93.

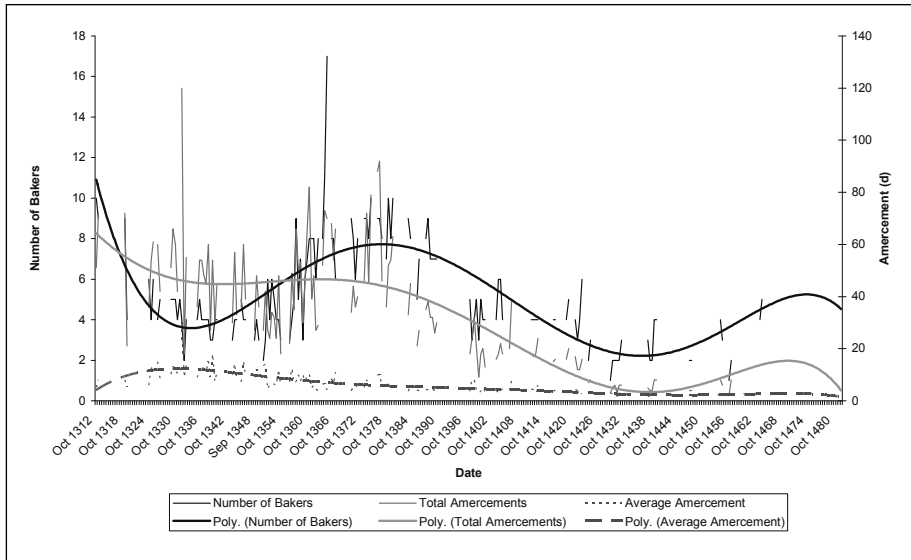


Figure 42. Clare bakers and amercements, 1312–1482

Source: Kew, TNA, SC2/203/38–72 (see Appendix).

fell again to low levels by the fifteenth century.⁷³ The number of Sudbury brewers was similarly sustained during the 1350s to 1370s at eighty per cent of the level in the decades before the plague. Thereafter, the number of brewers steadily declined, so that they were merely a fifth of the pre-plague level by the 1450s. The population had certainly not declined to this extent, so the implication is that either production was concentrated in fewer hands or the evidence of court records does not provide a clear guide to the actual numbers of brewers. The trends found in Clare and Sudbury tally with the findings of Marjorie McIntosh in the five market towns of Minehead, Northallerton, Ramsey, Havering, and Romford. She argued that this stemmed from a combination of increases in the scale of brewing, population changes within market communities, and shifts in *per capita* demand for ale.⁷⁴ Across a broad chronological span, irrespective of court procedures, it was wider economic trends that were instrumental in determining the number of brewers and bakers.

The changing profile of assize enforcement can be seen by comparing the frequency of different amercements in Clare from 1325 to 1482. Figures 43–47

⁷³ Kew, TNA, SC2/203/112–15, Kew, TNA, SC2/204/3–20.

⁷⁴ McIntosh, *Working Women in English Society*, pp. 152–54.

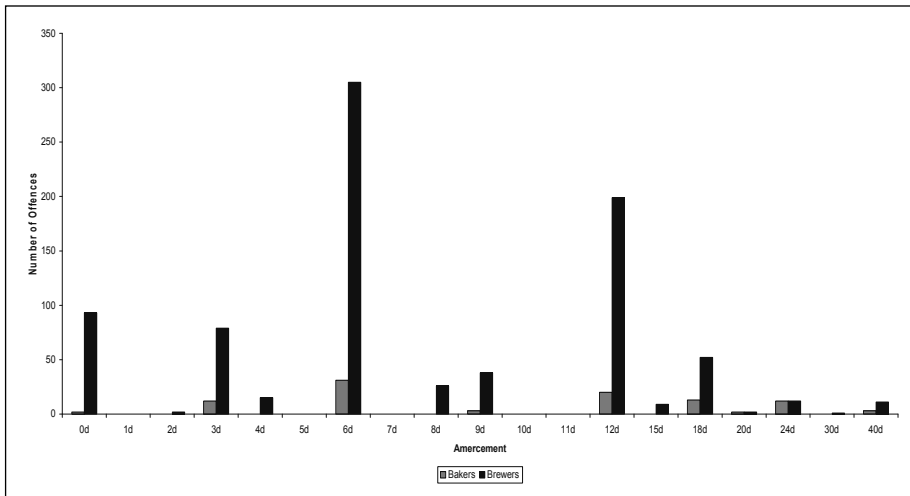


Figure 43. Amercement levels for bakers and brewers in Clare, 1325–49

Source: Kew, TNA, SC2/203/39–47.

show a general movement from higher to lower amercement levels in Clare's court rolls, with a peak in offences in the late fourteenth century. In each chart, the average amercements for baking were: 11.9d. (1325–49); 7.2d. (1350–77); 5d. (1377–99); 4d. (1399–1425); 2.3d. (1426–82). For brewing, the averages were: 8.4d. (1325–49); 7.3d. (1350–77); 5.7d. (1377–99); 3.8d. (1399–1425); 2.1d. (1426–82). In brewing, the range of amercements for 1325–49 was quite wide, with a significant number of nil amercements, but there was still a higher average than in 1350–77.

What can this pattern of amercements tell us? Alfred May argued that a decline in amercement rates in the late thirteenth century could serve as an index of peasant impoverishment, including the introduction of a lower 3d. fine for certain minor offences and for the poor. Consequently, assize amercements were set according to a person's ability to pay and many were pardoned because of their poverty ('quia pauper'). In other words, an amercement for a minor offence was not expected to affect a person's means to live.⁷⁵ By contrast, J. B. Post was sceptical about using amercements levels as a proxy for levels of peasant prosperity, and certainly there were a variety of other factors that affected amercement levels.⁷⁶

⁷⁵ May, 'An Index of Thirteenth-Century Peasant Impoverishment?'

⁷⁶ Post, 'Manorial Amercements and Peasant Poverty'.

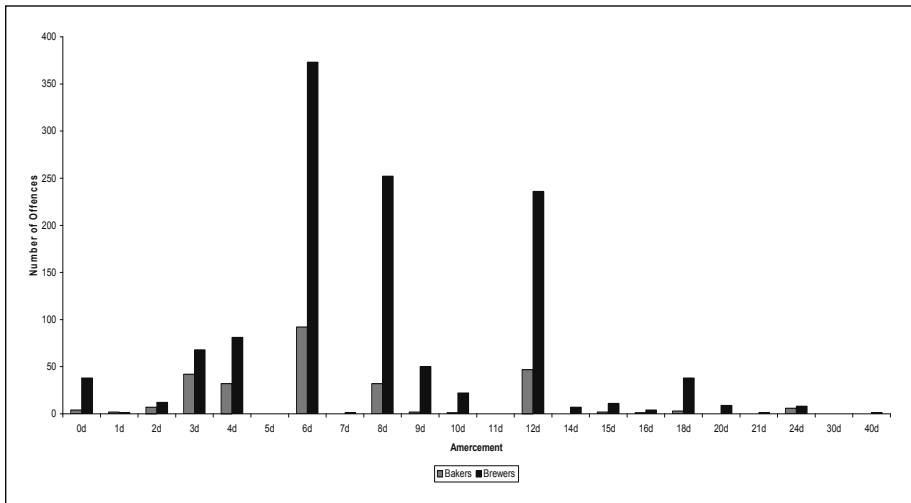


Figure 44. Amercement levels for bakers and brewers in Clare, 1350–77
 Source: Kew, TNA, SC2/203/48–61.

Seigneurial authority, tenant assertiveness, lordly prosperity, and the output and frequency of production all informed the assessments of the steward and affecters.

In Clare, there were several pardons of fines on the grounds of poverty, but most occurred before the Black Death when perhaps economic conditions were harsher for the average townsman.⁷⁷ Occasionally, the court entry merely had ‘condonatur’ written next to the offender’s name, with no additional reason given for the pardon. Several brewers also had their amercements remitted as a type of benefit from the franchise holder because they were in office as bailiffs or constables, or because they had provided hospitality and victuals for guests of the steward and constable of the castle.⁷⁸ This continued until 1389, when pardons for office-holding and hospitality suddenly stop, while pardons for poverty become extremely rare.⁷⁹

⁷⁷ Similarly, in Sudbury, the cases of pardons for brewing amercement due to poverty all occurred before the Black Death. Kew, TNA, SC2/203/112–15, Kew, TNA, SC2/204/3–20.

⁷⁸ The same pardons for amercements due to office-holding, or service to the steward, occurred in Sudbury after the Black Death (1354–55, 1357–58, 1380, 1385, 1388–89, 1391–92, 1396, 1405, 1430). Kew, TNA, SC2/203/112–15, Kew, TNA, SC2/204/1–20.

⁷⁹ Similarly, in Ramsey from the 1380s there are no mentions of special considerations or excused fines. DeWindt and DeWindt, *Ramsey*, p. 226.

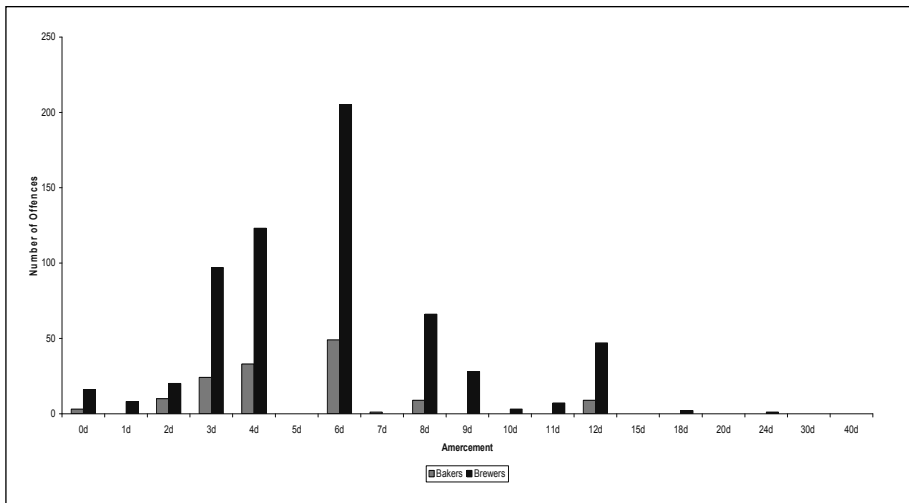


Figure 45. Amercement levels for bakers and brewers in Clare, 1377–99

Source: Kew, TNA, SC2/203/62, Kew, TNA, SC2/203/63 and Kew, TNA, SC2/203/64.

The assizes were used as an instrument of pragmatic market management, not as a blunt tool for punishing miscreants. The system remained in operation because it served a purpose as a basic revenue-raiser for the lord and as a potential support for regulating the market. Aletasters thus highlighted occasional flagrant offenders, outside the normal assize lists, as when Agnes Imberd sold falsely weighed horsebread in 1400. But, more generally, levels of amercement were related to either output, ability to pay or the extent of seigneurial pressure, rather than actual offences. The higher individual amercements in 1350–77 probably reflected both the output of victuallers and higher standards of living, though admittedly no direct correlation can be proved. Employing assize figures as evidence for production, output and consumption patterns is a task fraught with difficulties, as already seen in relation to the vested interests of both lords and leading members of the community. Indeed, the lords of Clare hoped to benefit from their tenants' new-found wealth after the Black Death and thus encouraged higher amercement rates.

By the end of the fourteenth century, the decline in higher rates of amercement suggests that the assizes were not linked to output or earnings in any systematic manner, as well as implying a slackening in seigneurial interference. It is likely that the fifteenth century saw a general decline in consumption and output after the heady days of the late fourteenth century, and this may be broadly reflected in

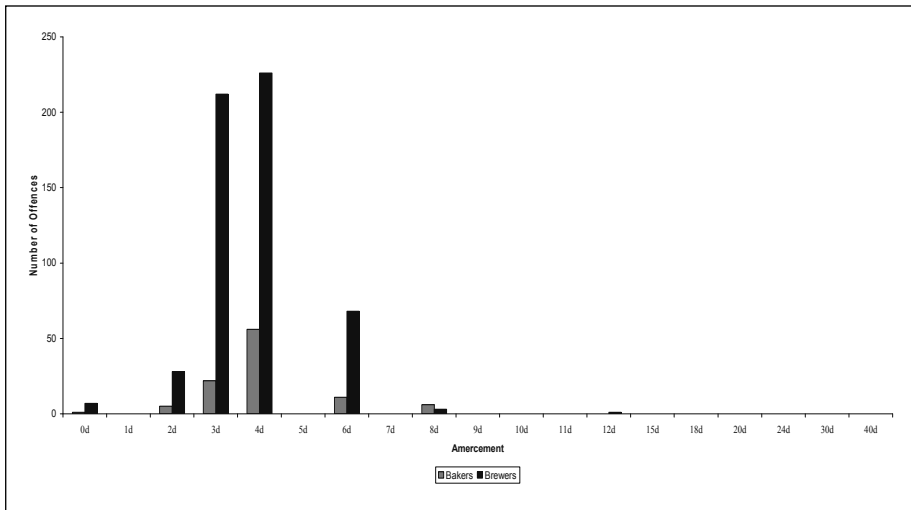


Figure 46. Amercement levels for bakers and brewers in Clare, 1399–1425

Source: Kew, TNA, SC2/203/65, Kew, TNA, SC2/203/66 and Kew, TNA, SC2/203/67.

falling numbers of brewers and declining amercements. Indeed, other evidence demonstrates commercial difficulties in Clare, with nine market stalls vacant in 1425, while Clare's fair, held in nearby Wentford, ceased to function from 1421 due to lack of trade.⁸⁰ However, Clare's fifteenth-century assize 'licensing system' was also becoming more standardized, with lower fines and much less variation. Aletasters levied standard categories of 1d., 2d., 3d., or 4d., into which nearly all traders were grouped.⁸¹ This might have been broadly related to production levels, but the level of amercements was also the result of institutional change. Clare's lords acquiesced with this lighter-touch approach, especially after Lady de Burgh's early struggles to keep her seigneurial authority and income intact. It was more lucrative for a lord to stand back from direct control of the court and the problems that entailed.⁸² The burgesses had successfully agitated to achieve more flexible market arrangements and lighter supervision. Ultimately, the low amercements in the fifteenth century equated to a proportionally lower 'taxation' of brewing and baking profits than Clare's traders had faced in the early fourteenth century.

⁸⁰ Bailey, *Medieval Suffolk*, p. 265; Kew, TNA, SC2/203/67.

⁸¹ See also: Postles, 'Brewing and the Peasant Economy', p. 135.

⁸² Britnell, 'Town Life', pp. 157–58.

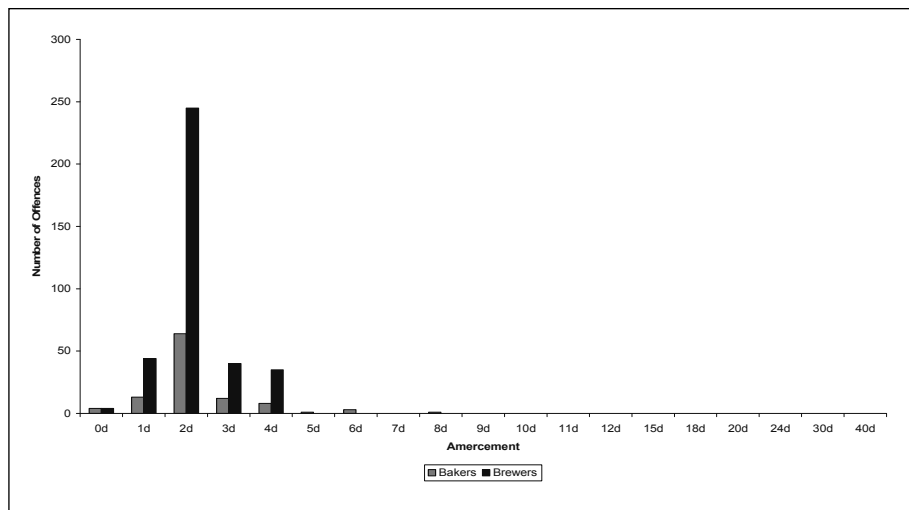


Figure 47. Amercement levels for bakers and brewers in Clare, 1426–82
Source: Kew, TNA, SC2/203/67–72.

V

The general trends for the fortunes and regulation of Clare's brewers and bakers are reflected in other medieval towns. In the larger borough of Colchester, Britnell noticed that brewing recovered during the 1350s to a level of activity surpassing that in the 1340s. He then charted an average 1.8 per cent annual increase in the number of brewers between 1358 and 1406, but in an uneven pattern. The main expansion occurred in 1351–56, 1375–80 and 1398–1405, interspersed with setbacks in 1357–61 and 1392–98. This overall period of bouyancy in brewing numbers was followed by an annual decrease of 0.8 per cent between 1410–14 and 1515–19.⁸³ The fluctuations in Clare show a similar unevenness during the post-Black Death era, while the general trend is very similar. Other studies have shown a more concerted, long-term fall in brewing and baking after 1349.⁸⁴ Dave Postles noted that at Stoke Fleming (Devon) brewing gradually became concentrated in the hands of a few, consistent and better-off brewers by the end of the fifteenth century.⁸⁵ Gwen Seabourne charted a general decline in the number of offenders

⁸³ Britnell, *Growth and Decline in Colchester*, pp. 90–91, 194.

⁸⁴ Dyer, *Lords and Peasants in a Changing Society*, p. 347; Bailey, 'Trade and Towns in Medieval England', pp. 207–09; Bailey, *Medieval Suffolk*, p. 267.

⁸⁵ Postles, 'Brewing and the Peasant Economy', pp. 135–36.

for both assizes of bread and ale in the Sutton court rolls after the Black Death.⁸⁶ Mavis Mate looked at Battle, where the number of brewers halved from a peak of eighty-eight between the 1400s and 1450s, while the number of hucksters of ale increased from six to fourteen. There were just nine or ten full-time brewers (all female) in the 1470s, married and from the middle ranks of society, with their husbands usually butchers or bakers.⁸⁷

There were structural changes taking place within certain retail trades. Several historians, such as Judith Bennett, Marjorie McIntosh, and Mavis Mate, have argued that occasional brewers largely disappeared, firstly in urban centres by the late fourteenth century and then in rural centuries over the course of the fifteenth century. Brewing became concentrated in the hands of more permanent professionals. This partly reflected an overall decline in the demand for ale, but also the changing structure of the ale industry.⁸⁸ In the thirteenth and early fourteenth centuries, brewing was fairly widespread and many participants were unspecialized and occasional. Women often entered the ale market with surplus produce from their domestic brewings, alongside more regular and professional brewers. Bennett argued that unmarried and widowed brewsters were gradually squeezed out after the Black Death, with married women better able to gain capital and credit.⁸⁹ Brewing then became concentrated into fewer hands during the fifteenth century and there was an increasing differentiation between brewing and tipping (that is, selling ale). Although many brewers still sold direct to consumers, those in larger towns were beginning to concentrate on the greater profits of wholesale trade. In effect, there was a transition from a domestic, small-scale ale industry to large-scale, professional production.⁹⁰ Fewer brewers were serving a more reliable

⁸⁶ Seabourne, *Royal Regulation of Loans and Sales*, p. 183. For a similar trend in Alrewas (Staffordshire), see: Graham, "A Woman's Work", pp. 137–38, Table 5.3 and Figure 5.1.

⁸⁷ Mate, *Daughters, Wives, and Widows after the Black Death*, pp. 62–63.

⁸⁸ Bennett, *Ale, Beer, and Brewsters in England*, pp. 42–59; Mate, *Daughters, Wives, and Widows after the Black Death*, pp. 59–60; McIntosh, *Working Women in English Society*; Bailey, *A Marginal Economy?*, p. 304.

⁸⁹ Bennett, *Ale, Beer, and Brewsters in England*, pp. 50–59, 95–97, 146–48; Bailey, 'Demographic Decline in Late Medieval England', pp. 3–14; Bailey, 'Historiographical Essay', p. 300.

⁹⁰ Bennett, *Ale, Beer, and Brewsters in England*, pp. 43–47; Dyer, *Lords and Peasants in a Changing Society*, pp. 346–49; Postles, 'Brewing and the Peasant Economy', pp. 133–44; DeWindt, *Land and People in Holywell-cum-Needlingworth*, pp. 235–36; Graham, "A Woman's Work", pp. 136–44; McIntosh, *Autonomy and Community*, p. 228; Britnell, *Growth and Decline in Colchester*, pp. 193–97; Keene, *Survey of Medieval Winchester*, I, 267–68; Bailey, *Medieval Suffolk*, p. 267.

market demand for ale, while part-timers were displaced. As brewing improved in status during the fifteenth century, and hops were introduced for beer, women were often displaced by men and relegated to more humble tasks of retailing ale.⁹¹ These developments in the brewing industry may have been due to competition and patriarchal intrusion, or simply because occasional production was no longer the most attractive option when other work opportunities were available.

Can such trends be discerned in the small town of Clare? Were there just a handful of regular, larger-scale brewers by the mid-fifteenth century, and were women being squeezed out of the trade? There were certainly fewer brewers, but generally declining ameracements conceal the true nature of their output.⁹² There is also no indication that beer was being produced or sold to any great degree in fifteenth-century Clare. In order to analyse these questions in more detail, the brewers (and bakers) of Clare can be approximately divided into regular, semi-regular, and irregular trading households. Socio-economic status within the community is denoted by identification of the head of household as a primary or secondary official (see Table 28). There are difficulties involved in compiling these figures, not least the judgements of household reconstitution, the identification of regular or semi-regular in each time period, and the cross-over of certain households across two time periods. For instance, John Baker died in 1405 having been a regular baker until then for many years; he thus appears as a regular baker in 1377–99 but semi-regular in the chronological category 1399–1425. Comparing the number of households between each period is also problematic given the differing time periods and survival of court rolls. Nevertheless, some provisional comparisons can be made which indicate broad trends in the structure of the brewing and baking trades.

From 1325 to 1349, 180 brewing households can be identified in the assize listings. Of these, twenty-four (thirteen per cent) are counted as regular brewing households and a further thirty-three (eighteen per cent) were semi-regular. This can be compared to one hundred and fifty-seven brewing households in 1350–77, which includes thirty-eight (twenty-four per cent) regular brewing households and thirty-two (twenty per cent) semi-regular brewing households. Although the number of brewing households had fallen, more of them were brewing consistently. Again, from 1377–99, seventeen (thirteen per cent) house-

⁹¹ Goldberg, 'Women in Fifteenth-Century Town Life', p. 117. McIntosh argues that the change towards male dominance in drinks trades took place over a relatively short period from 1460 to 1490, and that it was linked to social anxieties over alehouses and difficulties for women in obtaining credit. McIntosh, *Working Women in English Society*, pp. 140–81.

⁹² Bailey, 'Trade and Towns in Medieval England', p. 209.

Table 28. Clare trading households and their socio-economic status, 1325–1482

	Regular			Semi-regular			Irregular			Totals
	Primary	Secondary	Other	Pri	Sec	Other	Pri	Sec	Other	
Bakers										
1325–49	2		1	1		2	1		11	18
1350–77	4		5	3		3	2	2	15	34
1377–99	2		3	4		3	2	1	10	25
1399–1425	3		1	2		1			8	15
1426–50						3	2		7	12
1451–82			1			4	4		17	26
Brewers										
1325–49	16		8	11		22	19	5	99	180
1350–77	13	1	24	5	3	24	9	4	74	157
1377–99	13	2	2	12	4	13	21	6	61	134
1399–1425	7		6	21	1	12	6	5	40	96
1426–50	2			6		10	5	1	27	51
1451–82	4		1	4		5	4	1	26	45
Regraters										
1325–49			6	1	1	8	3	2	62	83
1350–77	1		10	4		15	3	3	34	70
1377–99	1		2				3		5	11
1399–1425	1		3	2		3	4		14	27
1426–50				1		4	3		12	20
1451–82	1		1	1		4	5		17	29

Notes: Households are reconstituted with husbands and wives counted together (and their servants). Daughters and sons are identified as separate households. There are problems involved with such household reconstitution, but identification is based on the internal evidence from the assizes where names of husbands and wives are often given.

Primary office-holder designates bailiff, constable, capital pledge; *Secondary* office-holder designates aletaster, affeerer, juror; *Other* is not an officer-holder.

For bakers and brewers: Regular (11 or more court appearances); Semi-Regular (5–10 courts); Irregular (1–4 courts). For regraters, who are often presented at only one leet court a year: Regular (6 or more courts); Semi-Regular (3–5 courts), Irregular (1–2 courts).

Source: Kew, TNA, SC2/203/38–72. Number of extant leet court rolls: 32 (1325–49); 41 (1350–April 1377); 20 (November 1377–April 1399); 24 (October 1399–1425); 18 (1426–50); 21 (1451–82).

holds were regular and twenty-nine (twenty-two per cent) were semi-regular, which means a slight fall in both the overall number and the percentage of regular brewers seen in the previous period. However, this is largely recovered in

1399–1425, with thirteen (thirteen per cent) regular and thirty-four (thirty-five per cent) semi-regular brewers, meaning that nearly half of the brewing households were brewing on a frequent basis in the early fifteenth century compared to less than a third just before the Black Death. The proportion of households brewing irregularly had thus fallen by the fifteenth century.⁹³ It should be noted that a large number of households were still involved, particularly given the demographic fall after the Black Death, but that this number was starting to drop away by the fifteenth century. Indeed, by the mid-fifteenth century the number of brewing households had declined significantly to forty-five to fifty-one, with only a third of these brewing regularly or semi-regularly.

In a town of *c.* 800 people, one hundred and fifty-seven brewing households over twenty-eight years (1350–77) probably meant that at least fifty to sixty per cent of the households in Clare were brewing at some stage and a quarter of the town's households did so fairly regularly.⁹⁴ This included twenty-seven households who can be identified as notable in their local community, with the head of household involved as bailiff, constable or capital pledge, and another eight households including a juror, aletaster or affeerer. Whereas twenty-seven per cent were from the primary or secondary social rank before the Black Death, this fell to twenty-two per cent in 1350–77, but then increased to forty-three per cent and forty-one per cent in the succeeding periods. This settled at around twenty-eight per cent of brewing households by the middle of the fifteenth century, with perhaps just fifteen to twenty per cent of Clare's households brewing during this time. Brewing was thus conducted by households of different wealth and status, but leading households were engaged more regularly in brewing from the 1380s to 1420s. Either higher-status members of the community, with greater capital and credit, were getting involved as opportunities presented themselves, or business was booming and more were becoming wealthier and respected. However, the brewers of Clare were not specializing and profiting to the extent seen in larger towns, where large brewhouses and brewers' guilds were appearing by the fifteenth century.⁹⁵ Also, there may have been an initial movement towards

⁹³ Similarly, Müller found that in Brandon before the Black Death, there were eleven regular brewers and one hundred and thirty-six occasional, while after the Black Death there were twenty-four regular brewers and one hundred and twenty-one occasional. For bakers the equivalent figures were four regular and sixty-three occasional before the Black Death and sixteen regular and thirty-seven occasional after. Müller, 'Peasant Mentalities and Cultures', p. 161.

⁹⁴ This estimation is based on an average urban household size of four to five and a possible fifty per cent turnover of brewing households over the course of twenty-eight years.

⁹⁵ Bennett, *Ale, Beer, and Brewsters in England*, p. 48.

regular, professional brewing by the more prosperous, leading members of the community,⁹⁶ but this seems to have stalled in Clare by the mid-fifteenth century. By 1450, there were far fewer brewing households than in the decades immediately following the Black Death, while the proportion of primary households involved was not much different to the pre-1349 figure.

Care is needed in interpreting the court roll data. Clare's clerks exercised little consistency in their recording practices for the assize of ale, alternating between different formula and whether they presented the wife, husband or both. Nevertheless, there are indications that husbands were being presented more than wives by the early fifteenth century, including less use of the formula 'wife of A'. In terms of all names presented, the ratio was 18:1 (female to male) in 1325–37, 5:1 (female to male) in 1338–49, and 1:1 in 1413–50. However, this was not a consistent trend. It is noticeable that women were frequently recorded by name in the courts from October 1352 to April 1384 and often between October 1406 to May 1413. In general, before 1352 they tended to be named in conjunction with their husband, though the practice was not consistent. After 1384, recording practices were more sporadic, though it was again common for women to be identified directly or indirectly through their husband, unless they were single or widows. Whether these trends were due to a change in clerical practice or something more fundamental in the aftermath of the Black Death is difficult to know. The period between 1352 and 1384 might have been a boom time for women in Clare's ale trade and large numbers were seemingly involved, despite the fall in population. By the fifteenth century, the picture is less clear. Given the difficulties in interpreting the presentment lists, the various alternatives are that the husband was the brewer, it was a joint household work, or the wife undertook all the brewing and her husband was merely her legal representative in court.⁹⁷

Marjorie McIntosh looked at five market centres after the Black Death and noted that women were often engaged in multiple commercial activities on an occasional basis. They were able to play an increased market role in the years after the plague, even in brewing. Such diversity of activity helped women to prosper and it is interesting how many came from the leading families of their local community: 'there is no sign here that brewing was held in low esteem'.⁹⁸ This appears to be the case in Clare, at least until the end of the fourteenth century. It is possible that the upheavals of the Black Death, with the loss of many male

⁹⁶ For a similar trend in Brandon (Suffolk), see: Bailey, *Medieval Suffolk*, p. 267.

⁹⁷ McIntosh, *Working Women in English Society*, p. 143.

⁹⁸ McIntosh, *Working Women in English Society*, pp. 156–57.

breadwinners, had pushed many women into the marketplace, taking over their husbands' trade. These market changes were played out against a background of lordly interests and tensions in the aftermath of the Black Death. Eventually, however, the brewing trade did fall into fewer hands and it is possible that women no longer dominated.

Similar questions can be asked about the baking trade, and whether a rump of professional bakers dominated during the fifteenth century, producing bread of decent quality for regular customers.⁹⁹ Baking households show only a slight change in their pattern over time from 1325 to 1425 (see Table 28): seventeen per cent of bakers were regular practitioners in the period 1325–49; twenty-seven per cent in 1350–77; twenty per cent in 1377–99; and twenty-seven per cent in 1399–1425. Across the same time periods, thirty-three per cent, forty-four per cent, forty-eight per cent, and forty-seven per cent respectively were either regular or semi-regular baking households. These were comparable proportions across the entire period, but the number of irregular bakers was slowly falling. Baking had long required a higher capital investment, in its oven and equipment, and its consumer base was perhaps related more directly to population levels. Some occasional bakers did engage in the trade, but seemingly produced low-quality bread or horsebread, which was probably less in demand after 1349. A third of households were consistently from primary or secondary households after the Black Death, but closer to twenty per cent before. However, these figures do change again in the mid-fifteenth century (1425–82), with just eight of thirty-eight (twenty-one per cent) bakers appearing in the courts regularly or semi-regularly, and only six bakers from primary or secondary households. These figures are distorted by the first appearance of eight outside bakers in the mid-fifteenth century, who irregularly arrived from nearby Melford, Cavendish, Stoke, and Poslingworth to sell their produce. If these are taken out, then twenty-seven per cent of bakers are regular or semi-regular and twenty per cent are from primary households.

The immediate post-Black Death conditions within Clare provided opportunities as the number of bakers returned to just above pre-Black Death norms, with the trade controlled by a small circle of prominent producers. However, this pattern did not last into the fifteenth century as baking became more dispersed and a number of outsiders infiltrated Clare's bread trade. It should also be noted that baking was generally a male profession, with few presentments of women bakers. Matilda Mone and Agnes Curteys appear on their own account

⁹⁹ Bailey, *Medieval Suffolk*, p. 267.

in the early court leets, but there were no further female bakers presented between 1336 and the Black Death. There was, however, a spurt of female baking presentments after 1358. Thirteen women were presented occasionally for baking from 1358 to 1390. In addition, Katherine Baxtere took over from her deceased husband in 1361, Isabel Baker from her dead spouse in 1380 for a couple of years, and Katherine Cook was a baker's widow from 1421. However, they all baked on a much smaller scale than had their husbands, with much lower ameracements. Other than such widows, three further women baked regularly: Agnes Markaunt (together with her husband John) from 1373–79, Cristina Sygor from 1367–75 and Sarra Cook from 1375–90. However, only five women can be identified as baking after 1380 and only Katherine Cook after 1390. The resurgence for women involved in baking had either ended or the baking of horsebread had been relegated to non-assize matters. It is very possible that many of these women were baking low-quality bread as part of a by-line for an alehouse, cookshop, or inn. Again, court roll presentments present a picture that might hide the true practice of commerce in Clare.

VI

Clare's brewers and bakers made up a substantial proportion of the court leet record, but other victuallers were also monitored. Regraters bought goods from producers, such as bakers and brewers, and sold them on for a small profit. Many regraters or hucksters were specifically amerced for selling bread, though other products, such as ale, candles, fish, and meat, were also mentioned. They often hawked their goods in the street, though there is evidence to suggest that they were also selling them from cookshops, alehouses, and inns.¹⁰⁰ The regrating of ale was traditionally dominated by poor women, referred to as regraters, gannockers, tapsters, or tipplers, depending on the form of sale. However, Clare's presentments hint at a structural change. The ratio of female regraters presented in the courts, compared to male, changed from 6:1 (1325–49), to 3:2 (1350–77), to 1:1 (1377–1425). These figures may be due to recording procedures rather than the realities of change, with husbands being presented in lieu of their wives. Nevertheless, like brewing, it is noticeable that the clerks were looking to identify husbands more than wives in the court rolls by the fifteenth century, even though this is a time seen by some historians as a golden age for women.¹⁰¹

¹⁰⁰ Mate, *Daughters, Wives, and Widows after the Black Death*, p. 64.

¹⁰¹ See Rigby, 'Gendering the Black Death'.

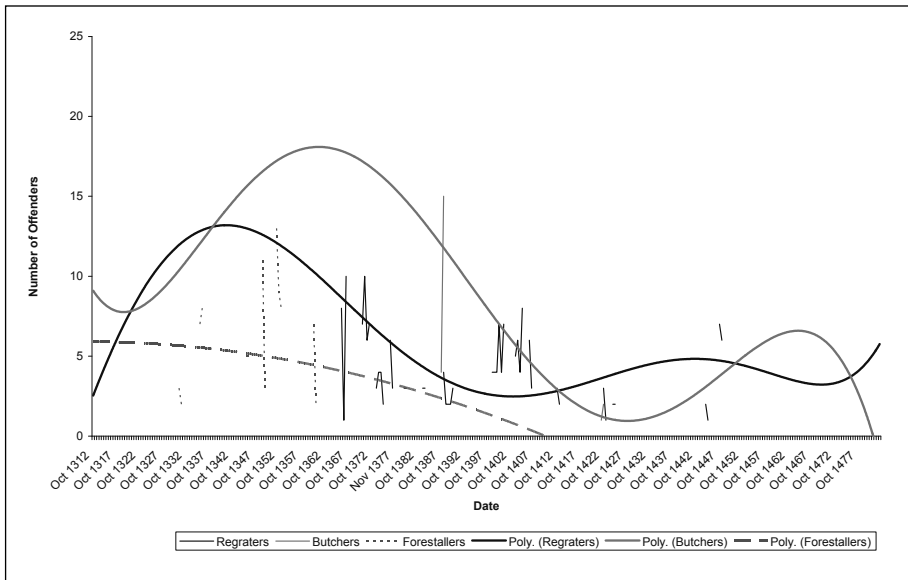


Figure 48. Number of retailing offenders in Clare, 1312–1482
Source: Kew, TNA, SC2/203/38–72 (see Appendix and Figures 49–53).

After the 1370s, the number of regrating households drops dramatically (see fig. 48 and Table 28) and the average amercement becomes fairly static at two to three pence. Whether the rate of amercements was related to actual offences or the level of activity is difficult to determine. Certainly, the trend could be accounted for by a change in court procedures and administration of the market rather than an actual fall in the number of regraters or their activity. However, in the longer term, it is possible to argue for a shift in the occupational profile within Clare. For instance, there was an increasing proportion of primary or secondary office-holders involved, though the low numbers suggest that this was not a major development compared to the overall fall in those being presented (see Table 28). Nevertheless, there were male regraters (perhaps presented in lieu of their wives) such as Thomas Coupere who was both a capital pledge and an aletaster in 1383–84. At the same time the proportion who were regular or semi-regular regraters increases to between twenty-four to forty-three per cent from nineteen per cent before the Black Death.¹⁰² This is all suggestive of a change in the composition

¹⁰² Helena Graham noted a similar trend in the village of Alrewas (Staffordshire), though many were still occasional regraters, retailing as a sideline to their husband's main income.

and status for some regraters, who were seemingly no longer just occasional, poor women scratching a living at the margins of the market.

There were still many engaging in regrating irregularly and on the margins, such as Matilda Cornleder, Emma Joye, Margaret Chapman, and John Fynden, but it appears that others were developing a more professional retailing business. Certain individuals who were regraters in the early 1360s became quite successful in business, such as Peter Colyrob, who went on to become bailiff in 1366 and 1370–71. There was perhaps less need for occasional regrating to make ends meet after the Black Death and more made a permanent living from retailing food and drink. A number of households were notable in this respect. We start to see, for the first time, individuals identified specifically as cooks, who also appear in the lists for regrating. William and Alice Gosenol were presented as cooks who reheated meat and other victuals in the 1360s. However, they were also involved in baking, brewing, and aleselling on occasion: William sold wine against the assize in 1363–64 and Alice made and sold candles in 1371. Alexander and Dyonisia Newton were also cooks who sold ale, meat and various victuals during the 1350s and 1360s, as well as forestalling and selling fish, but they had not appeared in court for any trade-related matters before the Black Death. There were numerous other post-1350 examples of husbands and wives like William and Johanna Norfolk, who sold fish, ale, and other victuals. In market towns like Clare, women were part of a household or family enterprise with their husbands, brewing and baking, and selling meat, fish, candles, cheese, and fruit.¹⁰³ It is difficult to differentiate, on the basis of court presentments, between the household tasks of husband and wife in such circumstances. It is likely that the husband took financial and legal precedence in such a patriarchal society, but women seemingly formed the backbone of local victualling trades.

It appears that there was a growing professional commitment to victualling, driven by greater demand and turnover.¹⁰⁴ Many Clare households, such as that of John and Johanna Stonham, were brewing regularly at the same time as they were regrating bread and other victuals. In 1474, all ten men and one woman named as brewing against the assize were also identified as bakers. It could be tentatively argued that occasional regraters were being pushed aside by new specialists, often combining production with sale. Indeed, after a brief flurry in the years after the Black Death, specific presentments for cooks stop after 1368 and they appear to be subsumed within other categories. Brewers were not just selling ale, but also butter,

Graham, "A Woman's Work", pp. 133–34.

¹⁰³ DeWindt, 'The Town of Ramsey', p. 79.

¹⁰⁴ Bennett, *Ale, Beer, and Brewsters in England*, p. 47.

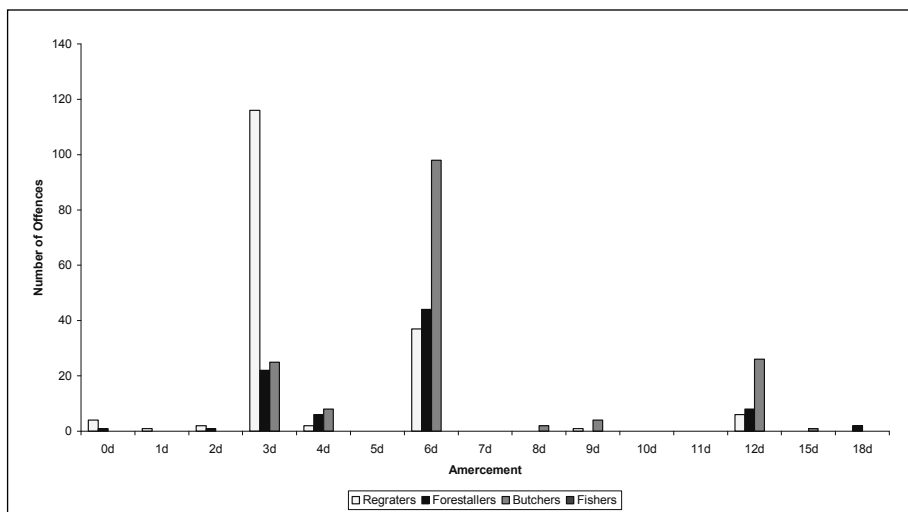


Figure 49. Amercements for Clare retailers, 1325–49
 Source: Kew, TNA, SC2/203/39–47.

candles, meat, fish, bread, and even wine. They were acting as shops rather than simply selling in the marketplace or streets, all to serve changing consumer demands.¹⁰⁵

The proliferation of alehouses and small-scale inns is also apparent in Clare. This is hinted at in complaints that tapsters would only sell certain types of ale to customers in-house, and perhaps also in instances where brewers sold ale in cups outside their front door. Johanna, wife of William Norfolk, was amerced 12d. in March 1399 for ‘contemptuously’ selling ale in front of her home, perhaps because she was using her own mugs and was avoiding the scrutiny of the aletasters. The evidence suggests that most brewers and tapsters preferred in-house sales, where they could use non-standard measures and charge higher prices.¹⁰⁶ There are also occasional references to alehouses or inns, such as ‘le Swan’ or ‘Quilters’, which was mentioned in the 1361 court roll.¹⁰⁷ Five Clare alehouses are definitely mentioned by the late fifteenth century, such as in 1479 when two Clare men went to the alehouse of Henry Barker and began a quarrel with Robert Colyngham.¹⁰⁸ Alehouses

¹⁰⁵ Dyer, *Lords and Peasants in a Changing Society*, p. 349; Dyer, *Bromsgrove*, pp. 31–32; Bailey, *Medieval Suffolk*, p. 268; DeWindt and DeWindt, *Ramsey*, pp. 164–67.

¹⁰⁶ Rodney Hilton noted a similar trend in Thornbury after the Black Death. Hilton, ‘Lords, Burgesses and Hucksters’, p. 14.

¹⁰⁷ Kew, TNA, SC2/203/57.

¹⁰⁸ Kew, TNA, SC2/203/72.

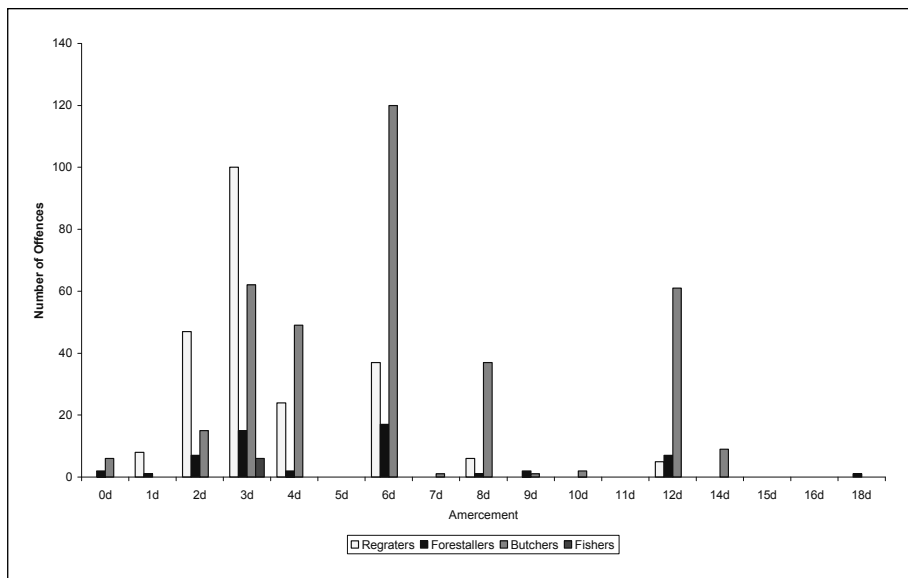


Figure 50. Amercements for Clare retailers, 1350–77

Source: Kew, TNA, SC2/203/48–61.

were not new institutions, but they were becoming more common and popular.¹⁰⁹ McIntosh charted a notable rise in the number of alehouse keepers in Havering from the 1440s onwards, though this coincided with an increase in other victualers too, including bakers, butchers, brewers.¹¹⁰ Several historians have pointed to the increasing prominence of alehouses as retail outlets, even while production became focused in fewer hands. It is also likely that tapsters sold and produced food as well as ale, reflecting more sustained demand and new consumption patterns.¹¹¹ An increasing use of alehouses, shops, and inns may have made supervision more difficult and prices more varied. However, customers were seemingly prepared to accept higher prices for the conviviality of the alehouse and for the convenience of shops. If so, it is unsurprising that regrating fines in Clare fell to a common, unpunitive level akin to a licensing system (see figs 49–53).

¹⁰⁹ Bennett, *Ale, Beer, and Brewsters in England*, p. 45.

¹¹⁰ McIntosh, *Autonomy and Community*, p. 285.

¹¹¹ Dyer, *Lords and Peasants in a Changing Society*, p. 348; Dyer, 'Did the Peasants Really Starve?', pp. 67–68; Clark, *The English Alehouse*, pp. 31–34; Galloway, 'Driven by Drink?'; Postles, 'Brewing and the Peasant Economy', p. 134; Mate, *Daughters, Wives, and Widows after the Black Death*, p. 62; McIntosh, *Working Women in English Society*, pp. 157–62.

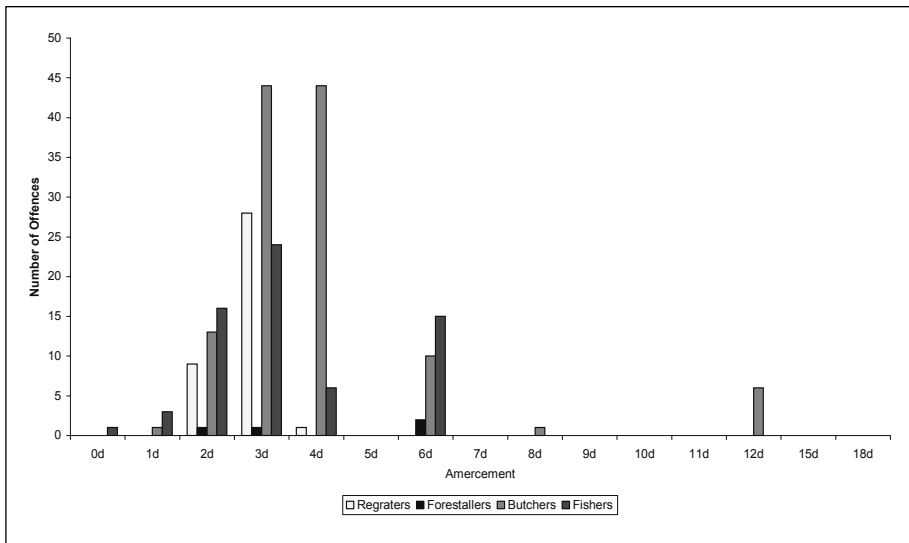


Figure 51. Amercements for Clare retailers, 1377–99

Source: Kew, TNA, SC2/203/62, Kew, TNA, SC2/203/63 and Kew, TNA, SC2/203/64.

In general, there was a noticeable increase in non-bread and non-ale retail offences in the immediate decades after the Black Death. Fishmongers, cooks, vintners, chandlers, and dyers all appeared in the Clare court for the first time. Butchers were active in Clare before the Black Death (see Appendix and Figs 49–53), but their numbers and presentments increased in the 1350s and 1360s. Amercements against the butchers were also remarkably consistent until the early 1390s before they fell away. Butchers benefitted greatly from the improvement in wages and the strength of the pastoral economy after the Black Death. In Sudbury, Bailey found that butchers comprised twenty-four per cent of food retailers in the 1340s, compared with thirty-five per cent in 1390s.¹¹² Presentments of butchers gradually increased in Sudbury after the Black Death, but by the early fifteenth century the numbers had dropped and they were no longer presented in the court leet after 1423.¹¹³ This was probably as much to do with recording practices in the court as with the prosperity of the trade. After the late fourteenth century, more butchers were amerced in the manorial court rather than the leet, suggesting a more targeted approach to specific offences rather than listing them all in the manner of licensing.

¹¹² Bailey, *Medieval Suffolk*, p. 267.

¹¹³ Kew, TNA, SC2/203/112–15, Kew, TNA, SC2/204/3–20.

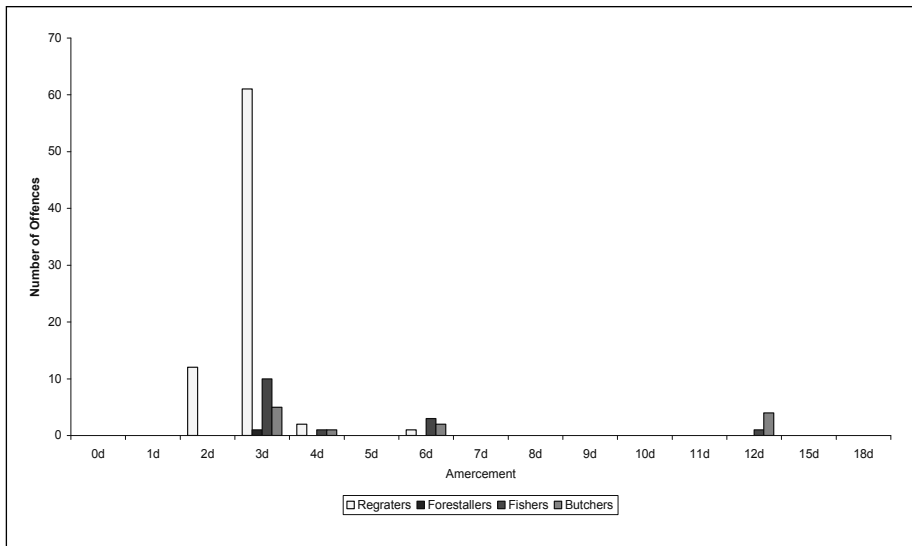


Figure 52. Amercements for Clare retailers, 1399–1425

Source: Kew, TNA, SC2/203/65, Kew, TNA, SC2/203/66 and Kew, TNA, SC2/203/67.

Fishmongers hardly appeared in the court rolls until after 1349. Thereafter, they were occasionally amerced for selling corrupt fish or at excessive prices, especially in the 1380s. For instance, Reginald Parker and Stephen de Melforde were amerced five times each at respective averages of 3.2d. and 4.4d., while William Norfolk was amerced eight times at an average of 6d. These trading malpractices did not stop William from acting as a capital pledge, and becoming bailiff in 1391–92 and 1403, and constable in 1400, while his wife Johanna brewed ale on a regular basis, seemingly selling it from an alehouse.

There were also cases where ‘fishers’ and their wives were punished for forestalling, which probably involved loitering on the edge of town in the search for bargains before goods entered the marketplace. Such middleman activities were condemned in law, but most forestallers at Clare faced relatively minor amercements, particularly after the 1370s.¹¹⁴ In 1386, William Darnel was amerced just 2d. for forestalling victuals and fish, while an outsider, John Serle from Honington, was amerced 6d. for forestalling victuals in 1389. It could be argued that there was a greater disdain for forestalling before and just after the Black Death. The town elected William Serle and Peter le Foner in October 1331

¹¹⁴ Kew, TNA, SC2/203/63, Kew, TNA, SC2/203/64, and Kew, TNA, SC2/203/65.

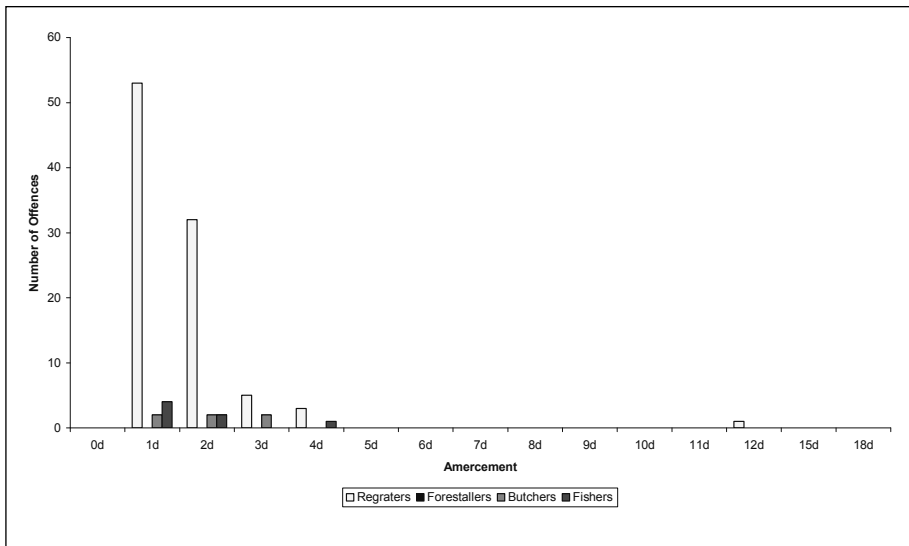


Figure 53. Amercements for Clare retailers, 1426–82

Source: Kew, TNA, SC2/203/67–72.

specifically to search for potential forestalling activity. In the 1340s and 1350s, there are several instances where suspected forestallers in Clare were distrainted to respond to the lord and community and were then judged by an inquisition jury, as opposed to being simply presented and amerced.¹¹⁵ Such activities were considered harmful to the local community. John Baroun and William Parker were accused of withdrawing their fish from the lord's market in 1353 to the damage of the common town, though they were only amerced 3d. each for removing their supplies without permission.¹¹⁶ There were fairly frequent cases of forestalling into the 1350s, though amercements were generally 3–6d. Only Alexander de Newtonne, a cook, appears to have faced consistently higher penalties of 12–18d. for his recurrent forestalling of fish and other victuals into the 1370s.¹¹⁷ After the 1370s, forestalling appears infrequently and amercement levels fell consistently below 6d. In a similar manner, significant numbers were amerced in Sudbury in the 1350s for forestalling victuals to the prejudice of the market. However, there were no such amercements just before the Black Death

¹¹⁵ Kew, TNA, SC2/203/45–49.

¹¹⁶ Kew, TNA, SC2/203/50.

¹¹⁷ Kew, TNA, SC2/203/57.

and few after 1370.¹¹⁸ By the fifteenth century, forestalling was seemingly considered a minor problem in Clare's market, causing only moderate price increases. Harvests were mostly plentiful after the 1380s and such market conditions probably lessened the perceived threat of forestallers and regraters.¹¹⁹ In Colchester, there were no amercements for common forestallers after 1412.¹²⁰ Anne DeWindt and Edwin DeWindt also noted the disappearance of forestalling cases in the court of Ramsey after 1412, stating:

it is possible that the Ramsey court concerned itself with only the more outrageous examples of the practice, or that in the more commercialized atmosphere of the town from the end of the fourteenth century, the practice itself got lost in the crowd of an expanded marketplace.¹²¹

Questions again need to be asked about the use of court records in tracking economic change and patterns of consumption. Amercement levels and numbers of retailers in Figures 49–53 could be interpreted as indicating a peak for general victualling in the three or four decades after the Black Death. This would concur with the evidence for brewing and baking.¹²² After four decades of upheaval in the marketplace, the numbers and amercements drop, but was this simply due to a fall in producers, sellers, and buyers? There were many other potential factors that all impacted upon these figures: a decline in the authority of the court or lord, increasing burgess control and flexibility, changing market attitudes, the constraints of a declining money supply, and the increasing concentration and professionalization of victualling.

VII

The years after the Black Death saw a society and economy in flux. The court rolls of Clare give a glimpse into the problems faced in the market, particularly among sellers of food and drink. They demonstrate that commercial change

¹¹⁸ Kew, TNA, SC2/203/112–15, Kew, TNA, SC2/204/1–20.

¹¹⁹ Farmer, 'Marketing the Produce of the Countryside', pp. 427–28.

¹²⁰ Britnell, *Growth and Decline in Colchester*, pp. 131–32; Britnell, *Britain and Ireland*, p. 360.

¹²¹ DeWindt and DeWindt, *Ramsey*, p. 165, n. 56.

¹²² Similarly, debt cases in Clare's borough court show an increase after the Black Death, before they fall away sharply from the early fifteenth century, which may reflect a trend in credit relations and commercial activity. However, this could be also attributed to a changing institutional role for Clare's manor court or a decline in money supply. Briggs, 'The Availability of Credit in the English Countryside'.

in the aftermath of the Black Death was not a linear or evolutionary process. Nevertheless, some broader trends can be identified. There was a sharp expansion in opportunities and regulation soon after the Black Death, lasting into the 1370s. Striking changes are then apparent between the 1380s and 1410s, as the number of presentments and level of amercements fall away significantly. By the fifteenth century, we see regulatory simplification in the marketplace, with lower levels of amercement and seemingly less interference in everyday market affairs.

Behind these economic trends, there was a new social and political climate, with the authority of the lords becoming strained as their tenants quickly reacted to the upheaval of the post-plague years. The evidence of Clare's court shows both heightened interference from the lord's steward and defiance by the burgesses. Local belligerence, combined with persistent market forces, gradually provided traders with more freedom of action and a lower 'taxation' of their profits. This does not mean that the court and its regulation was lax or defunct, but it was less attuned to the fiscal needs of the lord and perhaps more to the highly competitive market conditions and demands of the post-plague era. Indeed, after the 1420s, Clare's burgesses had *de facto* control of the borough court and its regulation of market trade.

Long-term economic conditions were also shaping the way the market was regulated and the number of retailers. There were noticeable structural changes within the food and drink trades after the Black Death, including more butchers, fishmongers, and cooks, driven by heightened consumption *per capita*. Consumers were demanding higher-quality commodities, while vendors wanted flexibility that helped decrease transaction costs. This led to increasing professionalization in food and drink trades, particularly in brewing. After the 1380s, there were fewer market traders but their individual output had possibly increased, even in the midst of a fifteenth-century economic slump. We also see the emergence of the more general retailer, often a joint household enterprise, operating from a shop, alehouse, or inn.

Commercial changes after the Black Death restructured retailing in market towns and how both men and women could make a living from trade. Informality and flexibility were the way that market towns survived in the new commercial environment, which in turn allowed more professional, permanent producers, and retailers to prosper. Food and drink continued to be the mainstays of a small town economy in the aftermath of the Black Death, but the structures of production and sale were shaped by new economic, social and political forces. By the fifteenth century, the burgesses of Clare had fully grasped the opportunity to exert greater control over the running of their town's court and market. Costs of production and competition might have risen, but reduced seigneurial intervention and a steady consumer demand meant that certain retail traders could prosper.

Appendix: Trading Offences in Clare, 1312–1482

	Bakers		Brewers		Regraters		Butchers	
	No.	Amerc.	No.	Amerc.	No.	Amerc.	No.	Amerc.
1312	10 (2)	5.1d.	26 (1)	12.7d.				
29 May 1313	9	8.0d.	23	12.8d.	5	3.0d.	9	6.0d.
10 Oct 1318	9	8.0d.	23 (2)	8.9d.				
12 Oct 1319	4	5.3d.	19	9.2d.				
19 Apr 1323	6	-	17	-				
9 Oct 1324	6	6.0d.	18 (1)	7.0d.				
23 Apr 1325	4	13.5d.	15	9.8d.	11	3.0d.		
July/Aug 1325	6	10.2d.	7	9.0d.				
14 Oct 1326	4	15.0d.	22 (2)	9.4d.				
26 May 1327	5	8.4d.	26	8.1d.			8	6.0d.
4 Oct 1328	4	9.0d.	26	7.5d.				
3 Oct 1329	5	10.2d.	25	11.4d.				
6 Jun 1330	5	13.2d.	20	10.7d.	7	4.3d.	12	5.5d.
16 Oct 1330	5	12.0d.	25 (1)	11.2d.				
14 May 1331	4	10.5d.	21	11.9d.	10	4.5d.	9	5.0d.
15 Oct 1331 [^]	5	-	23	-				
16 Jun 1332	4	30.0d.	28 (3)	17.1d.	12	3.5d.	12	6.3d.
20 Oct 1332	2	9.0d.	22 (4)	6.0d.				
4 May 1333	4 (1)	13.8d.	23 (1)	16.1d.	10 (1)	2.7d.	10	6.9d.
17 Oct 1335	4	9.0d.	32 (2)	6.9d.				
23 Apr 1336	5	10.8d.	22 (3)	8.5d.	9	4.0d.	12	7.3d.
8 Oct 1336	4	13.5d.	25 (2)	7.3d.				
29 Apr 1337	4	12.0d.	24	7.5d.	13	3.0d.	14	5.4d.
14 Oct 1337	4	11.4d.	28 (1)	6.7d.				
6 May 1338	4	15.0d.	23 (3)	12.4d.	10	5.8d.	13	7.8d.
20 Oct 1338	3	9.0d.	27 (1)	6.7d.				
20 Apr 1339	3	18.0d.	33 (5)	7.8d.	11 (1)	5.2d.	13	6.7d.
12 Oct 1339	4 (1)	7.5d.	34 (4)	6.9d.				
9 May 1340	4	11.3d.	35 (5)	6.9d.	15 (1)	3.6d.	12	6.0d.
7 Oct 1343	3	10.0d.	33 (4)	6.0d.				
30 Mar 1344	4	14.3d.	34 (3)	9.5d.	17	4.2d.	15	7.0d.
Oct 1344	4	8.3d.	37 (3)	5.5d.				
18 Oct 1345	5	7.2d.	35 (3)	4.8d.				

	Bakers		Brewers		Regraters		Butchers	
	No.	Amerc.	No.	Amerc.	No.	Amerc.	No.	Amerc.
16 May 1346	4	15.0d.	34 (2)	8.5d.	9	4.7d.	18	6.9d.
17 Oct 1346	4	9.8d.	40 (3)	4.7d.				
24 Apr 1347							2	7.5d.
30 Sep 1348	3	9.0d.	37 (4)	5.7d.				
28 Apr 1349	4	12.0d.	41 (9)#	7.6d.	25	3.1d.	16	6.9d.
13 Oct 1349	3	12.0d.	35 (4)	6.8d.				
5 Oct 1350	2	13.5d.	30 (3)	6.8d.				
3 May 1351	3	14.0d.	30	11.4d.	20	4.1d.	17 (1)	5.5d.
18 Oct 1351	6	4.5d.	28 (1)	5.8d.				
24 Apr 1352	4	6.0d.	30 (2)	5.6d.	19	3.2d.	14 (1)	6.9d.
9 Oct 1352	6	5.7d.	29 (1)	5.0d.				
16 Apr 1353	5	6.4d.	30 (2)	7.0d.	15	3.6d.	16 (1)	8.6d.
1 Oct 1353	4	6.0d.	30	7.9d.				
29 Apr 1354	4	12.0d.	35	7.6d.	10	4.5d.	17	8.1d.
14 Oct 1354	3	6.0d.	34 (2)	7.7d.				
17 Oct 1356	3	7.3d.	26	7.6d.				
25 Apr 1357	4	12.3d.	32	8.4d.	13	3.6d.	22 (1)	7.4d.
10 Oct 1357	5	7.0d.	29	9.2d.				
15 Apr 1358	9 (1)	7.3d.	31 (2)	7.5d.	10	3.5d.	19	8.5d.
2 Oct 1358	5	10.0d.	30 (1)	8.8d.				
30 Apr 1359	7 (1)	7.6d.	33 (2)	11.6d.	10	6.0d.	23	8.7d.
17 Oct 1359	3	10.0d.	33 (3)	11.3d.				
20 Apr 1360	6 (1)	7.7d.	31 (4)	11.8d.	11	4.8d.	22	9.0d.
7 Oct 1360	7	9.4d.	33	10.8d.				
13 Apr 1361	8	10.3d.	34	12.4d.	11	6.3d.	15	10.7d.
19 Oct 1361	8	4.9d.	33 (2)+	7.2d.				
26 Apr 1362	8	6.0d.	31	7.6d.	12	3.2d.	18	5.2d.
11 Oct 1362	6	4.5d.	26	3.9d.				
18 Apr 1363	8	3.6d.	26 (1)	9.5d.	8	3.0d.	18	4.0d.
9 Apr 1364	8	6.5d.	32	6.2d.	8	2.5d.	17	5.1d.
14 Oct 1364	11	6.6d.	33	6.5d.				
21 Apr 1365	17	4.1d.	32 (1)	6.8d.			18	5.4d.
14 Apr 1366	8	8.5d.	29	8.7d.	8	3.8d.	16	5.6d.
20 Oct 1366	8	6.8d.	29	5.9d.	1	3.0d.		
26 Apr 1367	6	11.0d.	26	9.3d.	10	4.6d.	15	6.9d.

	Bakers		Brewers		Regraters		Butchers	
	No.	Amerc.	No.	Amerc.	No.	Amerc.	No.	Amerc.
18 Apr 1368	6	6.2d.	28	6.9d.	8	2.5d.	15	5.6d.
8 Oct 1370	9	3.8d.	25	6.2d.	7	2.1d.		
15 Apr 1371	8	5.5d.	26	6.5d.	10	2.3d.	18	4.7d.
30 Sep 1371	6	6.0d.	21	7.9d.	6	2.5d.		
6 Apr 1372	8	5.0d.	28	5.4d.	7	1.4d.	20	3.4d.
4 Oct 1373	9	5.1d.	27	8.6d.	3	2.0d.		
11 Apr 1374	9	8.0d.	24	7.2d.	4	2.3d.	19	3.5d.
17 Oct 1374	8	5.6d.	26	6.4d.	4	3.5d.		
15 May 1375	10	7.9d.	33	7.8d.	2	5.0d.	14	5.0d.
30 Sep 1376	9	9.8d.	24	11.7d.	6	3.5d.		
7 Apr 1377	9	10.2d.	28	9.8d.	3	4.7d.	11	8.0d.
13 Nov 1377	8	5.8d.	30	7.1d.				
5 Oct 1378	7	6.0d.	42 (1)	7.8d.				
12 Apr 1379	10	6.5d.	35	7.2d.				
18 Oct 1379	8	6.8d.	37	6.2d.	3	3.0d.		
3 Apr 1380	10	6.3d.	43	6.9d.	3	3.0d.	10	9.2d.
29 Apr 1382	8	4.0d.	33	3.2d.	2	2.0d.	12	3.3d.
6 Oct 1383	9	3.7d.	28	3.4d.	3	2.0d.		
12 Apr 1384	8	5.6d.	29 (1)	6.6d.	3	2.0d.	14	3.4d.
10 Oct 1385	5	4.2d.	26 (1)	4.2d.				
7 May 1386	7	3.9d.	41 (2)	4.8d.	3	3.0d.	18	2.9d.
14 Oct 1387	8	4.4d.	28	5.3d.			4	3.5d.
21 Apr 1388	9	4.2d.	38 (2)	7.4d.	4	2.8d.	15	4.1d.
6 Oct 1388	7	4.6d.	37	5.1d.	2	3.0d.		
4 May 1389	7	4.6d.	35 (1)	7.2d.	2	3.0d.	16	4.9d.
21 Oct 1389	9* (1)	3.7d.	36	5.1d.	2	3.0d.		
26 Apr 1390	9*	4.3d.	42 (3)	5.5d.	3	3.3d.	20	3.1d.
8 Oct 1397	5	3.6d.	26 (1)	4.2d.				
Apr 1398	3	8.0d.						
8 Oct 1398	4	8.0d.	24 (1)	5.5d.	4	3.0d.		
15 Apr 1399	5	4.2d.	25 (2)	4.7d.	4	3.0d.		
Oct 1399	3	3.0d.	29	4.2d.	4	3.0d.	1	4.0d.
27 Apr 1400	5	3.6d.	40 (1)	3.7d.	7	3.0d.		
13 Oct 1400	4	5.0d.	31 (1)	4.2d.	4	3.0d.		
20 Apr 1401	4	3.3d.	31 (1)	3.7d.	7	2.1d.		

	Bakers		Brewers		Regraters		Butchers	
	No.	Amerc.	No.	Amerc.	No.	Amerc.	No.	Amerc.
9 Oct 1403	4	4.0d.	23	3.5d.	5	3.0d.		
22 Apr 1404	6	3.0d.	25	3.4d.	6	2.5d.		
7 Oct 1404	6	3.7d.	26	3.8d.	4	4.0d.		
5 May 1405	4	4.5d.	27	3.7d.	8	3.0d.		
10 Oct 1406	5	4.0d.	29 (1)	3.4d.	6	3.0d.		
22 Apr 1407	5	7.6d.	30	3.8d.	3	3.0d.		
20 Oct 1411	4	4.5d.	24	3.9d.	2	3.0d.		
19 Apr 1412	4	4.3d.	23	3.5d.				
6 Oct 1412	4	4.5d.	20	3.8d.	3	3.0d.		
2 May 1413	4	6.0d.	21	4.0d.	2	4.5d.	3	12.0d.
14 Oct 1416	4	3.8d.	19	3.9d.	2	3.0d.	1	3.0d.
21 Apr 1417	4	4.0d.	19	3.8d.				
10 Oct 1419	4	4.0d.	17	3.6d.			2	6.0d.
Apr 1420	5	4.0d.	16	3.8d.	1	3.0d.		
14 Oct 1421	4	4.3d.	21	4.0d.	4	3.0d.		
20 Apr 1422	3	4.0d.	20	4.3d.			1	3.0d.
6 Oct 1422	4	3.0d.	17	3.8d.	3	3.0d.	2	3.0d.
21 Apr 1423	6	2.7d.	14	3.4d.	1	3.0d.		
17 Oct 1424	2	3.5d.	13	3.3d.	2	3.0d.		
18 Apr 1425	3	2.7d.	13 (1)	2.7d.	2	2.0d.		
4 Oct 1429	1	3.0d.	13	2.3d.				
25 Apr 1430	2	2.5d.	7	2.7d.				
17 Oct 1430	2	3.0d.	10	2.2d.				
18 Apr 1431	2	1.5d.	10	1.7d.				
12 Nov 1431	2	3.0d.	9	2.2d.				
28 Apr 1432	3	2.0d.	11	2.1d.				
15 Apr 1437	2	2.0d.	11	1.7d.				
29 Apr 1438	3	1.7d.	17	1.8d.				
8 Oct 1438	2	2.0d.	13	2.0d.				
21 Apr 1439	2	2.0d.	12	2.0d.	3	1.0d.		
6 Oct 1439	4	2.0d.	10	2.1d.				
12 Apr 1440	4	2.0d.	11	1.8d.				
7 May 1443	3	1.3d.	15	2.0d.	3	1.0d.		
13 Oct 1444	1	1.0d.	12	1.7d.	2	1.0d.		
13 Apr 1445			12	2.0d.	1	1.0d.		

	Bakers		Brewers		Regraters		Butchers	
	No.	Amerc.	No.	Amerc.	No.	Amerc.	No.	Amerc.
17 Oct 1447	2	2.0d.	10	1.7d.	7	1.3d.		
10 Apr 1448	2	2.0d.	12	2.0d.	6	1.3d.		
13 Oct 1450			11	2.0d.	8	1.6d.		
11 May 1451			11	2.0d.	8	1.6d.		
17 Oct 1452	5	1.0d.	9	1.7d.			5	1.8d.
21 Oct 1453	6	2.2d.	8	2.0d.	3	5.0d.		
10 Oct 1454	4	2.0d.	8	2.4d.	3	1.0d.		
15 Apr 1455	3	2.0d.	9	2.0d.				
19 Oct 1456	1	2.0d.	12	2.0d.				
26 Apr 1457	2	4.0d.	10	1.9d.	3	1.7d.		
27 Apr 1462	6	3.8d.	13	3.8d.	2	2.0d.		
11 Oct 1463	4	4.3d.	14	1.4d.	6	1.7d.		
10 Apr 1464	5	-	23	1.7d.				
7 Apr 1467	5	1.8d.	10	1.7d.	6	1.8d.		
26 Apr 1468	3	6.0d.	7	4.0d.	2	4.0d.		
23 Apr 1471	3	2.7d.	8	2.9d.	3	1.7d.		
7 Apr 1472	6	2.0d.	6	2.8d.	5	2.2d.		
27 Apr 1473	6	-	6	3.0d.	6	1.7d.		
19 Apr 1474			11	3.1d.	1	2.0d.		
23 Apr 1476	4	2.0d.	5	3.2d.	3	2.7d.		
20 Apr 1479	6	1.8d.	7	2.0d.	3	1.0d.	1	3.0d.
11 Apr 1480	5	1.6d.	6	2.3d.	6	1.4d.	1	-
1 May 1481	5	1.8d.	9	2.3d.				
16 Apr 1482	5	1.6d.	3	2.0d.	5	1.0d.		

Notes: In parentheses are given the number of pardons; * includes two bakers of horsebread; # includes 8 dead (year of the Black Death); + includes one dead; ^ no amerancements listed this in this court session; 'Amerc.' is the average amerancement per offender for the court session (pardons are included and counted as 0d, as are those where no amerancement is listed next to the name). Bakers were presented for breaking the assize of bread; brewers for breaking the assize of ale; regraters for breaking the assize of ale or bread; butchers for selling corrupt meat and excessive prices.

Source: Kew, TNA, SC2/203/38-72. With particular thanks to Richard Britnell for letting me view his own figures taken from the Clare court rolls.

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 Kew, TNA, SC2/203/53 —, SC2/203/53
 Kew, TNA, SC2/203/57 —, SC2/203/57
 Kew, TNA, SC2/203/62 —, SC2/203/62
 Kew, TNA, SC2/203/63 —, SC2/203/63
 Kew, TNA, SC2/203/64 —, SC2/203/64
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 Kew, TNA, SC2/203/66 —, SC2/203/66
 Kew, TNA, SC2/203/67 —, SC2/203/67
 Kew, TNA, SC2/203/67–72 —, SC2/203/67–72
 Kew, TNA, SC2/203/68 —, SC2/203/68
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THE ROLE OF FAIRS IN LATE MEDIEVAL ENGLAND

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Despite recent research on many aspects of marketing in late medieval England, including studies of formal and informal markets,¹ credit,² consumption patterns,³ and regulation,⁴ the role of fairs in this period is far from clear. Historians have focused relatively little attention on English fairs between the mid-fourteenth and mid-sixteenth centuries, in contrast to the importance that has been attributed to these institutions in both preceding and succeeding centuries. The extensive foundation of new fairs and markets during the twelfth and early thirteenth centuries is seen as an important indicator of growing commercial activity, and the largest fairs attracted traders from many parts of the country as well as overseas merchants.⁵ Fairs and markets both expanded during the later sixteenth and seventeenth centuries, reaching a peak in activity and attendance between 1600 and 1750, and it has been suggested that in terms of trade, luxury goods, news and ideas, fairs in this period were probably more important for most people even than London.⁶ The vitality of fairs in Elizabethan England, the extensive network of early modern fairs that served the horse and livestock trades, and the continued importance of fairs

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¹ Britnell, *The Commercialisation of English Society*, pp. 155–78; Britnell, ‘Urban Demand in the English Economy’; Britnell, ‘Markets, Shops, Inns, Taverns’; Dyer, ‘The Hidden Trade’.

² Briggs, *Credit and Village Society*; Keene, ‘Changes in London’s Economic Hinterland’.

³ Threlfall-Holmes, *Monks and Markets*; Dyer, ‘The Consumer and the Market’.

⁴ Britnell, ‘Price-Setting in English Borough Markets’; Davis, *Medieval Market Morality*.

⁵ Langdon and Masschaele, ‘Commercial Activity and Population Growth’, pp. 43–44; Moore, *The Fairs of Medieval England*.

⁶ Everitt, ‘The Marketing of Agricultural Produce’, p. 92, n. 1; Everitt, ‘Introduction’, p. 6.

during the eighteenth century have also been highlighted.⁷ The prominence that historians have attached to fairs before 1300 and after 1570 suggests that their role in the later Middle Ages warrants further investigation, particularly as some have portrayed this as a period in which fairs generally contracted: 'Provincial fairs were in serious decline even before the start of the fifteenth century: for anything other than food and basic clothing, the well-to-do looked to London.'⁸

The word 'fair' can be applied to periodic trading events which varied significantly in size and scope, which can be conveniently classified as local fairs, regional fairs, and international fairs. Local fairs were small events found in both town and country, which had little impact beyond their immediate locality. The international fairs at Boston, Bury St Edmunds, King's Lynn, Northampton, Stamford, St Ives, Winchester, and Westminster, which had attracted traders from many parts of England and Europe in the twelfth century, had also contracted into small, local events by the fourteenth century.⁹ English merchants increasingly diverted trade from these fairs to towns, particularly London, where they could buy and sell the same range of goods throughout the year. These fairs had also been heavily dependent on foreign merchants coming to England to collect wool for export, and wool was increasingly handled by English merchants.¹⁰ The major international fairs in the later fifteenth century were at Antwerp, Bergen-op-Zoom, and Middelburg, frequented by English merchants like the Celys.¹¹ Regional fairs, which form the main focus of this study, became part of the trading networks that developed in the later Middle Ages as the redistribution of income down the social scale led to increased consumption of better quality foodstuffs and basic consumer goods. New mercantile networks linked consumers with areas of specialized production, ports, and major towns, and were characterized by trade over longer distances and the increasing dominance of London.¹² This article explores the roles that these fairs played in the changing marketing networks for cloth, livestock, fish, consumer, and luxury goods, as well as examin-

⁷ Hodgen, 'Fairs of Elizabethan England'; Edwards, 'The Horse Trade'; Mitchell, 'The Changing Role of Fairs'.

⁸ Ramsay, 'Crafts', p. 88.

⁹ Moore, *The Fairs of Medieval England*, pp. 217–22; Farmer, 'Marketing the Produce of the Countryside', pp. 341–43; Miller and Hatcher, *Medieval England: Towns, Commerce and Crafts*, pp. 170–76; Langdon and Masschaele, 'Commercial Activity and Population Growth', p. 44.

¹⁰ Titow, 'The Decline of the Fair of St Giles'; Rosser, *Medieval Westminster*, pp. 97–115.

¹¹ Britnell, *Britain and Ireland*, pp. 324–25.

¹² Britnell, *Britain and Ireland*, pp. 160–61; Britnell, 'Urban Demand in the English Economy', pp. 13–14; Epstein, 'Regional Fairs'.

ing the impact of London traders, and reveals how a number of fairs expanded significantly to serve these sectors of growth within the economy.

Sources

While the transitory nature of fairs was never conducive to record-keeping, and sources are often fragmentary and scattered, the later medieval evidence for these institutions is particularly scarce, as many important types of records, including manorial accounts and court rolls, become less informative or disappear completely.¹³ Accounts, rentals, and inquisitions could record the income that fairs generated for their owners, from tolls, stallage, picage, and fines,¹⁴ but such details were not always included. This lack of material may reflect the tendency to lease out these revenues in the fourteenth and fifteenth centuries, such as the grant of the tolls of the two annual fairs of Newbury, together with a third part of the tolls of the weekly market, received by Thomas Herbert in 1465.¹⁵ Many recorded incomes were small, like the five shillings drawn by St Radegund's Priory from its Cambridge fair in the 1450s.¹⁶ Even with the low rate of tolls, often less than a penny, charged on most transactions, these small totals suggest that many fairs handled relatively low volumes of trade, although as certain traders and goods were exempt, these revenues probably represented only a fraction of the real volume of trade. Some towns, like Exeter, abandoned the collection of tolls at certain fairs in order to encourage greater attendance.¹⁷ Trading disputes were heard in fair courts, also known as pie-powder courts, although relatively few of these records have survived.¹⁸ Other legal proceedings describe disputes relating to trade at fairs, or to the ownership of fairs. These scattered references mean that attempting to quantify volumes of trade conducted through fairs is rarely possible and even the identification of trends over time is problematic.

¹³ *The English Manor*, ed. by Bailey, pp. 105–11, 184–89.

¹⁴ Stallage was the rent paid for ground on which a stall or booth was set and picage was the payment for picking holes into the ground to erect a stall or booth: Morley, *Memoirs of Bartholomew Fair*, p. 128. Laughton and Dyer, 'Seasonal Patterns of Trade'.

¹⁵ Yates, *Town and Countryside in Western Berkshire*, p. 98.

¹⁶ *The Priory of Saint Radegund, Cambridge*, ed. by Gray, pp. 147, 156, 163, 167.

¹⁷ Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, pp. 60, 65, 68.

¹⁸ Pie-powder courts were named after the dusty feet of itinerant merchants: *Select Cases Concerning the Law Merchant*, ed. by Gross.

Place-names and field names can provide evidence for the sites of fairs.¹⁹ Occasionally, street-names from booths or stalls in the fair survive. Grouping traders in the largest fairs by their commodity or by their place of origin helped both customers and those regulating the fair. St Giles' Fair, Winchester, had a Candlewick Street and an Exeter Street in the thirteenth century, and the sixteenth-century fairs at Lenton, Nottingham, and Stourbridge, Cambridge also had street-names.²⁰ Another important group of sources are household accounts of individuals and institutions which can detail purchases made at particular fairs by consumers. Large institutions such as monasteries, colleges, and noble houses required significant quantities of foodstuffs and hardware goods, plus smaller amounts of more expensive and higher quality goods, such as imported spices or luxury cloth — wants which larger fairs were more likely to be able to satisfy than local markets and small towns.²¹

Like weekly markets, fairs were a royal franchise, usually authorized by charter.²² The number of charter grants of new fairs, while falling sharply after the mid-fourteenth century, did not decline to the same extent as the number of new markets. By 1400, the cumulative number of fairs established up to that date had exceeded the cumulative total of markets, and by 1516 this gap had widened further, with over three hundred more fairs than markets having been recorded.²³ However, these cumulative totals include many markets and fairs which were defunct by the later Middle Ages as well as some that had been granted but may never have actually operated. Determining how long fairs continued to function beyond their foundation date can be difficult to ascertain, although their survival can be traced through the lists compiled by early modern writers and travellers.²⁴ Many fairs and markets contracted or were abandoned with the transformation in economic conditions following the Black Death and subsequent epidemics of the later fourteenth and fifteenth centuries. It has been estimated that two-thirds

¹⁹ Such as Fairfield (1523) in Croydon (Surrey), Fairesteedes (1360) in Macclesfield (Cheshire), Faircroft (1538–40) at Lyneham (Wiltshire), and Horse Fair (1349) at Reach (Cambridgeshire); Field, *A History of English Field Names*, p. 237; *VCH: Wiltshire*, ed. by Pugh, Crittall, and Crowley, ix, 99; *The Place-Names of Cambridgeshire*, ed. by Reaney, p. 137.

²⁰ Miller and Hatcher, *Medieval England: Towns, Commerce and Crafts*, pp. 171–74; Greig, 'The Layout of Lenton Fairground'; Lee, *Cambridge and its Economic Region*, pp. 120–21.

²¹ Dyer, 'The Consumer and the Market', pp. 306–12.

²² *Gazetteer of Markets and Fairs*.

²³ Britnell, 'Markets, Shops, Inns, Taverns', p. 110.

²⁴ Britnell, *The Commercialisation of English Society*, pp. 11–19, 81–90; Everitt, 'The Marketing of Agricultural Produce', pp. 16–26; Hodgen, 'Fairs of Elizabethan England'.

of the markets established before 1348 had been lost by the sixteenth century.²⁵ A number of fairs though, remained in operation even where the local market did not survive, including six locations in Buckinghamshire and, as the sixteenth-century antiquarian John Leland observed, at Old Bolingbroke (Lincolnshire), Ellesmere (Shropshire), and Stalbridge (Dorset).²⁶ Furthermore, some fairs were established in this period without royal charters, such as two country fairs in southwest Worcestershire, and four in Exeter.²⁷ Markets had often developed around the local trade in basic foodstuffs and craft goods, for which demand contracted in the later Middle Ages, whereas regional fairs, generally dealing with goods of a higher value and supplying a wider hinterland, were able to serve growing areas of trade in the later Middle Ages.

Wool and Cloth

Although many wool sales were made outside formal markets, the thirteenth-century fairs at Boston, Winchester, and Westminster had been important wool marts serving merchants from Flanders and Italy. Even at the turn of the fifteenth century, when Italian merchants were permitted to export directly to the Mediterranean, rather than having to buy at the Calais Wool Staple, the Orlandini and Cambini firms of Florence used the annual fairs at Burford and Northleach to secure supplies for export. A buyer for the Orlandini wrote in April 1402 that there was a great advantage in buying directly at fairs rather than at 'common markets' as the wools sold there were of better quality and weight, while a Cambini representative noted in June 1403 that the valuation of wools at Burford Fair determined prices in the whole of the Cotswolds.²⁸

The cloth industry in the later Middle Ages was characterized by two significant phases of export-led growth, and fairs formed an important part of the marketing network in both phases of expansion. During the first major period of growth in the later fourteenth century, the cloth industry expanded in a num-

²⁵ Britnell, 'Urban Demand in the English Economy'; Masschaele, 'The Multiplicity of Medieval Markets Reconsidered'.

²⁶ Reed, 'Markets and Fairs in Medieval Buckinghamshire', p. 575; Lee, 'The Functions and Fortunes of English Small Towns'.

²⁷ Dyer, 'The Hidden Trade', p. 150; Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, pp. 61–68.

²⁸ Miller and Hatcher, *Medieval England: Towns, Commerce and Crafts*, pp. 172–74; Fryde, *Peasants and Landlords in Later Medieval England*, pp. 88–89, 96–98.

ber of established towns, including Colchester and Salisbury, which also became centres for the collection and distribution of cloth manufactured in their surrounding hinterlands. Colchester's two fairs were reorganized in 1374 and their duration extended to bring more merchants into the town to sell their cloth. The ulnage accounts show that June and July, when the cloth fairs were held, was the busiest period of cloth sales in the borough.²⁹ The late fourteenth-century trend for urban fairs to provide an important market for cloth produced in towns and their hinterlands continued in the fifteenth century: in 1493 it was reported that many drapers and other London merchants regularly came to the Lady Day Fair at Salisbury. A fifteenth-century ordinance forbade clothworkers to sell their wares outside Salisbury except at St Edmund's Fair, held just outside the city. Salisbury clothmakers also sold their rays (i.e. striped cloths) at London fairs.³⁰

Fairs also provided outlets for the cloth manufactured in small towns and rural areas during the second phase of export-led growth, from the 1470s. One such area was the West Country, where a regional cycle of fairs drew cloth-makers and traders from Wells and north Somerset and merchants from Bristol.³¹ In the 1530s, a clothier of Dulverton disputed the price of kerseys sold at St James' Fair, Bristol.³² During the same decade, John Gryffithe, a coverlet-weaver of Bristol, sold coverlets, beds and other household things that he had made at fairs and markets in Somerset, including Bridgwater Fair, where the bailiff confiscated some of his leather cushions.³³ Textile production also developed in the Lake District, from where the two 'kendalmen' who held stalls at Stourbridge Fair in 1523/4 had probably brought cloth. Cloth from Kendal, as well as from the small West Riding towns of Ripon, Leeds, Wakefield, Halifax, and Bradford, was listed in the regulations of the Ascensiontide Fair at York in 1502.³⁴ Fairs at Bradford, Halifax, and Wakefield presumably provided an outlet for the cloth made in those districts. Certainly, in 1540, John Stede of Norland near Halifax bequeathed 20s. to his brother to assist his wife and daughter 'to sell ther cloth in the faires in Yorkshier'.³⁵ Another area of growing cloth production was the Stour Valley of Suffolk, from where clothmakers and weavers regularly attended Stourbridge Fair

²⁹ Britnell, *Growth and Decline in Colchester*, pp. 68, 80, 102, 181.

³⁰ *VCH: Wiltshire*, ed. by Pugh, Crittall, and Crowley, IV, 125–26; VI, 141.

³¹ Shaw, *The Creation of a Community*, p. 87.

³² Kew, TNA, C1/886/25.

³³ Kew, TNA, C1/800/36–37.

³⁴ *York Civic Records*, ed. by Raine, II, 166.

³⁵ McCutcheon, *Yorkshire Fairs and Markets*, pp. 51, 110, 131, 135; Heaton, *The Yorkshire Woollen*, pp. 71, 75, 145.

in Cambridge during the 1520s. These traders were known as ‘Hadleigh men’ in the rentals of the fair.³⁶

Stourbridge Fair also attracted a range of other cloth sellers, including Coventry merchants, usually drapers or mercers, who regularly paid rent for two booths known as the Woolfleece and Horseloaf between the 1520s and 1550s. A tailor and two hosiers of Westminster travelled to the fair in the 1480s to gather cloth as they ‘muste nedis occupye in thair saide occupacions’. In the 1530s, a London draper stated that he had sold embroidery products from a booth in the fair for twenty-four years. In the 1550s, fines were collected for the sale of broad cloths, caps, feather beds, freize, hair cloths, kerseys, and mattresses, and the fair also attracted drapers from York and Wakefield, and cloth traders from Ipswich and Bristol.³⁷

Another important fair for cloth sales was St Bartholomew’s Fair, London, first recorded in the twelfth century and held in the priory churchyard in West Smithfield.³⁸ Cloth could only be sold wholesale in London at the cloth market in Blackwell Hall or at the fairs of St Bartholomew, Southwark, and Westminster.³⁹ Sixteenth-century clothiers from Heptonstall, Halifax, and Huddersfield left bequests in their wills for their booths at St Bartholomew’s Fair. In 1558 it was reported that ‘dyvers clothiars of sundry partes of the realm’ came to the fair with coarse cloths and kerseys, and the Privy Council conferred with men from Halifax, Manningham, and Selby in Yorkshire, and Bewdley in Shropshire about cloth statutes.⁴⁰ The fair also attracted London buyers, such as Robert Tallmage, merchant tailor, who would ‘bestow and paye grett sums of mony att the seyd Feast of Seynt Bartholomew’ during his ‘great Besynes’ at the fair in the 1530s.⁴¹ In 1508, the fair received a trader from Knowle (Warwickshire), a settlement that had only emerged as a trading centre during the preceding half-century.⁴² In a letter to Thomas Cromwell in 1535, Sir John Aleyn suggested that about twenty thousand pounds’ worth of goods would come to the fair even though this was at a time when he expected cloth sellers to have very slack sales.⁴³ According to

³⁶ Lee, *Cambridge and its Economic Region*, p. 125.

³⁷ Lee, *Cambridge and its Economic Region*, pp. 127–28, 132, 136.

³⁸ Morley, *Memoirs of Bartholomew Fair*, pp. 1–64.

³⁹ Johnson, *The History of the Worshipful Company of the Drapers*, I, 116; II, 26.

⁴⁰ Heaton, *The Yorkshire Woollen*, pp. 146–47.

⁴¹ Kew, TNA, C1/905/3.

⁴² Kew, TNA, C1/301/4; Dyer, ‘The Hidden Trade’, p. 148.

⁴³ *Letters and Papers, Foreign and Domestic [...] Henry VIII*, ed. by Brewer, Gairdner, and Brodie, IX, no. 152, p. 44.

the late sixteenth-century antiquarian John Stow, it had been a fair to which 'the Clothiers of all England, and Drapers of London repayed'.⁴⁴ The prominence which fairs like Stourbridge and St Bartholomew's enjoyed in the cloth trade was reinforced by a statute of 1554–55 which prohibited anyone living in the country to sell by retail 'wollen clothe, lynnene clothe, haberdashe wares, brocery wares, mercerye wares' in any towns except in open fairs.⁴⁵

Livestock

A number of fairs acted as important marketing links in the livestock and meat trades, connecting rural graziers, cattle drovers, and urban butchers. Many of these trading networks expanded over longer distances in the later Middle Ages, reflecting the shift from arable to pastoral farming, growing demand due to higher standards of living, and increasingly specialized regional production. A ring of fairs around London, including Kingston (Surrey), Stortford (Essex), and Uxbridge (Middlesex), provided livestock and other produce to the capital.⁴⁶ Essex fairs were specifically identified as a source of livestock by the London butchers' guild in 1439 which decreed that no freemen should ride to fairs in Essex or elsewhere to buy cattle from drovers.⁴⁷ Demand from Exeter in the late fourteenth century stimulated cattle rearing in its hinterland as well as promoting the development of the city as a centre for livestock trade. Exeter traders visited livestock fairs at Lydford, Holsworthy, Chudleigh, and particularly Crediton, which enjoyed a key geographical position on the edge of the Dartmoor, east Devon, and mid-Devon regions.⁴⁸

The fairs of Birmingham and Coventry drew Welsh cattle drovers and west midland graziers.⁴⁹ West midland buyers also went to Leominster Fair, where over half the cattle sold in 1556 had come from Wales, with one-third from Radnorshire, and others from as far as St David's, Pembroke, and Carmarthen.⁵⁰

⁴⁴ Stow, *A Survey of London*, II, 27.

⁴⁵ 1 & 2 Philip and Mary c. 7 (1553–55): *Statutes of the Realm*, IV, pt 1, 244–45.

⁴⁶ Galloway, 'Town and Country in England', p. 113.

⁴⁷ Jones, *The Butchers of London*, p. 99.

⁴⁸ Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, pp. 46, 294.

⁴⁹ Britnell, *The Commercialisation of English Society*, p. 160; Holt, *The Early History of the Town of Birmingham*, p. 10.

⁵⁰ Bathurst and Cole, 'Leominster Fair'; Hillaby and Hillaby, *Leominster Minster*, p. 245.

Coventry's fairs attracted monastic households from outside the local region, such as the receiver of Peterborough Abbey, who bought two consignments of cows there in 1504/5.⁵¹ Coventry lay at the centre of a region which experienced a major shift from arable cultivation to cattle and sheep rearing during the fifteenth century, leading to the depopulation of villages and enclosures for pastures in many parts of Warwickshire, Leicestershire, and Northamptonshire. The Forest of Arden developed a specialized beef cattle trade, with graziers supplying London as well as local towns.⁵²

Cattle were imported from northern England into Suffolk, where Halesworth Fair was known for its trade in northern bullocks, and Woolpit Fair attracted northern cattle drovers by the late fifteenth century.⁵³ John Capell, farmer of Porter's Hall in Stebbing (Essex) bought 'northern steers' at the fairs of Woolpit and Ely in the early 1480s.⁵⁴ The Cambridgeshire fenland also provided opportunities for pastoral farming, particularly cattle rearing and dairying, and the fairs of Ely attracted cattle traders from significant distances. Henry Gyll, servant of Lord Dacre of Gilsland, and residing at Cumrew in Cumberland, sold twenty steers to John Girlinge of Stradbroke, Suffolk, on 7 September 1536, and agreed to collect most of the payment on 17 October at Ely fair.⁵⁵ The butcher Richard Petrisburgh bought cows and steers through his agent at Ely in 1394, sixty-seven miles (or 107 km) distant from his home of Colchester.⁵⁶

The leather trades grew and diversified in the later Middle Ages, due to improved living standards for many, as well as the greater supply of hides and skins from an expansion in the numbers of cattle and sheep. Fairs formed part of the expanding regional trading networks. A tanner from Milverton (Somerset) travelled nearly twenty-five miles to sell calf skins at Lammas fair in Exeter, and Exeter cordwainers travelled over thirty miles to buy goat skins at the fair in St Decuman (Somerset).⁵⁷ In 1462 the fair at Melton Mowbray attracted tanners who had travelled between twenty-five and fifty miles, from Rotherham (Yorkshire),

⁵¹ *Account Rolls of the Obedientaries of Peterborough*, ed. by Greatrex, pp. 181, 195.

⁵² Fryde, *Peasants and Landlords in Later Medieval England*, pp. 185–208; Britnell, *The Commercialisation of English Society*, p. 201.

⁵³ Bailey, *Medieval Suffolk*, p. 119.

⁵⁴ Britnell, *The Closing of the Middle Ages?*, p. 221.

⁵⁵ Kew, TNA, C1/804/31.

⁵⁶ Britnell, *Growth and Decline in Colchester*, p. 142.

⁵⁷ Kowalski, 'Town and Country'; Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, p. 306.

Eckington (Derbyshire), Newark (Nottinghamshire), and Burton upon Trent (Staffordshire).⁵⁸ A Star Chamber case of Henry VIII's reign concerned the seizure of a boatload of calf skins intended for sale at Faversham Fair.⁵⁹ By the 1540s, leather and hides were the main commodities sold at Southwark Fair.⁶⁰ A national statute of 1533 restricted the sale of tanned leather to open fairs and markets where the quality could be examined.⁶¹

A number of fairs specialized in the horse trade, which increasingly developed on an inter-regional basis between areas of horse breeding.⁶² These included the Yorkshire fairs of Howden, Northallerton and Ripon, the latter described by John Leland as 'much celebratid for byenge of horses.'⁶³ The fair at Woolpit, sited on the main road from Ipswich to Bury, and a popular pilgrimage centre, attracted John Howard, duke of Norfolk, in 1481, and the prior of Thetford, in the early sixteenth century, to buy horses there. In 1586, William Harrison noted that a 'great plenty of horses and colts' were bought and sold yearly at this fair, and those at Ripon, Newport Pond (Essex), and Harborough.⁶⁴ The distance which some traders covered is illustrated by the petition brought by John a Man, a girdler of London, who had bought a white gelding from the vicar of Olveston (Gloucestershire) at St James's Fair, Bristol in 1533; at Stourbridge Fair in September of the same year, Richard Wryght claimed that the gelding was his and had strayed from him.⁶⁵

Fish

Some fairs were major markets for fish, and served the increasing demand for a wider variety of fish in the later Middle Ages. This was stimulated by growing incomes among the lower and middle ranks of society, while the continued influence of the Church promoted abstinence from meat for almost half the days of

⁵⁸ Laughton and Dyer, 'Seasonal Patterns of Trade', p. 181.

⁵⁹ Kew, TNA, STAC 2/26/389.

⁶⁰ Carlin, *Medieval Southwark*, pp. 123–24, 186.

⁶¹ 24 Hen. VIII c. 10: *Statutes of the Realm*, III, 417–19.

⁶² Edwards, 'The Horse Trade'.

⁶³ *The Itinerary of John Leland*, ed. by Smith, I, 82; Farmer, 'Marketing the Produce of the Countryside', p. 380.

⁶⁴ Amor, 'Riding out Recession', p. 135; Harrison, *The Description of England*, ed. by Edelen, p. 308.

⁶⁵ Kew, TNA, C1/722/5.

the year. The expansion of fishing in south Devon and Cornwall helped to promote Exeter as a regional fish market, and the city capitalized on this by establishing an Ash Wednesday fair in 1374. As the fair was shrewdly timed to coincide with the peak in seasonal demand at the beginning of Lent, and because there was no competition within the county in the two months before or after it, revenues from the fair increased rapidly. During the fifteenth century it became the city's most profitable fair.⁶⁶

The fishing industry along the east coast was less buoyant than that in the southwest of England, as it was damaged by the Hundred Years War, by competition from the Low Countries, and by the silting of several harbours, but some ports benefitted by sending fleets into the cod fishing grounds near Iceland during the early fifteenth century. The dates of fairs often reflected the seasonal migration of herring along the coast, with a group of August fairs held in Northumberland and Durham, late August fairs in Yorkshire, and September fairs in north Lincolnshire.⁶⁷ The herring fair at Great Yarmouth ran from Michaelmas to Martinmas and coincided with the peak of the herring fishing season. The Cinque Ports claimed rights during this fair and the borough had to share fines from the fair court, arrangements which led to lengthy disputes.⁶⁸ Other exceptionally long fairs of between twenty-nine and forty-three days duration had been granted to the Yorkshire ports of Scarborough, Hull and Ravenserodd during the thirteenth century. Fourteenth-century customs accounts show that the fair at Scarborough, held in August and September, coincided with imports of herring and salt. In 1310–11, the collectors only appear to have opened the port during the period of the fair. The importance of the fair was stated in a dispute between Lowestoft and Yarmouth over fishing rights and the sale of herring in 1378: 'the great dearness of herring that has now been in this year is because the fair of Scarborough and of Whitby failed, as it well known to the people of those parts'.⁶⁹

However, not all fairs that handled saltwater fish were located on the coast. A mid-sixteenth-century letter outlining arrangements for supplying fish for Lent noted that Lichfield Fair on Ash Wednesday 'rewls the price in this contre', and

⁶⁶ Kowaleski, 'The Expansion of the South-Western Fisheries', p. 447; Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, pp. 66–67, 311; Serjeantson and Woolgar, 'Fish Consumption'.

⁶⁷ Kowaleski, 'The Seasonality of Fishing'.

⁶⁸ Tittler, 'The English Fishing Industry', pp. 49–52.

⁶⁹ Childs, 'Mercantile Scarborough'; Daniell and Bould, 'Markets, Mills and Tolls', pp. 17, 19–22, 36; *Gazetteer of Markets and Fairs*.

Sir Henry Willoughby's household at Wollaton Hall (Nottinghamshire) bought fish there.⁷⁰ The fairs of Ely and Stourbridge were important outlets for saltwater fish from the east coast. Local buyers like the Cambridge colleges, St Radegund's Priory, and estate officials from the Cambridgeshire manors of Crowland Abbey were joined by more distant consumers like Thetford Priory, Oseney Abbey, Oxford, and the Willoughby family from Nottinghamshire. A statute of 1534 against forestalling and regrating of fish applied particularly to Stourbridge, St Ives, and Ely fairs 'being the most notable faires within this Realme for provysions of fysshe'. This act was repealed in 1544 as it had apparently discouraged merchants of London, Coventry, and elsewhere from purchasing fish at the coast and carrying it to the fairs, and had consequently driven fishermen to seek out markets for their catches, who had to pay the wages of their mariners and servants in their absence. Two fairs that had been granted to King's Lynn in 1537 were revoked in 1542, following their alleged damage to 'the Provysion of Salt fyshe & Heryng' at Ely, Stourbridge, and other fairs in Cambridgeshire and Huntingdonshire.⁷¹

Household and Consumer Goods

Fairs were an important source of retail goods, providing bulk quantities of basic necessities for households and farms, as well as a range of specialist consumer goods. The redistribution of wealth that was a consequence of the population decline of the later Middle Ages led to growing consumption among the middle and lower classes of society, and to increased output of some goods, such as pewter, even though overall demand for many basic commodities fell. Indeed recent research has suggested that this period saw the beginnings of a consumer revolution (more conventionally attributed to the early modern period) with the appearance of new consumer goods, increases in the amount and range of possessions, and the penetration of consumer demand further down the social scale.⁷² Fairs provided an important means of distributing these products.

In the thirteenth century, the largest fairs had enabled large and wealthy institutions, such as Durham Priory and the royal wardrobe, to make retail purchases on a very large scale, and Walter of Henley had advised buying wine, wax and

⁷⁰ *Catalogue of the Arundel Castle Manuscripts*, p. 181; *Report on the Manuscripts of Lord Middleton*, ed. by Stevenson, pp. 342, 351, 372, 380, 387.

⁷¹ Lee, *Cambridge and its Economic Region*, pp. 130–31.

⁷² Hatcher and Barker, *A History of British Pewter*, pp. 46–59; Dyer, *An Age of Transition?*, pp. 126–57; Kowaleski, 'A Consumer Economy'.

items for the wardrobe at Boston Fair and other purchases at Winchester, Bristol, and St Ives.⁷³ Although from the fourteenth century onwards, many of these purchases were made in towns, larger fairs continued to offer the opportunity to make bulk purchases from a wide range of traders. The 1512 regulations for the household of Henry Percy, fifth earl of Northumberland, recommended purchasing goods at fairs:

He that standes chargid with my Lordes house for the houill yeir if he may possible shall be at all Faires wheir the grocie empcions shal be boughte for the house for the houille yeire as wyne wax beiffes multons wheite and maltie. And if he may not thanne to apointe the clerk comptroiller with such oithur persons as he thinkis good to go to the said faires for bying of the forsaid groicie empcions.⁷⁴

Similarly in the early sixteenth century, the prior of Royston shopped at Stourbridge Fair, 'for the provision & store of his said house for all the whole year following'.⁷⁵ Households used fairs in this way to buy fish, cloth, and hardware products, as well as farm equipment such as horseshoes, nails, tar and sawn timber.⁷⁶ Even these basic products reflected local crafts and specialisms: the fairs of Ely sold a wide range of basketry products produced from the reeds of the fenland, and Thetford Priory bought leaps (baskets to catch and store fish), two eared skeps (baskets without lids), maunds (baskets with handles and lids), and saddle-leaps (baskets attached to the side of a pack-animal).⁷⁷ Major fairs brought traders and consumers from long distances. Melton Mowbray fair attracted a craftsman who travelled forty miles from Salcey Forest to sell glass in 1437, and a trader bringing wooden spokes from Rockingham Forest, thirty miles away.⁷⁸ In the 1420s and 1430s, members from the households of Sir William Mountford of Kingshurst (Warwickshire), Thomas of Lancaster, duke of Clarence, at Greenwich, and Burcester Priory (Oxfordshire) journeyed to Stourbridge Fair.⁷⁹ At fairs these households could buy in bulk and direct from leading merchants, and thereby obtain their goods at wholesale, rather than retail, prices.⁸⁰

⁷³ *Walter of Henley*, ed. by Oschinsky, p. 399.

⁷⁴ *The Regulations and Establishment*, ed. by Percy, p. 407.

⁷⁵ Kew, TNA, C1/438/33.

⁷⁶ Farmer, 'Marketing the Produce of the Countryside', pp. 343–44.

⁷⁷ *The Register of Thetford Priory*, ed. by Dymond, I, 93, 117, 149, 164, 191.

⁷⁸ Laughton and Dyer, 'Seasonal Patterns of Trade', p. 181.

⁷⁹ Lee, *Cambridge and its Economic Region*, pp. 133–34.

⁸⁰ Dyer, 'The Consumer and the Market', pp. 308–10.

The largest fairs though, also had a range of more expensive products, such as spices and haberdashery. Sir Henry Willoughby's household spent over ten pounds on spices including pepper, maces, cloves, currants, sugar candy, almonds, aniseed, sugar loaves, ginger, and prunes at Lenton Fair, Nottingham in 1524.⁸¹ The wife of Thomas Barneby of London, haberdasher, brought caps, hats, and other haberdashery wares to be sold in Stourbridge Fair, worth over one hundred pounds when seized for a debt in the 1520s.⁸² A London silkwoman held a little booth in Stourbridge Fair in 1523/4, and another London silkwoman had died whilst away at Stourbridge Fair in the late fifteenth century.⁸³

Many of these goods, including saffron, were sold both retail and wholesale. The late fifteenth and early sixteenth century saw the development of saffron cultivation in north Essex and south Cambridgeshire, centred on Cambridge and Saffron Walden. Saffron was used as a dye, a pigment in manuscripts, as a flavouring and colouring in cookery, and possibly as a medicine. London merchants used fairs to obtain saffron, including John Capon, stockfishmonger of London, who contracted with William Elyott of Cotteder in Hertfordshire at Stourbridge Fair in the early sixteenth century.⁸⁴ In the same period, Robert Goldwyn of Hertfordshire, haberdasher, brought a plea against John Howsden of Grantchester, yeoman, who had failed to deliver forty pounds in weight of saffron to him, which he had planned to sell to a London grocer. The saffron was to have been brought to 'Colle fayre', which was probably Cold Fair, held at Newport, Essex.⁸⁵ In the mid-sixteenth century, the treasurers of Walden took forfeitures of saffron at the town's Ursula Fair from traders from Walsingham (Norfolk) and Suffolk.⁸⁶

Wholesale and retail sales of specialist metalware products took place in some fairs. As demand for fine tableware led to the rising use of pewterware, fairs became an important method of distribution. Two partners in a York pewter business visited fairs at Barnsley and Bedale (Yorkshire) in 1485.⁸⁷ Pewterers also used fairs to buy old or damaged pewter to reuse in producing new wares: two Cambridge institutions, St Radegund's Priory and King's Hall, had vessels

⁸¹ *Report on the Manuscripts of Lord Middleton*, ed. by Stevenson, p. 372.

⁸² Kew, TNA, C1/471/12.

⁸³ Dale, 'The London Silkwomen', p. 327.

⁸⁴ Lee, 'The Trade of Fifteenth-Century Cambridge', pp. 137–38.

⁸⁵ Kew, TNA, C1/809/45; Harrison, *The Description of England*, ed. by Edelen, p. 253, n. 9.

⁸⁶ Clark, 'Saffron and Walden', p. 61.

⁸⁷ Hatcher and Barker, *A History of British Pewter*, p. 253.

garnished or exchanged at fairs. There was a goldsmiths' row at Lenton Fair in 1516, and sites were specified for goldsmiths and jewellers at the York fairs in 1502. Goldsmiths are listed in the fines collected in Stourbridge Fair in the 1550s, and York goldsmiths also travelled to the fair.⁸⁸ Robert Barlow, mercer of Mansfield, bought what he believed to be a silver saucer at Chesterfield Fair but found it to be tin.⁸⁹ Fairs were used to dispose of church ornament and plate at the Reformation. In 1540 for instance, the churchwardens of Great St Mary's, Cambridge, sold a collar of gold and a relic of St Nicholas at Stourbridge Fair. The fellows of Clare Hall, anticipating the dissolution of their college, sold the college plate at the fair in 1549.⁹⁰

Some fairs could offer a range of other specialist goods and services. At Oxford and Cambridge, fairs catered for the academic market. John Dorne, an Oxford bookseller, sold books in the fairs at the feast of St Augustine and St Frideswide in 1520. Joyce Pykegrome of London, bookseller, sold law titles at Stourbridge Fair in the 1490s. Wax, paper, and parchment could also be purchased at this fair.⁹¹ The majority of fairs however, were much smaller affairs, and seem to have had trading hinterlands that were not significantly larger than those of the weekly markets held in small towns and villages. In 1508, the commodities traded at Reach Fair, eight miles northeast of Cambridge, included a horse, a pair of shoes, 10½ quarters of barley, and various lengths of woollen cloth, and these were bought by local merchants, husbandmen, and labourers, rather than large institutions, although King's College and Thetford Priory occasionally purchased horses there.⁹²

Contemporary writers made complaints about some of the goods available in fairs, particularly imported wares and those that appealed to the lower orders in society. In *Piers Plowman*, William Langland presents the character of Covetousness as an apprentice who is sent to fairs at Weyhill and Winchester with all kinds of wares, which can only be sold through guile.⁹³ A school book of

⁸⁸ Greig, 'The Layout of Lenton Fairground', pp. 130–34; Lee, *Cambridge and its Economic Region*, p. 132.

⁸⁹ Kew, TNA, C1/1197/9.

⁹⁰ Lee, *Cambridge and its Economic Region*, pp. 132–33.

⁹¹ Kew, TNA, C1/218/2; Madan, 'The Daily Ledger of John Dorne', pp. 103, 124; Lee, *Cambridge and its Economic Region*, p. 133.

⁹² Lee, *Cambridge and its Economic Region*, pp. 119, 130, 134.

⁹³ *Piers Plowman, The A Version*, ed. by Kane, pp. 233–34 quoted in Davis, "Men as March with Fote Packes"; p. 150. The fair mentioned in *Piers Plowman* at *Wy* or *Wyche* is usually identified as Weyhill (Hampshire) but may have been Wye (Kent); *Gazetteer of Markets and Fairs*.

English prose passages with Latin translations, probably written by a teacher of grammar at Magdalen School, Oxford at the end of the fifteenth century, warns students about spending ‘all their fathers goodes in japys and trifulles’ at the fair, lured by the deceitful habits of London traders. Other passages describe a pen case and ink horn bought at the fair, and seeing friends at the fair wearing gold chains and brooches with gold, pearls, and precious stones.⁹⁴ The author of a ‘treatise concerning the Staple and the commodities of this realm’, written c. 1519–35, bemoaned the ‘quantite of strange merchaundise and artificiall fantasies brought into the realme [...] so many pedlars and chapmen, that from fair to fair, from markett to markett, carieth it to sell in horspakks and fote pakks, in baskets and budgetts.’⁹⁵ As the treatise noted, chapmen and pedlars distributed manufactured and small-scale luxury goods, some imported, through fairs and markets.⁹⁶ Payments were taken for packs of goods carried by pedlars at Stourbridge Fair, there was a common house for packs at Lent Fair in Bridgwater, and a night watch was arranged over the packs at St James’s Fair, Bristol.⁹⁷

Entertainment, Recreation, and Other Functions

The rising income that many groups in society experienced after the Black Death allowed some to choose recreational pursuits, and this trend favoured many fairs. The literature produced in the wake of the Black Death included many complaints about the idleness of peasants and labourers. This emerging leisure culture was reflected in the growth of taverns and the social activities of religious guilds, as well as in the popularity of games such as football or dice.⁹⁸ Fairs provided a range of recreational activities, coinciding with saints’ days and pilgrimages, and offering entertainment, food, and drink.

Many fairs had their origins in church festivals, and the dates of many fairs were tied to the dedication of a local church, such as Norton St Philip (Somerset) with its fair on the feast of Philip and James the Apostles, to whom the parish church was dedicated.⁹⁹ The large crowds attracted by feast days provided potential customers and opportunities for trade, and fairs served as social occasions,

⁹⁴ *A Fifteenth Century School Book*, ed. by Nelson, pp. 14, 22, 54, 90.

⁹⁵ *Tudor Economic Documents*, ed. by Tawney and Power, III, 109.

⁹⁶ Davis, “Men as March with Fote Packes”; Spufford, *The Great Reclotting of Rural England*.

⁹⁷ Lee, *Cambridge and its Economic Region*, p. 124.

⁹⁸ Hatcher, ‘England in the Aftermath’; Bailey, *Medieval Suffolk*, p. 251.

⁹⁹ *The Itinerary of John Leland*, ed. by Smith, I, 139.

providing entertainment as well as commerce. In many towns these ties survived to the Reformation. St Etheldreda's Fair at Ely was linked to the feast of the patron saint whose shrine was housed within the cathedral. The fair sold tawdry lace, silk lace or neckties, which were held in veneration as having touched the shrine.¹⁰⁰ The prior of Blackfriars in Cambridge reported that an image of Our Lady in his house drew much pilgrimage, especially at the time of Stourbridge Fair.¹⁰¹ In Bristol, the proctors of All Saint's Church recorded income from pilgrims going to St James's Fair in 1434/5 in their accounts. Entertainment accompanied these fairs, with the sheriffs of Bristol paying for wrestling at St Lawrence tide, together with pears and wine there, and wrestling at St James-tide in the Marsh, the site of the fairground.¹⁰² The Corpus Christi day fair in Coventry coincided with the processions and mystery plays performed by the craft guilds on the same day. In 1485, the cappers paid 2d. to two harness men at the fair, and in 1534 the drapers paid four men on 'fere Freydaye' bringing harnesses.¹⁰³

The provision of food and drink must have helped to create a convivial atmosphere at most fairs. Even for the very minor fair held by St Radegund's Priory in Cambridge on the feast of the Assumption of the Virgin Mary, the nuns took on an extra cook at the time of the fair.¹⁰⁴ There were three cookeries at Lenton Fair in 1516, probably producing hot, ready-to-eat food.¹⁰⁵ Stourbridge Fair and Reach Fair in Cambridgeshire attracted brewers and petty traders selling ale and victuals, including many women. The ale sellers and their booths disappear from the accounts of Stourbridge Fair during the late 1520s, which may represent the development of larger-scale production and increased demand for beer. By the late sixteenth century, William Harrison complained that some fairs had 'little else bought or sold in them more than good drink, pies, and some peddlery trash'.¹⁰⁶

¹⁰⁰ *OED*, ed. by Simpson and Weiner, xvii, 675; *Letters and Papers, Foreign and Domestic [...] Henry VIII*, ed. by Brewer, Gairdner, and Brodie, vi, no. 1264, pp. 315–16; *VCH: Cambridge and Ely*, ed. by Salzman and others, iv, 50.

¹⁰¹ *Letters and Papers, Foreign and Domestic [...] Henry VIII*, ed. by Brewer, Gairdner, and Brodie, xiii (2), no. 224, p. 85.

¹⁰² *The Pre-Reformation Records of All Saints Church*, ed. by Burgess, i, 65

¹⁰³ *VCH: Warwick*, ed. by Page, Salzman, and Stephens, viii, 212–14, 219, 243, 247; *The Coventry Leet Book*, ed. by Harris, iv, 856.

¹⁰⁴ *The Priory of Saint Radegund, Cambridge*, ed. by Gray, p. 167

¹⁰⁵ Greig, 'The Layout of Lenton Fairground', pp. 132–34. Carlin, 'Fast Food and Urban Living Standards'.

¹⁰⁶ *VCH: Cambridge and Ely*, ed. by Salzman and others, x, 227; Harrison, *The Description of England*, ed. by Edelen, p. 391.

Fairs also provided news, recreation, and entertainment. Farmer suggested that fairs 'brought a touch of the exotic and a hint of the world over the horizon', and that these entertainments may have helped the lesser fairs to survive as social events even when their importance in marketing produce had contracted.¹⁰⁷ The Pastons awaited news from St Bartholomew's Fair, London, and bonfires were lit at Stourbridge Fair to celebrate the birth of Henry VIII's daughter, Princess Elizabeth.¹⁰⁸ Some of the diverse range of travelling entertainers who visited noble and ecclesiastical households probably performed at fairs: the Thetford Priory accounts include over ninety separate payments to visiting actors and one hundred and fifteen to minstrels, nine visits by town waits, and six by the king's juggler, twenty-two references to bearwards, and a couple of appearances of a man with a camel.¹⁰⁹ While the religious changes of the Reformation ended pilgrimage and abolished many major regional festivals, it is difficult to see any resulting decline in fairs. In the late sixteenth century, William Harrison blamed smaller fairs for 'the corruption of youth, who (all other business set apart) must needs repair unto them, whereby they often spend not only the weekdays but also the Lord's Sabbath in great vanity and riot'.¹¹⁰

The fear of disorder that Harrison expressed was not unfounded, as fairs could provide a conduit for news and dissent during periods of wider upheaval. In 1395, for instance, Barnwell Priory feared great numbers of the commonalty and university of Cambridge going to Barnwell Fair, and the sheriffs were ordered to proclaim that no unlawful assemblies were to be made.¹¹¹ This was only fourteen years after the Peasants' Revolt in Cambridge which had included attacks on the priory. A proclamation announcing the suppression of rebels in Lincolnshire, made at St Wilfrid's Fair in Ripon in 1536, may have sparked risings in the surrounding rural areas of Nidderdale, Kirkby Malzeard, and Masham, part of the revolt known as the Pilgrimage of Grace.¹¹² Kett's rebellion and the associated upheaval in East Anglia in summer 1549, which saw enclosures thrown down and camps outside a handful of Suffolk towns and Norwich, seems to have been organized through coordinated planning at local gatherings like the fairs at Sudbury and Stowmarket.¹¹³

¹⁰⁷ Farmer, 'Marketing the Produce of the Countryside', p. 347.

¹⁰⁸ *Paston Letters*, ed. by Davis, I, 440, II, 42; *Annals of Cambridge*, ed. by Cooper, I, 360.

¹⁰⁹ *The Register of Thetford Priory*, ed. by Dymond, I, 47–52.

¹¹⁰ Harrison, *The Description of England*, ed. by Edelen, p. 391

¹¹¹ *Calendar of Close Rolls: Richard II*, v, 426–27.

¹¹² Hoyle, *The Pilgrimage of Grace*, p. 213.

¹¹³ MacCulloch, 'Kett's Rebellion in Context', pp. 39–40.

Fairs also enabled the hiring of labour and the collection of debts. Legislation in the wake of the Black Death established a national framework for employment contracts. The network of fairs and markets provided places at which hiring could take place under public scrutiny, although households also found servants through kinship, trading, and neighbourhood links. Coventry held a Good Friday market ‘be which people were lette fro service’ in 1452, which may have been an early example of the hiring or statute fairs that developed during the early modern period. A number of fairs coincided with the traditional dates for hiring servants, which were Martinmas and Pentecost in the north, and Michaelmas in southern and midland England.¹¹⁴ Fairs also provided useful opportunities to settle debts, such as those enrolled by merchants in fifteenth-century York, which were often paid on feast days that coincided with fairs held in the city.¹¹⁵ Similarly, the courts in Wells used the cycle of principal cloth fairs in north Somerset as convenient times and places to pay debts.¹¹⁶ Stourbridge Fair was used by the Ipswich merchant Henry Tooley to collect debts and by officials from Peterborough abbey to collect rents.¹¹⁷ The mid-sixteenth-century ledger of the Bristol merchant John Smyth included agreements to collect debts for Toulouse woad and sack, malmsey, bastard, and Gascon wine at ‘Caswstons’ fair, possibly Corston (Somerset), iron at the fairs at Norton St Philip, and wool oil at Stourbridge Fair.¹¹⁸ Such arrangements were a convenient way of ensuring that major traders would be present, and that a large amount of cash would be available.

London

The later Middle Ages saw the growing commercial ascendancy of London. The capital grew in size and wealth more rapidly than the leading provincial towns. Overseas trade, particularly cloth exports, was increasingly handled through London at the expense of other ports. London merchants competed successfully against provincial merchants, dominated credit networks and stimulated production, including knife-making at Thaxted, saffron cultivation in Walden, and cloth-

¹¹⁴ *The Coventry Leet Book*, ed. by Harris, II, 272; Roberts, “Waiting upon Chance”, p. 127; Goldberg, *Women, Work, and Life Cycle*, pp. 173–77; Bridbury, ‘Markets and Freedom’, pp. 106, 118; Kussmaul, ‘The Ambiguous Mobility of Farm Servants’.

¹¹⁵ Kermode, *Medieval Merchants*, p. 234.

¹¹⁶ Shaw, *The Creation of a Community*, p. 87.

¹¹⁷ Lee, *Cambridge and its Economic Region*, p. 136–37.

¹¹⁸ *The Ledger of John Smythe*, ed. by Vanes, pp. 23, 43, 56, 147, 164, 298.

making from the West Riding to the West Country.¹¹⁹ The growing ascendancy of the capital was reflected in the presence of Londoners at several prominent fairs, and the increasing concerns of the London craft guilds to exercise powers of search or restrict their members from attending a number of provincial fairs.

Several London companies tried to exercise control through searches of goods made at fairs. Rights of search in London fairs could create disputes, like that between the drapers and tailors at St Bartholomew's Fair in 1441,¹²⁰ but the companies increasingly made attempts to oversee wares at fairs outside the capital. In 1423, parliament was requested to allow the London embroiderers to search the fairs of Stourbridge, Ely, Oxford, and Salisbury, and the wardens of the Horners' Company were given authority to search for defective wares in Stourbridge and Ely fairs in 1464.¹²¹ The Skinners' Company sent searchers to Stourbridge and Bristol fairs.¹²² The Founders' Company fined members for going to Southwark Fair and Maidstone Fair 'unsearched' in the early sixteenth century.¹²³ However, surviving records suggest that, in practice, it was only the Goldsmiths' and Pewterers' Companies that exercised their powers to any significant degree. The goldsmiths agreed in 1372 to send wardens to fairs 'held both outside and inside towns' and took fines at Winchester Fair. During the mid-fifteenth century the wardens journeyed to Stourbridge and Bristol fairs. The pewterers made extensive searches between 1474 and 1477 when they visited thirty-six towns and, presumably expecting to be challenged, they took to Stourbridge Fair their charter granting the right of search.¹²⁴ The prime motive for the searches appears to have been the profits received from the fines and the sale of seized goods, but the guilds also tried to prevent the sale of poor quality goods which would have undercut wares produced in London.

Several London guilds sought to pass the transaction costs of acquiring goods over to provincial merchants by prohibiting their members from attending provincial fairs, as well as endeavouring to protect London prices.¹²⁵ The mercers

¹¹⁹ Keene, 'Medieval London'; Keene, 'National and Regional Identities'.

¹²⁰ Barron, 'Ralph Holland and the London Radicals'.

¹²¹ *Rotuli Parliamentorum*, IV, 254, v, 567.

¹²² *Records of the Skinners of London*, ed. by Lambert, p. 325; Veale, *The English Fur Trade*, p. 199.

¹²³ *Wardens' Accounts [...] Founders*, ed. by Parsloe, pp. 51, 56, 58.

¹²⁴ *Wardens' Accounts [...] Goldsmiths*, ed. by Jefferson, p. 157; Reddaway, *The Early History of the Goldsmiths' Company*, pp. 36–37, 59, n. 70, pp. 93, 133–34, 140–41; Homer, 'The Pewterers Company's Country Searches', pp. 101–03.

¹²⁵ Britnell, 'Urban Demand in the English Economy', p. 14.

forbade their members from attending fairs or markets outside London in 1376 and reasserted this ordinance in 1404. The grocers adopted similar restrictions during the fifteenth century. By the 1470s, however, the mercers felt that the haberdashers had become too successful through their trade at fairs, and campaigned to persuade the mayor, common council, and wardens of other companies that no freemen should go to provincial fairs to sell goods. Seventeen London crafts expressed willingness to refrain but eleven refused, and the mercers temporarily abandoned their policy.¹²⁶ In 1487 though, the common council forbade all freemen of London, on penalty of one hundred pounds, from sending goods to provincial fairs and markets. However, a substantial number of other crafts opposed the restraint, the ordinance was suspended a month later, and parliament subsequently annulled it.¹²⁷

Some London companies continued to press for restrictions. In 1491 the mercers prepared a parliamentary bill to reform 'the great abusion' arising from members attending fairs, and the Founders' Company paid for bills put to the mayor 'for goyng to fayres' in 1497/8 and 1500/1.¹²⁸ The goldsmiths prohibited their members from travelling to fairs in 1498 and 1500 but a number defied the ban and were fined at Bristol Fair.¹²⁹ The extent of disruption created by these restrictions is difficult to quantify as some London merchants found it more profitable to pay fines to their guild and continue trading: grocers for example, went to fairs at Southampton, Winchester, Oxford, and Stourbridge.¹³⁰ Cambridge Corporation, however, attributed a fall in the rent of a group of booths from sixty to twenty shillings in 1499/1500 to the withdrawal of London merchants from Stourbridge Fair, and for the same reason reported in 1500/1 that a large part of the farm of the chapel ground could not be collected.¹³¹

¹²⁶ *Acts of the Court of the Mercers' Company*, ed. by Lyell and Watney, pp. xvi–xvii, 100, 116, 138–39, 158, 160, 219–20; Thrupp, 'The Grocers of London', pp. 274–75; Sutton, 'The Shop-Floor of the London Mercery Trade', pp. 34–38; Sutton, *The Mercery of London*, pp. 215–17.

¹²⁷ *Calendar of Letter-Books [...] at the Guildhall*, ed. by Sharpe, Letter-book L, pp. 240, 242; 3 Hen. VII c. 9: *Statutes of the Realm*, II, 518.

¹²⁸ *Acts of the Court of the Mercers' Company*, ed. by Lyell and Watney, pp. 219–20; *Wardens' Accounts [...] Founders*, ed. by Parsloe, pp. 4, 10.

¹²⁹ Reddaway, *The Early History of the Goldsmiths' Company*, p. 194.

¹³⁰ Nightingale, *A Medieval Mercantile Community*, p. 439; Thrupp, 'The Grocers of London', p. 274.

¹³¹ Cambridge, CRO, Cambridge Corp. Arch., X/71/9, under *Recepte Forinsece*; Cambridge, CRO, Cambridge Corp. Arch., X/71/10, under *Reparaciones*.

Conclusion

Fairs in the later Middle Ages provided markets for a wide variety of goods. The royal statute of 1487, which had annulled the ordinance preventing London freemen from selling goods at provincial fairs, described the

many fairs for the common weal of your said leige People, as at Salisbury, Bristol, Oxenforth, Cambrigg, Netyngtham, Ely, Coventre & at many other places.

According to this statute, these regional fairs provided the opportunity

to buy and purvey many things that be good & profitable, as Ornaments of Holy Church, Chalice, Books, Vestments & other ornaments of Holy church aforesd & also for Household, as victual for the time of Lent, & other stuff, as Linen Cloth, Woollen Cloth, Brass, Pewter, Bedding, Osmonde, Iron, flax & Wax, & many other necessary things.¹³²

Although some rural fairs were important trading events, such as Weyhill (Hampshire) or Woodkirk Fair (Yorkshire), the largest fairs of the later Middle Ages appear to have been urban. Some fairs in small towns, particularly those serving the livestock trade, such as Crediton, Birmingham, and Woolpit flourished. Cloth produced in small towns, however, tended to be marketed through the fairs of London and of the provincial towns. The fairs of the major provincial towns listed in the statute of 1487, together with others such as Exeter and York, seem to have been among the most significant in linking a range of trading networks. Whilst it is rarely possible to analyse trends in the volume of trade conducted at these fairs,¹³³ their continuing prominence at least merits consideration in any reassessment of the debate over late medieval 'urban decline', in which the leading provincial towns are usually seen as exhibiting the most severe symptoms of decay.¹³⁴

The largest fairs provided a number of key advantages. Search costs were lowered when a larger number of producers, traders and consumers assembled in the same place, and this concentration of people and goods helped traders to negotiate more favourable exchanges. Enforcement costs were reduced with secure surroundings, regulation of trade, and legal redress.¹³⁵ Transportation

¹³² 3 Hen. VII c. 9: *Statutes of the Realm*, II, 518.

¹³³ For trends in booth rents and transfers at Stourbridge Fair, see Lee, *Cambridge and its Economic Region*, pp. 122–23.

¹³⁴ Dyer, *Decline and Growth in English Towns*.

¹³⁵ Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, p. 179.

costs were minimized by road and water links which many regional fairgrounds enjoyed.¹³⁶ Fairs could be timed to coincide with important local and regional events, such as periods for hiring servants, fishing seasons, and local feast days, as well as key points in the agricultural calendar such as after harvest. Successful fairs also depended on their reputation, as individuals and institutions made decisions on where to make their purchases based on perceptions of the range, quality, and price of goods available in different locations. Leland believed that Great Torrington (Devon) had 'the best fayr in al those quarters' and described the 'great' fairs of Uxbridge (Middlesex), Stratford-on-Avon, and Wye (Kent).¹³⁷ Letters patent of 1589 from Elizabeth I described Stourbridge Fair as 'by far the largest and most famous fair in all England' and its success was attributed to 'the laudable industry of the mayor, bailiffs and burgesses [...] the convenience of the place itself, the neighbourhood of the university, and the favourableness of the time helping'.¹³⁸

Fairs however, also had some limitations as trading events. Like periodic markets, fairs were formal institutions which imposed transport costs and restrictions on buyers and sellers, compared to informal trade which took place in shops, warehouses, taverns, inns, and private homes.¹³⁹ As annual events, they provided a limited duration for trade in specific localities. Another disadvantage, as open air events, was their vulnerability to bad weather. Wet weather reduced profits from the usual 10s. to less than 3s. at the Lammas Fair in Exeter in 1377, from 5s. 1d. to 3s. at Trowbridge Fair in 1383, and by more than half at the September fair at Peterborough in 1459, when great torrents of rain fell.¹⁴⁰ There was also the risk of losing money or goods while travelling to and from fairs. Robert Morehouse, a 'pourser' of St Mary-le-Strand, was asked at Salisbury Fair to carry a bag of money for William Foster, a London stationer. As Morehouse rode back from the fair to London, the money bag, 'beyng in his cote sleyve freated owte and fell from hym'. Morehouse was unable to find the bag and Foster

¹³⁶ Hodgen, 'Fairs of Elizabethan England', used Ogilby's 1675 survey of roads to show the concentration of fairs, particularly sites with two or three fairs each year, at road intersections or along major routes.

¹³⁷ Lee, 'The Functions and Fortunes of English Small Towns', p. 7.

¹³⁸ *The Charters of the Borough of Cambridge*, ed. by Maitland and Bateson, p. 97.

¹³⁹ Britnell, 'Markets, Shops, Inns, Taverns'.

¹⁴⁰ *VCH: Wiltshire*, ed. by Pugh, Crittall, and Crowley, vii, 143–44; Kowaleski, *Local Markets and Regional Trade in Medieval Exeter*, p. 65; Laughton and Dyer, 'Seasonal Patterns of Trade', p. 180.

entered into an action against him.¹⁴¹ In the later fifteenth century, William Bastwik, a haberdasher of London, sent a fardel (a bundle or parcel) with various wares worth ten pounds to Lenton Fair, but a waterman of Ely delivered it to Cambridge by mistake.¹⁴² Nonetheless, we must assume that fairs were generally a secure means of trade, or the largest events would have been unlikely to attract goldsmiths, silkwomen, and pewterers.

Traditional models of retail development saw fixed shops replacing fairs, markets, and itinerant tradesmen, as economic development and urbanization transformed retailing from being primitive, local, and fragmented to large-scale, integrated, and modern. The basis of these assumptions has now been challenged by the early presence of fixed shops such as those found in twelfth-century London and Winchester, as well as the continued importance of markets, fairs, and itinerant retailers into the eighteenth century. Retail circuits of formal and informal trade complemented each other, and late medieval fairs co-existed with the presence of specialized fixed shops and the growth of London, as they continued to do throughout the early modern period.¹⁴³

The greatest advantage of fairs was their capacity to respond readily to changes in the character, pattern, and intensity of trade.¹⁴⁴ Fairs could be quickly established to meet specific opportunities, as well as adapting to longer term changes in market networks. This meant that fairs were well placed to respond to the growing consumption demands, particularly among the middling and lower classes, a consequence of improving standards of living after the Black Death. These consumption demands led to the development of new trading networks which regional fairs adapted to serve, including cloth production in urban and rural areas, the livestock trade between urban butchers and country farmers, the fishing industry of Devon, and saffron cultivation in Essex and Cambridgeshire. Fairs provided a recreational function at a time when rising incomes offered opportunities for greater leisure time and a wider range of entertainment. The importance of provincial fairs in distributing goods is also illustrated by the attempts by London companies to exercise rights of search and to prohibit their members from attending. By offering economies of scale and scope, and security and redress for buyers and sellers, fairs were linked to the wider patterns of local and regional production and trade in late medieval England.

¹⁴¹ Kew, TNA, C1/856/58.

¹⁴² Kew, TNA, C1/32/381.

¹⁴³ Blondé and others, 'Retail Circuits and Practices'.

¹⁴⁴ Epstein, 'Regional Fairs', p. 470.

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THE COAL INDUSTRY IN THE LATER MIDDLE AGES: THE BISHOP OF DURHAM'S ESTATES

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The topic of this paper relates to two of John Hatcher's areas of research: the early coal industry and fifteenth-century economic development. His history of the British coal industry before 1700 contains many pioneering observations on the medieval period, many of them deriving from work on the Durham accounting material. His paper on the mid-fifteenth-century slump carries a number of important implications for what to expect when looking at an industry, like coal mining, that depended heavily upon mercantile trade.¹ Examining the bishop of Durham's income from coal in the late Middle Ages brings these two concerns together in the context of a single lordship and its revenues. After the Black Death, revenues from coal became a larger element in the income of many northeastern landlords, and the bishop of Durham's vast estate, which was one of the most successful in developing coal as a significant source of income, is well documented from this time onwards. Coal was not yet a matter of prime importance for the bishop; at no point, to judge from contemporary surveys of episcopal income, the so-called 'valors,' did income from coal amount to more than about seven per cent of the total (Table 29). There are nevertheless numerous indications that during the two hundred years following the Black Death the bishop's officers were interested in the revenue to be obtained from their coal reserves, and their accounts demonstrate how they responded to the economic fluctuations that resulted from changing conditions of trade during this period, prior to the rapid expansion of the later sixteenth century.²

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¹ Hatcher, *The History of the British Coal Industry*; Hatcher, 'The Great Slump'.

² Hatcher, *The History of the British Coal Industry*, pp. 45–46.

Table 29. Coal revenues as a proportion of the total valor of the bishopric of Durham

Year	Total valor	Coal revenues	%
	in pounds (£), shillings (s.) and pence (d.)		
1463–64	£3052 5s. 10d.	£139 11s. 4d. (£220 5s. 4d.)	4.6 (7.2)
1477–78	£3743 1s. 4d.	£247 6s. 8d.	6.6
1508–09	£3226 2s. 4½d.	£180 0s. 4d.	5.6
1528–29	£3386 15s. 6¾d.	£240 10s. 0d.	7.1

Source: Durham, UL, CCB B/19/2, Durham, UL, CCB B/19/3, Durham, UL, CCB B/19/11, Durham, UL, CCB B/19/12.

Note: An alternative estimate is proposed for 1463–64 because the total recorded in the original *valor* includes only three month's income from Whickham.

The bishop's share of northeastern coal production is unknown, though it may at times have been as large as a quarter.³ It would be hazardous to generalize about the fortunes of the industry from his records alone, especially since they show that those of different pits depended upon their location on the coalfield. Nevertheless, the bishop's mines at Whickham and Gateshead were probably the largest on south Tyneside,⁴ and are consequently worthy of particular attention as indicators of the changing opportunities for coal-owners created by long-distance trade. At all times, some of the coal dug in the region travelled no further than local households. By the fourteenth century, however, demand for northeastern coal was growing rapidly, not only in London and eastern England but also in the Low Countries and parts of France. Coal was used for iron working by smiths, for other industrial purposes such as drying fish and lime-burning, and as a domestic fuel.⁵ To access such markets depended on the shipping of the Tyne and so, because of high overland transport costs, particularly benefited pits located near the river. Customs records of coal exports through the Tyne, even where they survive, supply only a very incomplete statistical profile of this trade because they do not record shipments to domestic markets accessible by sea further south in eastern England. It is fortunate, therefore, that we have direct information about the performance of some major mining centres whose output responded directly to commercial opportunities created by distant consumers.

³ Hatcher, *The History of the British Coal Industry*, pp. 76–77.

⁴ Galloway considered this a certainty: Galloway, *Annals of Coal Mining and the Coal Trade*, p. 49.

⁵ Blake, 'Medieval Coal Trade', pp. 2–16; Galloway, 'An Account of [...] Working of Coal'; Hatcher, *The History of the British Coal Industry*, pp. 22–28.

Our understanding of the development of mining in the region as a whole is also helped by the fact that the bishopric records allow a detailed examination of the origins of the men who leased and managed coal resources. The social origins of entrepreneurship in industry and mining since the sixteenth century have long constituted a principal field for research in economic history, much of it engaged with Max Weber's hypothesis relating capitalist enterprise in Europe and America to the Protestant spirit of committed asceticism and resolute virtue.⁶ However, even if less committed, ascetic, resolute, or virtuous than their successors, there were eager businessmen before the Reformation. The development of coal mining on the bishop's estates is sufficiently well documented, to permit enquiry into the social origins of the men who took charge of it. Besides recording those who leased and operated the bishop's own pits, there are numerous references to the activities of other coal-owners. There is every reason to suppose that the evidence of the bishop's accounts is representative of patterns of enterprise across the coalfield.

The bishop most commonly leased his mines for fixed annual sums of money. In the early fifteenth century, lessees normally paid their rents to the bishop's master forester, who then accounted to the receiver general; this was still to be the case at the time of the first surviving master forester's account from about 1437–38.⁷ By the last quarter of the fifteenth century the master forester's accounts do not contain any details of such rents which were now charged to the account of the receiver general.⁸ This is fortunate since there are many more surviving accounts from receivers general than there are from master foresters. These accounts are conserved with other bishopric records in Durham University Library.

⁶ The sociological and economic rationale for these studies was set principally by two works translated from German into English in the 1950s: Schumpeter, *The Theory of Economic Development*, trans. by Opic; Weber, *The Protestant Ethic*. For the development of entrepreneurship as a specialized field of historical research, see Hughes, 'Arthur Cole and Entrepreneurial History'.

⁷ Durham, UL, CCB B/83/1. All Durham, UL, CCB references are to documents in Durham University Library.

⁸ 'He does not answer here for the rent of the lord's coal mines in the bishopric of Durham during that time because they are charged to the receiver general's account for those two years' (De firma minerarum carbonum domini infra episcopatum Dunelm' videlicet per tempus predictum non respondet hic eo quod onerantur in compoto receptoris generalis pro duobus annis predictis); 'He does not answer for the rent of all the lord's coal mines in the bishopric of Durham during that time because they are charged to the receiver general's account' (De firma omnium minerarum carbonum domini infra episcopatum Dunelm' per tempus predictum non respondet eo quod onerantur in compoto receptoris generalis): Durham, UL, CCB B/83/2 (1484–86), and Durham, UL, CCB B/83/4 (1492–93).

However, the mines were not invariably leased out. For reasons rarely stated in the estate records themselves, they were sometimes in the hands of agents who accounted directly to the bishop for the profits and received some appropriate remuneration. A man responsible for the direct management of mines was described as an *appruator* rather than *serviens*, the word that would be used in manorial accounts for his agricultural equivalent. The word can mean 'improver', but is perhaps best translated simply as 'manager', since mines were sometimes under management (*in appruamento*) for purposes other than the implementation of new investment; in some cases the lord had simply been unable to find a suitable lessee. Mines in the hands of managers are recorded throughout the period before 1550. Though the income they generated was often in practice recorded in the receiver general's account, this was not invariably the case. Their accounts were often drawn up for irregular periods, with conditions that did not fit well into the bishopric's annual accounting procedures. For instance, the master forester's account of 1437–38 begins by disclaiming responsibility for £112 13s. 4d. from the Railey mines because William Askeby, the lord's manager there, would answer for this income in his account. In the later fifteenth century the sums arising from directly managed pits were probably recorded each year in a register called the book of great receipt (*librum magne recepte*), a series that has not survived except for the year 1460–61.⁹ In calculating the bishop's income from coal mining, whether from individual mines or in total, years when the information is deficient for this reason have to be omitted, since there is no independent means of assessing the missing payments.¹⁰ It is not usually difficult to identify years in which evidence is suspect; a receiver general would normally explain the absence of particular sums from his account. In 1492–93, for example, he accounted for only forty pounds from the Railey pits on the grounds that the mines were in the lord's hands in the second half of the year.¹¹

Because rents for coal were variable from year to year, the receiver general usually entered what he had actually received, and the problem of fictitious receipts that often bedevils fifteenth-century accounts hardly occurs. There are a few instances of his being allowed to write off sums credited to the account, but they are sufficiently rare to make little difference to the overall figures. No account has been taken of them in the following arguments. Some of the sums written off in this way were retrospective, being uncollected arrears rather than

⁹ Durham, UL, CCB B/26/1.

¹⁰ This explains why the data used in Figures 54–58 do not always represent the same years.

¹¹ Durham, UL, CCB B/3/25.

current income, and relate to years whose income is not in any case recorded. In some cases it is unclear in which year or years the income in question was due. In other cases the allowances in question ought not to be deducted from receipts because they balanced expenditure deducted at source on the bishop's behalf.¹²

Resources and Income

Coal mining on the bishop's estate throughout this period was based in two parts of the Durham coalfield, south Tyneside, and the southwestern Durham fells, where coal measures were nearest the surface. None of the bishop's other coal leases, scattered around the Wear Valley, amounted to anything of significance; they were mostly no more than small pits leased for a few pounds or less. A master forester's account for 1437–38, for example, records rents from leases of coal at Chester-le-Street (£2), Ryton (£1 6s. 8d.), Iveston, and Newbigging (£1 6s. 8d.), and at 'Camehill' (£1), to a total of £4 13s. 4d., at a time when the Whickham and Gateshead mines often brought in nearly £100 a year and the Railey mines were routinely leased for £112 13s. 4d. Such minor centres were liable to be transitory. This account also records lost income from mines at Wooley Hill (Brancepeth) and Chowdene (Gateshead) that were in the lord's hands in the later 1430s for want of a tenant, at Kimblesworth and Stanley Burn (Lanchester) that were 'altogether waste', and at Frankland (St Oswald, Durham), Middlewood, Benfieldside (both Lanchester), and Cong Burn (Chester-le-Street) that were 'waste in the lords' hand'.¹³ These small pits did not account through the receiver general until the 1470s.¹⁴ Pits at 'Camehill' and 'Brome', from which the bishop

¹² As in 1453–54: 'And he is allowed £26 13s. 4d. accountable by Thomas Castell, lessee of Gateshead coal mine for the said sixteenth year, because this amount of money was paid to Thomas in part payment of a larger sum owed him by the lord for wine, various items of merchandise and other things, as shown in an itemized list submitted by Thomas, delivered and examined as an attachment to this account, and remaining in the Durham chancery' (Et (allocantur) eidem xxvj li. xiiij s. iiii d. pendentes super Thomam Castell firmarium minere carbonum de Gatesheuede de dicto anno xvj^o vt pro tot denariis eidem Thome solutis in partem solucionis maioris summe per dominum sibi pro vino ac diuersis marcandis et aliis diuersis causis debite vt patet per quandam billam de parcellis eiusdem Thome super hunc comptotum liberatam et examinatam et in cancellaria Dunelm' remanentem): Durham, UL, CCB B/1/7.

¹³ Durham, UL, CCB B/83/1; Louis and Vellacott, 'Mining', p. 323. The figure for 1437–38 in Figure 54 is an isolated one from this account.

¹⁴ This is deduced from the fact that the coal rents from minor pits recorded in the forester's account of 1437–38 are not recorded in the surviving receiver general's accounts of

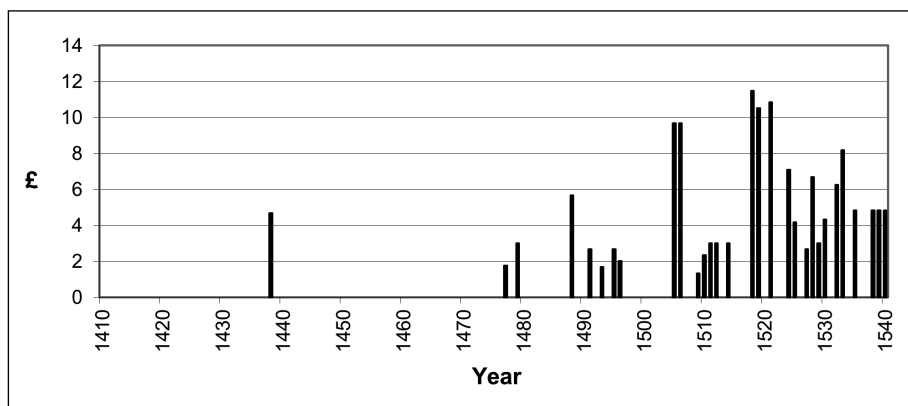


Figure 54. The bishop of Durham's income from pits away from the Tyneside and Railey groups, 1416–1540

received less than £1 a piece, occur in 1476–77,¹⁵ and from then on a scattering from year to year of small ventures became normal, but the combined income of all such ventures outside the core regions never exceeded £12 before 1540 in any surviving account, and was usually much less (fig. 54).

By the later thirteenth century numerous coal workings were responding to opportunities for trade; the prior of Durham was shipping coal by 1269, and the bishop was receiving a small income from coal working by 1274–75.¹⁶ The bishop's Tyneside properties of Whickham and Gateshead had the advantage of being the nearest parts of the palatinate to the River Tyne and the port of Newcastle. From at least the earlier fourteenth century, a few residents of the bishop's borough of Gateshead were engaged in mining activities; the bynames of Robert Hewer and John Collier suggest employment digging for coal, and some Gateshead's bailiffs engaged in the coal trade.¹⁷ Coal producers in Whickham and Gateshead increasingly took advantage of such opportunities for water transport as were available. When the bishop leased coal at Gateshead to John Plummer and Walter of Hesleden in 1364, he allowed them timber from Gateshead Park not only for work at the pit but also for constructing staithe on the bank of the Tyne.¹⁸

1434–35 or 1438–39 (Durham, UL, CCB B/1/5, Durham, UL, CCB B/1/6).

¹⁵ Durham, UL, CCB B/2/23.

¹⁶ Blake, 'Medieval Coal Trade', p. 24; Louis and Vellacott, 'Mining', p. 321.

¹⁷ Britnell, 'Medieval Gateshead', pp. 152, 165.

¹⁸ Galloway, 'An Account of [...] Working of Coal', pp. 189–90.

The importance of proximity to the river is demonstrable from the high cost of overland transport, even from these favoured pits. The cost of carrying a unit of coal to staites on the Derwent from the Eastgrove pit at Whickham in 1457–58 exceeded the costs of hewing and extracting it, seven shillings a keel as against five shillings.¹⁹ The keel as a measure, usually twenty chaldrons,²⁰ was unambiguously derived from the name of a type of boat.²¹ It was already in use for measuring coal on Tyneside by the 1350s.²²

The multiplicity of different operations in this part of the coalfield is indicated by the bishop's receipts of 'wayleave' rents from other producers who paid for licence to carry coals over his land, recorded in the receiver general's accounts from the 1470s. In 1476–77 John Cook of Newcastle paid £20 for wayleaves across the bishop's land to carry coal from pits belonging to the nuns of Newcastle,²³ and the prioress herself was paying £10 for this right from the later 1480s.²⁴ In the later 1490s and early 1500s the master of St Edmund's Hospital in Gateshead was similarly paying the bishop for wayleave rights.²⁵ Other such rents occur from the 1490s, but the income from this source was always erratic and showed no upward tendency; the highest recorded total income from wayleave rents was £30 in 1478–79 (fig. 55).²⁶

The Tyneside mines were sometimes leased en bloc, but arrangements varied almost from year to year; Whickham and Gateshead were often leased separately, and new developments were likely to constitute separate ventures. In 1434–35, for example, the Whickham mines described as 'north of the burn' were leased to John Forester and his partners for £26 13s. 4d., and a new mine there was leased to John Clerk and his partners for three years; the Gateshead mines were mean-

¹⁹ Durham, UL, CCB B/79/1.

²⁰ The sea chaldron was a volumetric unit equivalent to 6.5 quarters or 52 bushels, and was about equivalent to 25 hundredweight (cwt) or 1270 kg by weight: Hatcher, *The History of the British Coal Industry*, pp. 565, 567.

²¹ *Oxford English Dictionary*, under keel, *sb.*², 1.b.

²² Kew, TNA, Durh. 3/30, m. 11d.

²³ Durham, UL, CCB B/2/23.

²⁴ Durham, UL, CCB B/3/25, Durham, UL, CCB B/3/29, Durham, UL, CCB B/3/30, Durham, UL, CCB B/3/32, Durham, UL, CCB B/3/33, Durham, UL, CCB B/3/34, Durham, UL, CCB B/3/38, Durham, UL, CCB B/4/39, Durham, UL, CCB B/4/39A, and Durham, UL, CCB B/4/41.

²⁵ Durham, UL, CCB B/3/32, Durham, UL, CCB B/3/33, Durham, UL, CCB B/3/34, Durham, UL, CCB B/4/39, Durham, UL, CCB B/4/39A, and Durham, UL, CCB B/4/41.

²⁶ Durham, UL, CCB B/2/24.

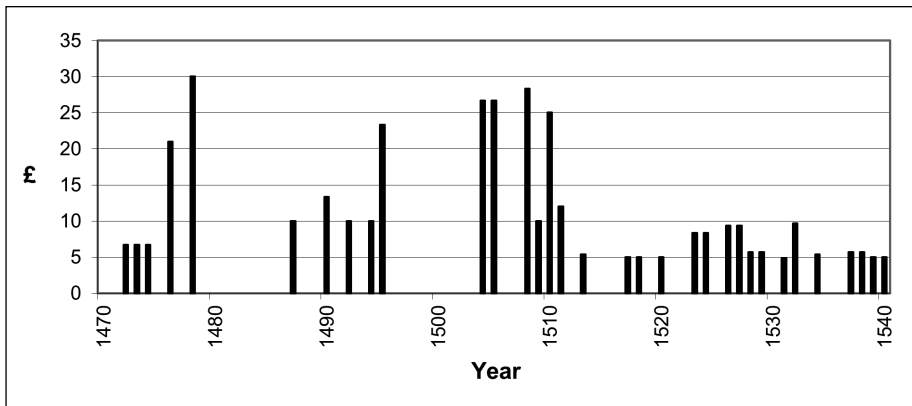


Figure 55. The bishop of Durham's income from wayleaves, 1472–1540

while separately leased by Robert Swynburn and his partners for £66 13s. 4d.²⁷ However, the year 1434–35 was exceptionally lucrative. Frequent changes of contractual arrangements, as well as unstable demand in markets served from the Tyneside pits, meant that income from Whickham and Gateshead leases fluctuated widely, though it rarely rose above £70 all told before the second decade of the sixteenth century (fig. 56).

By the time of the earliest surviving receiver general's accounts, meanwhile, the principal area of activity on the bishopric estates lay across moorlands above the Wear Valley in southwest Durham near Bishop Auckland. Mining activity there is associated most commonly in the bishop's records with Railey Fell and Tofts in Etherley south of the river, but also involved other pits at Hargill to the north and Grewburn and Cold Hurst to the west. There was coal working in this area already by the later fourteenth century, and the practice of managing Railey, Cold Hurst, and Hargill as a group was established at least as early as 1367; in that year Bishop Thomas Hatfield remitted all legal claims for waste and trespass in these mines against four men with whom he had been in conflict.²⁸ The heart of the Railey mining area was probably the burn marked on the Ordnance Survey map as Railey Shank, where aerial photographs imply considerable disturbance

²⁷ Durham, UL, CCB B/1/5.

²⁸ Durham, CRO, D/Lo/F 26, drawn to my attention by Liddy, *The Bishopric of Durham*, p. 54. At this time, as in the earlier fifteenth century, the Railey lease of coal mines also included Heatherycleugh in Stanhope parish, but this was off the coalfield, in the heart of the lead-mining area, and can never have produced coal.

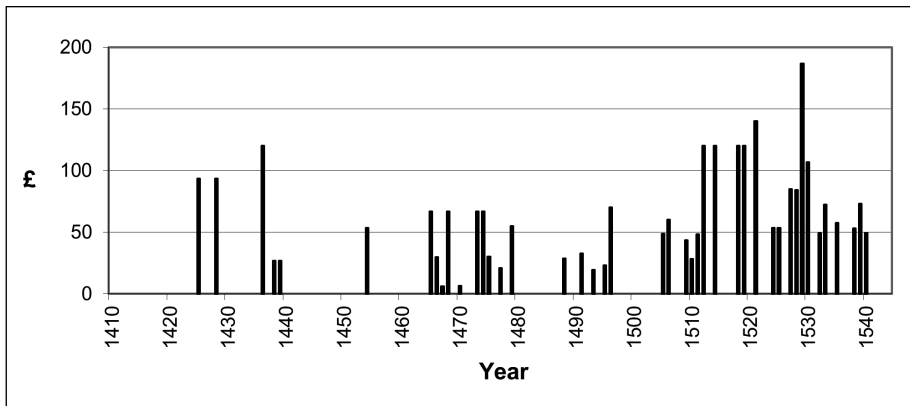


Figure 56. The bishop of Durham's income from the Whickham and Gateshead mines, 1416–1540

of the ground surface.²⁹ The name Railey is otherwise lost; it is not clear whether it was ever the name of an agricultural settlement.³⁰

The Railey pits were so land-locked that their prominence is problematic. The greater importance to the bishop of the income from coal here had more to do with the extent of his resources than with the commercial opportunities offered by their location. Here he had sufficient control over the market to attempt monopolistic tactics. This is indicated by the fact that in 1487–88 the bishop's council agreed to rent Finchale Priory's mine at Softley in order to take it out of production.³¹ Again, and more expensively, in 1490 they similarly leased mines of the Earl of Westmorland for £22 a year, either to take them out of production

²⁹ Ordnance Survey grid reference NZ 13432880.

³⁰ Watts, *A Dictionary of County Durham Place-Names*, p. 100.

³¹ 'Likewise paid by agreement to the prior of Finchale for a coal pit at Softley, taken by the lord's council so that no coals should be taken from that pit by command of the chancellor and others of the lord's council [...] twenty shillings' (Item soluti priori de Fynkhaugh pro quodam puteo carbonum apud Softle per concilium domini capto ex conuencione sic quod nulli carbones extrahentur de dicto puteo per mandatum cancellarii et aliorum de concilio domini [...] xx s.): Durham, UL, CCB B/3/30. 'And paid on 5 December to the prior of Finchale for a coal pit of his at Softley in order that he should not extract coal there to the loss or harm of the sale of coal at Railey this year, through the said book (i.e. the Book of Great Receipt)' (Et soluti quinto die Decembris priori de Fynkelhaugh pro quodam puteo suo carbonum apud Softley causa vt nullos carbones ibidem traheret ad perdicionem siue lesionem vendicionis carbonum apud Raile hoc anno per dictum librum): Durham, UL, CCB B/3/31.

or to eliminate price competition.³² This clearly implies a concern with the pits here as a commercial venture whose profitability depended upon the price of coal. Unlike the Tyneside area, there were no wayleave rents from the southwestern fells. There is even evidence of the bishop's officials having engineered obstructions to the conveyance of coal by a rival interest: in 1476–77 Richard of Gloucester organized on their behalf the blocking of a road in or near Escombe by which coal had been conveyed from a pit belonging to the Earl of Westmorland.³³

At least some output from the Railey group of pits went to supply the bishop's castle, five miles (about 8 km) to the east at Bishop Auckland; Sir William Eure's leases during the 1450s obliged him to supply the bishop at a fixed price with as much coal as he required.³⁴ The Eures presumably also supplied their own household at Witton Castle. Nevertheless, an account of the workings at Hargill for seventeen weeks in 1460 records sales totalling 1234 chaldrons of which only fifty chaldrons (four per cent) derived from sales to the bishop's household and none from supplying the Eures. The rest was sold to various local residents (*diversis hominibus patrie*).³⁵ The same expression is used in describing sales from Railey in the same period. Between 2 April and 14 June 1460, the operators sold 52½ chaldrons to the dean of Auckland for the use of his household but no mention is made of the use of coal by the bishop's household, and 609¼ chaldrons 1 bushel (609.38 chaldrons) are simultaneously recorded as sold to local residents; the dean's consignments were about seven per cent of the total. It is possible that the coal sent to the dean was a fictitious sale, since later accounts show that he received the coal tithes from Railey.³⁶ During the following six months the workings at Railey disposed of 2395½ chaldrons 3 bushels (2395.59 chaldrons) of which 47½ chaldrons went to the bishop's household and 8¾ chaldrons to the dean of Auck-

³² Durham, UL, CCB B/3/29, and similarly Durham, UL, CCB B/3/31, Durham, UL, CCB B/3/32. On this point, see also Hatcher, *The History of the British Coal Industry*, p. 76.

³³ 'And paid to Thomas Merley, the duke's personal servant, for his remuneration and expenses when he rode at the duke's command to Escomb to block and close off a road used by various people as a short cut over the lord bishop's soil with their carts carrying coals from the earl of Westmorland's pit called Wodefeld, 13s. 4d.' (Et soluti Thome Merley valetto ipsius ducis pro regardo et expensis suis equitanti ex mandato ipsius ducis vsque Escombe ad obstupandam et recludendam quamdam viam pro diuersis personis indirecte vsitatam vltra solum domini episcopi cum carectis suis cariantibus carbones a puteo comitis Westmerl' vocato Wodefeld, xij s. iiij d.): Durham, UL, CCB B/2/23.

³⁴ Pollard, *North-Eastern England during the Wars of the Roses*, p. 76.

³⁵ Durham, UL, CCB B/79/2.

³⁶ Durham, UL, CCB B/79/10, Durham, UL, CCB B/79/12; Nef, *The Rise of the British Coal Industry*, I, 137.

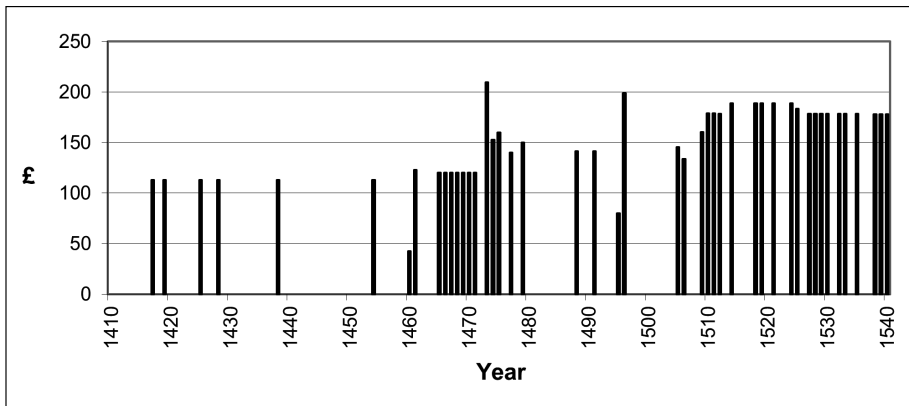


Figure 57. The bishop of Durham's income from the Railey group of mines, 1416–1540

land, amounting together to only 2.3 per cent of the total. That large amounts of coal could be marketed in this way is attested by accounts from the opening years of the sixteenth century, which record sales over two years totalling £282 3s. 0d. made from Railey and Grewburn pits entirely 'to various people coming to the said mine with their means of transport', in other words at the pithead. The quantity of coal in question was probably about 17,500 tons.³⁷ A schedule of sales from Railey between Christmas 1460 and 12 January 1461, a period of less than three weeks, records sales of 23¾ chaldrons 7 bushels (23.97 chaldrons) to twenty-five householders from Stockton, Houghton-le-Side, West Auckland, St Helen Auckland, North Auckland, Woodhouse, Evenwood, Eldon, Coundon and Escomb. The consignments vary between five loads costing 5d. each and eight waggonloads costing 6s. 8d. each. The list gives no indications of industrial usage: one buyer was Thomas Smythson of Escomb, but he bought only a single wagonload whilst William Gregge of Stockton, who bought four wagonloads, was a chaplain. These sales imply dependence upon local household demand served by land transport in this part of the coalfield; the pits never used the keel as a measure.³⁸

Scattered though it was, the Railey group of mines was managed for the bishop as a single lease, usually accounting for over half his total income from coal. The

³⁷ Durham, UL, CCB B/79/10, Durham, UL, CCB B/79/12. These record sales from the two pits of 292,630 corves, each of 2.5 bushels, so 91,447 quarters. This converts to 14,068 sea chaldrons. For the conversion to ton(ne)s, see n. 20 above.

³⁸ See too the observations by John Leland cited in Hatcher, *The History of the British Coal Industry*, pp. 74–75.

income here was much more regular than from the Whickham and Gateshead pits. In the second quarter of the fifteenth century the usual lease of the Railey mines was for £112 13s. 4d. Between 1461 and 1470 they fetched £120 a year, again by a single lease. The value of the lease then rose to new heights, and was regularly over £175 a year between the 1510s and the 1530s (fig. 57).

We should expect commercial activity on the Durham coalfield in the Middle Ages and later, to centre on Tyneside, and so it did. The fact that the inland pits were more important to the bishops had more to do with the episcopal share of available resources than with the commercial opportunities of the location. There were many more landlords profiting from mining within easy access of the river than in the land-locked southern Durham coalfield. The contrast between the two regions helps to account for way the bishop's coal interests developed in the late Middle Ages. The Tyneside pits, following a severe long-term decline in income in the early fifteenth century, paid the bishop less at any time before 1540 than they had in the mid- and later fourteenth. A lease of 1356 reserves to the bishop a rent of five hundred marks, or £333 6s. 8d. By fifteenth-century standards this sum looks like wishful thinking, but according to Robert Surtees it renewed an earlier twelve-year lease from Bishop Richard of Bury to the same lessees for the same sum.³⁹ Any such lease must have dated from before Bishop Richard died on 14 April 1345, which suggests that it ran its full term for the twelve years from Martinmas 1344 to Martinmas 1356. The surviving rolls of Richard of Bury no longer include this lease, but Surtees used these rolls sometime before 1820, over thirty years before the records were submitted to the control of the master of the rolls, and over fifty years before they were removed to the Public Record Office, having long been in a bad state.⁴⁰ The fact that Surtees gives no details of the lease in question suggests that the record was already incompletely legible when he saw it. If we accept Surtees' testimony, as we surely should, the rent imposed in 1356 was not speculative. There are other indications that a rent of over £300 from the bishop's Tyneside coal in the later fourteenth century was not out of the question. In 1383, for instance, Bishop Fordham was able to give the king three hundred keels of coal from Gateshead, that is about six thousand chaldrons, worth £360 or more.⁴¹ In 1392 the Bishop Skirlaw was paid £312 by the mayor of Newcastle for two hundred and sixty keels of coal, presumably from the Tyneside

³⁹ Surtees, *The History and Antiquities of the County Palatine of Durham*, II, 239.

⁴⁰ The archival history of the episcopal records is surveyed in Lapsley, *The County Palatine of Durham*, pp. 327–29.

⁴¹ Blake, 'Medieval Coal Trade', pp. 23–24; Lapsley, *The County Palatine of Durham*, p. 284.

mines, and perhaps representing the vend for the year.⁴² All these sums are over twice any recorded annual leasehold value of the Tyneside mines in the fifteenth century. If they are any guide to the fortunes of these pits in the later fourteenth century they imply a severe fall in revenue between the 1390s and the earliest surviving accounts in the second decade of the fifteenth century.

Table 30. Exports of coal from Newcastle, 1377–82 and 1454–1500 (documented years)

Period of the account	Weeks	Chalders exported
1377–82		
Michaelmas 1377 – Michaelmas 1378	52	7,320
Michaelmas 1380 – Michaelmas 1381	52	5,356
Michaelmas 1381 – Michaelmas 1382	52	4,906
30 November 1390 – 30 November 1391	52	4,893
1454–1500		
29 September 1454 – 31 March 1455	26	83
20 November 1456 – 17 May 1457	25	52
10 May 1461 – 18 February 1462	41	94
4 March 1465 – 11 April 1466	58	2450
12 April – 20 December 1481	36	663
28 Oct. 1488 – 29 September 1489	48	575
29 September 1494 – 29 September 1495	52	881
29 September 1499 – 29 September 1500	52	1027

Sources: Blake, 'Medieval Coal Trade'; *The Customs Accounts of Newcastle*, ed. by Wade.

The reason why the Tyneside pits took the full shock of the decline in coal revenues between the late fourteenth century and mid-fifteenth can be explained by reference to a collapse in coal exports, perhaps accompanied by a corresponding contraction of coastal trade. The export figures for the years 1377–78, 1380–81, and 1381–82 are over twice as high as the best recorded year of the later fifteenth century (Table 30). The export trade collapsed to the point that in the 1450s and early 1460s total annual exports through Newcastle were about equivalent to a week's output from Whickham in this period. This decline can be explained by a reversion within a couple of generations after the onset of plague epidemics to reliance on traditional, preferable and locally acquired fuels.⁴³ The coal industry

⁴² Liddy, *The Bishopric of Durham*, p. 56.

⁴³ 'Coal in the mid-fifteenth century was produced for a strictly limited market': Pollard, *North-Eastern England during the Wars of the Roses*, p. 76. For coal as an inferior good, see

had developed in the later thirteenth and early fourteenth centuries, seemingly rapidly, to meet regional fuel crises.⁴⁴ South of the Tyne the increase in coal production had seemingly been very rapid.⁴⁵ However, this crisis passed, first as the number of households was reduced by plague epidemics, secondly as woodlands on the Continent, and England further south, regenerated during the second half of the fourteenth century. This interpretation is consistent with the Durham evidence that the Railey group of mines, which depended on a local market, performed better in the mid- and later fifteenth century than the Tyneside mines, much of whose output had once travelled further afield.⁴⁶

Was there a mid-century recession on top of this earlier fifteenth-century contraction? The surviving evidence is barely adequate to answer the question but it does suggest that the low export figures of the 1450s and early 1460s corresponded to a trough in the bishop's income from coal. Mining at Gateshead, which had been in evidence since at least the 1350s, disappears altogether from all the receiver general's accounts between 1453–54, when the rent was £26 13s. 4d., and 1474–75, when a new pit there rented for £30. Possibly Gateshead pits were accounting elsewhere, but the receiver general might be expected to have said so; it is improbable that the records would contain no reference to Gateshead coal in this period of about twenty years if it was being dug there. Even income from the Whickham pit was low during the 1460s. In 1460–61, during the war in the North, when the mine there was in the bishop's hands, the receiver general obtained nothing from the manager there 'because he received no money from him'. The mine was successfully leased to a Newcastle merchant in 1464–65 for £66 13s. 4d., but in the following year there was again no income from Whickham.⁴⁷ Again in 1466–67 the receiver general received nothing from Whickham except from a small lease of £6 to William Counce and Thomas Wakefeld; a large new pit there was in the lord's hands and yielding no profit.⁴⁸

Hatcher, *The History of the British Coal Industry*, pp. 39–40; Nef, *The Rise of the British Coal Industry*, I, 12–13.

⁴⁴ Hatcher, *The History of the British Coal Industry*, p. 21.

⁴⁵ Bishop Bek's receipt roll of 1307 suggests that the bishop's exploitation of coal had barely begun: *Boldon Buke*, ed. by Greenwell, Appendix, pp. xxvi, xxviii; Galloway, *Annals of Coal Mining and the Coal Trade*, p. 24; Louis and Vellacott, 'Mining', p. 321.

⁴⁶ This does not imply that there was no contraction of local demand: Dodds, *Peasants and Production*, pp. 108–09.

⁴⁷ Durham, UL, CCB B/2/11 and Durham, UL, CCB B/2/12.

⁴⁸ 'He does not answer this year for any profit issuing from the mine of the large new pit there because it lies in the lord's hand and no profit derived from it during the period of

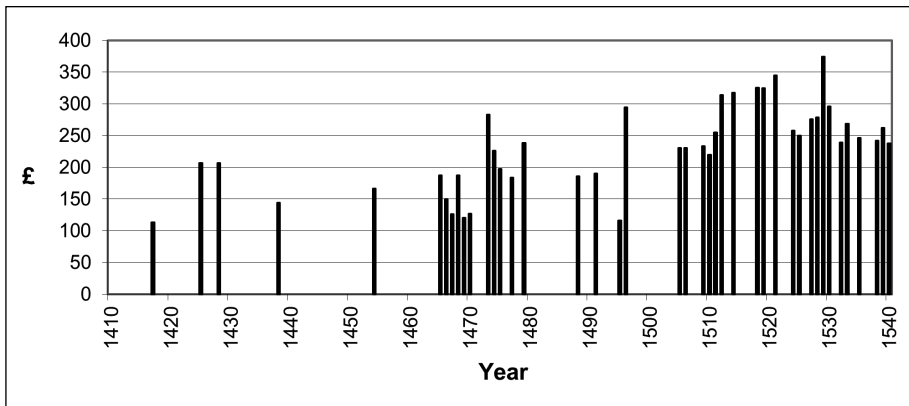


Figure 58. The bishop of Durham's total income from coal, 1416–1540

This implies, though, that by this time the bishop was planning new operations. The Wickham mine was duly leased and operational in 1467–68.⁴⁹ The impressive feature of this evidence is that the Tyneside pits continued to fare so significantly worse than the inland Railey group of mines in the context of disrupted trade.

Figure 58 puts together the various sources of income from coal during the fifteenth and early sixteenth centuries, omitting years when there is missing data. The totals before the 1470s may be slightly reduced by the omission of some small pits from the receiver general's receipts, but the figures nevertheless suggests an increase in revenues from coal during the 1470s, and the another increase in the 1510s, perhaps following a dip. Yet even the increase of the 1470s had nothing to do with the bishop's operations on Tyneside. The receiver generals' accounts show that though Gateshead resources were brought back into production in 1474–75 there was simultaneously a contraction of activity at Wickham that left the overall level of income from the Tyneside pits no higher than it had been before.⁵⁰ The account of 1474–75 is specific that the £30 received from Gateshead coal was from a new pit and that nothing was received from Wickham because the mine lay unoccupied.⁵¹ The overall increase may be partly accounted for by

the account' (*De aliquo proficuo prouenienti de minera noui magni putei ibidem hoc anno non respondet eo quod iacet in manu domini et nullum proficuum inde prouenit per tempus comoti*): Durham, UL, CCB B/2/13.

⁴⁹ Durham, UL, CCB B/2/14.

⁵⁰ Durham, UL, CCB B/1/8 to Durham, UL, CCB B/2/21.

⁵¹ Durham, UL, CCB B/2/22.

the transfer to the receiver general's account of income from small pits and wayleave rents that had previously been recorded elsewhere, although it is possible that these were new sources of income. They derived chiefly, however, from an increase in the rents from the Railey group of pits after about 1472. If the increase in revenues in the 1470s corresponds to an improvement in trading conditions following the end of the war in the North and the beginnings of recovery from the mid-fifteenth-century slump, then that recovery owed more to local demand than to coastal and overseas trade. The surge of the 1510s, by contrast, was associated with a revival of activity on the Tyneside manors, both in Whickham and Gateshead, as well as with increased rent from the Railey group. This recovery was nevertheless halting. The peak income in 1528–29, which masks the fact that total income was usually lower after 1521 than before, may represent a simple quirk of accounting, since it is entirely explained by the fact that the receiver general attributes twice the normal rent to the Gateshead mines. The entry is unique, and may simply signify that the lessees, by an unusual contract involving a London merchant, had contracted to delay payment of the previous year's rent.⁵² Alternatively, it may represent a temporary response to Wolsey's urgent demand for fuel for lime-burning to construct his doomed college at Ipswich.⁵³ In any case, this and 1520–21 are the only documented years before 1540 when the bishop's total income from coal reached the sum he had received in the mid-fourteenth century from Whickham alone.

Operations, Management, and Enterprise

The bishops accounts use the word 'mine' (*minera*) in a variety of ways, often to refer to a particular mining location, so that it is not easy to know whether activity involved one large pit or many small ones. However, there were some pits that were large for their period in both principal mining locations. A single pit at

⁵² 'And he answers here for ['nothing' inserted] from all the lord's coal mines at Gateshead that are now leased to William Inskip of Gateshead for £133 6s. 8d. a year because this is to be answered for elsewhere to the lord in London by [John] Brake, merchant there' (Et de ['nihil' inserted] de firma omnium minerarum carbonum domini apud Gateshed que modo dimittuntur Willelmo Inskip de Gateshed pro cxxxiiij li. vj s. viij d. per annum non respondet hic eo quod respondendum est inde alibi domino London per [Johannem] Brake mercatorem ibidem): Durham, UL, CCB B/6/61. The first name of John Brake or Brewke, left blank in this account, is supplied from the next year's account, where he is recorded as leasing all the Gateshead mines for £66 13s. 4d. (Durham, UL, CCB B/6/63).

⁵³ Galloway, *Annals of Coal Mining and the Coal Trade*, pp. 84–85.

Table 31. Summary of the accounts of the Railey group of mines, 1502–03 and 1503–04

	1502–03	1503–04	Average
sales (tons)	8561	9397	8979
income (£)	282.15	314.25	301.20
costs (£)	135.96	153.38	144.67
surplus (£)	146.19	160.87	156.53

Source: Durham, UL, CCB B/79/10; Durham, UL, CCB B/79/12.

Whickham produced about 6500 tons in 1461–62.⁵⁴ The largest pits in the Railey group had shafts and underground workings, and so required hewers to dig the coal, barrowmen to carry it from the coalface to the bottom of the pit shaft, and drawers to lift it to the surface. In 1460 a labourer at the Railey mine was paid for mending an underground wheelbarrow route that had been stopped up with a fall of earth and stone, and this was not the only underground passage there.⁵⁵ Of three new pits in this part of the coalfield sunk in 1460, one at Tofts was of seven fathoms (about forty-two feet), one at Hargill of twelve fathoms (about seventy-two feet) and another at Railey of 17.5 fathoms (about one hundred and five feet).⁵⁶

Accounts survive for two consecutive years in the early sixteenth century when the Railey pits were being managed for the bishop by William Lee, who is variously described as *appruator*, *supervisor*, *computans*, and ‘bankeman’. These accounts show that a net surplus of £150–£160 could be generated by the mining of about 9000 tons of coal a year (Table 31). The accounts record no very significant heavy investment in the Railey pits, and seem to represent business as usual rather than a planned investment programme. Several small new pits were opened, but at no great expense, and Lee did not require any input of capital from the bishop to fulfil the tasks he had been set; his costs were all met out

⁵⁴ The pit produced 261 keels 5 chaldrons; the calculated weight of coal assumes that there were 20 chaldrons to the keel as in 1460 (Durham, UL, CCB B/79/5) and that the chaldron weighed 25 cwt, for which see n. 20.

⁵⁵ ‘And paid to John Harper, labourer, for one day, for restoring an underground wheelbarrow passage in that mine, hitherto blocked with earth and stones, 5d. And paid to John Taillour for restoring another wheelbarrow passage there, 2d.’ (Et soluti Johanni Harper laborario pro emendacione vnus vie semivectorie subtus terram in eadem minera antea cum terra et petris obstupata per vnum diem—v d. Et soluti Johanni Taillour pro emendacione alterius vie semivectorie ibidem—ij d.): Durham, UL, CCB B/79/4. See, too, Louis and Vellacott, ‘Mining’, pp. 324–25.

⁵⁶ Durham, UL, CCB B/79/2, Durham, UL, CCB B/79/3, Durham, UL, CCB B/79/7.

Table 32. Summary of costs of production at the Railey group of mines, 1502–03 and 1503–04

	1502–03 £	1503–04 £	Average £	Average %
Coalworking	94.05	104.93	99.49	68.77
Equipment	15.31	17.82	16.57	11.45
New pits	6.95	10.06	8.51	5.88
Management	15.50	16.42	15.96	11.03
Tithe	4.15	4.15	4.15	2.87
TOTAL	135.96	153.38	144.67	100

Source: Durham, UL, CCB B/79/10; Durham, UL, CCB B/79/12.

of income from the mine (Table 32). One small subordinate mine was sublet to Thomas Thomson during the first of the two years for a rent of £6, with licence to mine 10,000 corves of coal (about 600 tons). The rest of the operations were fully accounted for in Lee's accounts, which show that in each year his surplus of sales revenue over operational costs was about the same as the sum the bishop expected to receive when the mines were leased. Lee's remuneration as manager was modest; a lessee would surely have required a larger surplus than this before paying rent to compensate for greater risk, so a rent of £150 probably implied an output somewhat above 9000 tons. But this is as close as we get to a representation of normal operations.

Whether they were leased or managed directly, the bishop imposed a limit on the amount of coal that operators could take. Such control of lessees was required in order to prevent them from swindling the estate by uncontrolled mining activity; the quantity they were permitted to mine was no doubt negotiated along with the level of rent to be paid. For example, a twelve-year lease of the Whickham mines in 1356 specified that the lessees were not to mine more than a keel of coal a day.⁵⁷ Stints were similarly imposed on lessees of the Railey mines; an account from Hargill in 1460 shows a fixed output of fourteen chaldrons two bushels of coal a day.⁵⁸ Similar restrictions are apparent in the pit accounts of the mid-fifteenth century, presumably as a check on the accountability of pit managers, even though these mines supposedly returned to the bishop any surplus of sales over costs. Some accounts of the Moyr pit from 1500–01 state the allowance there as 'euery day xvj chalder of colles aftyr the pitt messure and aftyr the

⁵⁷ Kew, TNA, Durh. 3/30, m. 11d.

⁵⁸ Durham, UL, CCB B/79/2.

wattyre messure bott xij chalder eury day'.⁵⁹ This control explains an unreal feature of accounts for individual pits, which show the same team of pitmen operating every available work day, and producing a constant daily output; accounts for Whickham pits from 1457–58, 1460, and 1461–62 record hewers producing regularly a keel a day, week after week.⁶⁰ The point of such accounting was to demonstrate that sales did not exceed the agreed limit, rather than to record exactly what production schedule had been followed.

Given that the quantity of coal produced on the episcopal estate was subject to tight seigneurial regulation, we might envisage the bishops managing coal to increase their income for special purposes, or to make up income lost from other sources, rather as some landlords managed their timber. As we have seen, the changing level of the bishop of Durham's income from coal is incompatible with these possibilities, except perhaps in the short term. Though revenues from coal indeed compensated for some adverse economic consequences of the Black Death,⁶¹ they did not hold up for more than a few decades, and were seriously depressed during the great slump of the mid-fifteenth century. The falling income from coal at this time implies that those managing the bishop's estate were obliged to respond to declining commercial opportunities and the consequent unwillingness of entrepreneurs to take risks in pursuance of profit.

Not surprisingly, the development of mining at Whickham and Gateshead had attracted the interest of men of Newcastle, on the opposite bank of the River Tyne, for whom coal was a regular item of trade during the thirteenth century and became a major concern by the mid-fourteenth.⁶² John Plummer, who leased the Gateshead mine in 1364, was a burgess of Newcastle, in partnership with a burgess of Gateshead.⁶³ In 1372 the bishop appointed Nicholas Coke of Newcastle as his coal warden for Whickham and Gateshead, with responsibility for selling coal and accounting for the proceeds.⁶⁴ Newcastle merchants remained prominent in the operation of Whickham and Gateshead leases from then on. When the mines were in the bishop's hands, the coal was likely to be sold to Newcastle merchants,

⁵⁹ Durham, UL, CCB B/79/9.

⁶⁰ Durham, UL, CCBB/79/1, Durham, UL, CCBB/79/2, and Durham, UL, CCBB/79/3.

⁶¹ Dodds, *Peasants and Production*, pp. 85–89.

⁶² Galloway, *Annals of Coal Mining and the Coal Trade*, pp. 22–24; Fraser, 'The Economic Growth of Newcastle', pp. 43–44, 53.

⁶³ Galloway, 'An Account of [...] Working of Coal', pp. 189–90.

⁶⁴ Durham, UL, CCB B/204/244134 (a Public Record Office transcript from Kew, TNA, Durh. 3/31, m. 4).

as in 1424–25,⁶⁵ 1427–28,⁶⁶ 1434–35,⁶⁷ 1458,⁶⁸ and 1470–41.⁶⁹ An account of coal sold from Whickham between June and October 1500 lists twenty-three buyers, of whom nine occur in the Newcastle chamberlains' accounts of 1508–11 as hostmen, who supplied foreign merchants with coal.⁷⁰ Two more occur as exporters of coal from Newcastle in late fifteenth-century particulars of customs accounts, and another, Thomas Harrop, was shipmaster of the *Ann of Newcastle*.⁷¹ An account of the Moyr pit from November 1500 to July 1501 shows that all the coal dug there, 1692 chaldrons, was bought in bulk by four Newcastle merchants, Thomas Hill, William Wynship, John Snow, and Thomas Saunderson.⁷²

Newcastle men also occur frequently as lessees, particularly at Whickham, as Table 33 shows. Nine of those listed — William Alane, Henry Anderson, William Bacon, George Bird, John Cok, George Davell, Nicholas Hanyng, Alan Hardyng, and William Talbot — were demonstrably Newcastle merchants.⁷³ Robert Rodes, a retained member of the bishop's council *ad legem* in 1453–54,

⁶⁵ Coal from Whickham was sold by indentured agreement to Robert Swynburn (£21 9s. 7d.), John Wall, and William Stodhird (£11), and John Rodes and partners of Newcastle (£18), sums implying commercial rather than domestic sales (Durham, UL, CCB B/1/3).

⁶⁶ Coal was sold to John Joneson and Richard Hornese of Newcastle for £13 6s. 8d., and to Richard Dalton and Thomas Hybburn of Newcastle for £44 (Durham, UL, CCB B/1/4).

⁶⁷ The account for the following year records coal sold from Whickham to William Ellerby of Newcastle for £16 13s. 4d., of which he still owed £5 13s. 4d. (Durham, UL, CCB B/1/5).

⁶⁸ The account records £80 received for 82 keels of coal sold to John Stanford, William Bacon, John Cok, and Thomas Castell, merchants of Newcastle (Durham, UL, CCB B/79/1).

⁶⁹ The coal from Whickham, then *in appruamento*, was sold to John Cok and Nicholas Hanyng (Durham, UL, CCB B/2/17). For Cok, see n. 68. That Hayning was a merchant is attested in *The Customs Accounts of Newcastle*, ed. by Wade, pp. 18–19, 22, 24, etc.

⁷⁰ Edward Baxter, John Brandlyng, John Doddes, Thomas Harrop, William Hayrbred, Thomas Hyll, Edmund Jaklove, John Snow, William Wynship: Durham, UL, CCB B/79/8; *The Accounts of the Chamberlains of Newcastle*, ed. by Fraser, pp. xxi–xxiv, 262–66.

⁷¹ *The Customs Accounts of Newcastle*, ed. by Wade, pp. 89 (Roland Sothern), 197 (Thomas Saunderson), 219, 231 (Thomas Harrop).

⁷² Durham, UL, CCB B/79/9.

⁷³ For Cok and Hanyng see nn. 68 and 69 above. Other identifications are from Durham, UL, CCB B/1/4 (William Talbot); Durham, UL, CCB B/79/1, Durham, UL, CCB B/79/5, and Durham, UL, CCB B/79/6 (William Bacon); *The Customs Accounts of Newcastle*, ed. by Wade, pp. 212, 214, 216–18, etc. (George Bird), pp. 181, 186, 203, etc. (William Alane); *The Accounts of the Chamberlains of Newcastle*, ed. by Fraser, p. 145 (George Bird), pp. 9, 70, 150, 182, 228 (Alan Hardyng); *History of Newcastle and Gateshead*, ed. by Welford, II, 245–46 (George Davell, Henry Anderson); *Wills and Inventories*, ed. by Raine and others, I, 164–68 (Henry Anderson).

Table 33. Recorded lessees of Whickham mines, 1474–75 to 1538–39

1434–35	John Forester and partners; John Clerk and partners
1438–39	<i>William Talbot</i> and partners
1453–54	Robert Rodes
1458–59	<i>John Cok</i> and <i>William Bacon</i>
1464–65	<i>Nicholas Hanyng</i>
1466–67	Thomas Wakefeld and William Counce
1467–68	<i>John Cok</i> , <i>Nicholas Hanyng</i> and partners
1469–70	<i>John Cok</i>
1472–73	<i>John Cok</i> , <i>Nicholas Hanyng</i> and William Counce
1473–74	<i>John Cok</i> , <i>Nicholas Hanyng</i> and William Counce
1476–77	John Hoton
1490–91	<i>George Bird</i> ; William Hall and Robert Blounte
1495–96	<i>George Bird</i> ; William H(all?); <i>William Alane</i>
1504–05	Robert Blounte and partners
1505–06	Robert Blounte and partners
1508–09	William Inskip and partners; <i>George Bird</i>
1510–11	Robert Heworth and partners
1511–12	Robert Heworth, Nicholas Harryson and <i>Alan Hardyng</i> ; <i>George Bird</i>
1513–14	Robert Heworth and partners; widow of <i>George Bird</i>
1517–18	Roger Lumley, esq.; Ann Davell
1518–19	Roger Lumley, esq. and John Lumley; Ann Davell
1520–21	Roger Lumley, esq.; <i>Alan Hardyng</i> ; <i>George Davell</i>
1523–24	<i>Henry Anderson</i> ; Richard Hedworth and partners; <i>George Davell</i> and his wife
1524–25	<i>Henry Anderson</i> ; Richard Hedworth and partners; <i>George Davell</i> and his wife
1526–27	<i>Henry Anderson</i> ; Richard Hedworth and partners; <i>George Davell</i>
1527–28	<i>Henry Anderson</i> ; Richard Hedworth and partners; <i>George Davell</i>
1528–29	<i>Henry Anderson</i> ; Richard Hedworth and partners; <i>George Davell</i>
1529–30	<i>Henry Anderson</i> ; Richard Hedworth and partners
1531–32	<i>Henry Anderson</i> ; Richard Hedworth and partners; William Tomlinson
1532–33	<i>Henry Anderson</i> ; Richard Hedworth and partners; William Tomlinson
1534–35	John Lumley and partners; Richard Hedworth and partners; William Tomlinson
1537–38	John Lumley; Richard Hedworth and partners; William Tomlinson
1538–39	John Lumley; Richard Hedworth and partners; William Tomlinson
1539–40	John Lumley and partners; Richard Hedworth and partners; William Tomlinson

Source: Durham, UL, CCB B/1/5 to Durham, UL, CCB B/7/71.

Note: The names of Newcastle merchants are in italics. For these identifications, see notes 66 (William Bacon, John Cok), 67 (John Cok, Nicholas Hanyng), and 71 (William Alane, Henry Anderson, William Bacon, George Bird, George Davell, Alan Hardyng, William Talbot)

was from Newcastle, but was a lawyer rather than a merchant.⁷⁴ Henry Anderson, George Bird, John Cok, George Davell, and Nicholas Hanyng all served as mayors of Newcastle at various times.⁷⁵ Robert Blount, lessee of Whickham mines in 1490–91, 1504–05, and 1505–06, was also a merchant, but from Durham. He was paid by the bishop's receiver-general in April 1491 for 4½ stones of Spanish iron supplied during the previous three years.⁷⁶

Yet even in the operations of the Gateshead and Whickham coalfields, the Newcastle interest was not always dominant. Both there, and in other parts of the coalfield, the exploitation of the bishop's coal also occupied an entrepreneurial group that we may term 'ministerial'. The bishop was particularly likely to use his own men as *appruatores*. In 1416–17, for example, all the proceeds from the mines of Whickham and Gateshead were accounted for by John Newton, Bishop Langley's receiver general, who is described as *appruator* there.⁷⁷ Bishopric officers also contracted for mining leases. William Inskip, who headed the partnership leasing the Whickham mines 1508–09 was the bishop's clerk of works between 1503 and 1506.⁷⁸ Between 1513–14 and 1520–21 the Gateshead mines were leased to a consortium headed by William Adthe,⁷⁹ the bishop's clerk of works throughout the period 1511–34,⁸⁰ and clerk of his iron and lead mines in Wear-

⁷⁴ *The Durham Liber Vitae*, ed. by Rollason and Rollason, II, 610: F.75; Durham, UL, CCB B/1/7.

⁷⁵ Bourne, *The History of Newcastle-upon-Tyne*, pp. 216–24; *History of Newcastle and Gateshead*, ed. by Welford, I, 431–32; II, 524.

⁷⁶ Durham, UL, CCB B/3/29.

⁷⁷ Durham, UL, CCB B/1/2; Storey, *Thomas Langley*, p. 74.

⁷⁸ Durham, UL, CCB B/75/9, Durham, UL, CCB B/3/33, Durham, UL, CCB B/3/34. He was the tenant of eight closes in Gateshead in 1509–10: Durham, UL, CCB B/69/8.

⁷⁹ Durham, UL, CCB B/4/45, Durham, UL, CCB B/4/46, Durham, UL, CCB B/5/47, and Durham, UL, CCB B/5/48.

⁸⁰ Durham, UL, CCB B/31C/220204/4, Durham, UL, CCB B/76/10, Durham, UL, CCB B/76/11, Durham, UL, CCB B/76/12, Durham, UL, CCB B/76/13, Durham, UL, CCB B/76/14, Durham, UL, CCB B/76/15, Durham, UL, CCB B/76/16, Durham, UL, CCB B/76/17, Durham, UL, CCB B/76/18, Durham, UL, CCB B/76/19, Durham, UL, CCB B/76/20, Durham, UL, CCB B/76/21, Durham, UL, CCB B/76/22, Durham, UL, CCB B/76/23, Durham, UL, CCB B/76/24, Durham, UL, CCB B/76/25, Durham, UL, CCB B/76/26, Durham, UL, CCB B/4/46. Adthe also leased a pit at Findon between 1509 and 1512 (Durham, UL, CCB B/4/38, Durham, UL, CCB B/4/39A, and Durham, UL, CCB B/4/41), one at Brasside between 1517 and 1521 (Durham, UL, CCB B/4/46, Durham, UL, CCB B/5/47, and Durham, UL, CCB B/5/48), one at Tow Law between 1523 and 1528 (Durham, UL, CCB B/5/50, Durham, UL, CCB B/5/52, Durham, UL, CCB B/5/5, Durham, UL, CCB B/5/60), one at Urpeth between 1529 and 1540 (Durham, UL, CCB B/6/63, Durham, UL, CCB B/6/65, Durham, UL, CCB B/6/66, Durham, UL, CCB B/6/69, Durham, UL, CCB

dale between 1517 and 1519.⁸¹ One of his partners, William Tomlinson, subsequently enhanced his career as an episcopal servant. Between 1520 and 1528 he received an annual fee as supervisor of all coal mines within the bishopric of Durham, and was reappointed jointly with his son in 1529.⁸² He managed mines in Gateshead as the bishop's *appruator* in 1526–27 and 1528.⁸³ Throughout the period from 1531 to 1540 he was the bishop's bailiff of Gateshead, and during that period leased coals in Whickham.⁸⁴ Bishopric officials are similarly found in the affairs of the Railey pits and elsewhere, both as *appruatores* for short periods and as lessees for longer ones. John Kelyng, clerk, who in 1476–77 accounted for £140 from the revenues of the Railey Fell group of pits, rose from being the steward of the bishop's household in 1459–60⁸⁵ to being his chancellor and receiver between 1476 and 1490.⁸⁶ Robert Sympson, clerk, who leased the Railey pits between 1509–10 and 1523–24, also served the bishopric; between 1504 and 1521 he was bailiff of Stockton.⁸⁷

This ministerial group overlapped with entrepreneurs from the Durham gentry, many of whom served the bishop in various capacities. William Blakeston of Blakeston Hall, one of a four-man consortium that leased mines at Evenwood for six years from 1383, was simultaneously retained as a councillor by Bishop Fordham.⁸⁸ The importance of gentlemen entrepreneurs, represented amongst the

B/7/70, Durham, UL, CCB B/7/71).

⁸¹ Durham, UL, CCB B/4/46, Durham, UL, CCB B/5/47.

⁸² Durham, UL, CCB B/4/45, Durham, UL, CCB B/5/48, Durham, UL, CCB B/5/50, Durham, UL, CCB B/5/57, Durham, UL, CCB B/5/60; Galloway, *Annals of Coal Mining and the Coal Trade*, p. 85.

⁸³ Durham, UL, CCB B/5/57, Durham, UL, CCB B/5/60.

⁸⁴ Durham, UL, CCB B/6/65, Durham, UL, CCB B/6/66, Durham, UL, CCB B/6/68, Durham, UL, CCB B/6/69, Durham, UL, CCB B/7/70, Durham, UL, CCB B/7/71, Durham, UL, CCB B/69/15, Durham, UL, CCB B/69/32, Durham, UL, CCB B/69/33, Durham, UL, CCB B/69/34, Durham, UL, CCB B/69/35, and Durham, UL, CCB B/69/36.

⁸⁵ Durham, UL, CCB B/1/9; Durham, UL, CCB B/79/2; Durham, UL, CCB B/26/1, fols 29^r, 47^r.

⁸⁶ Durham, UL, CCB B/2/23, Durham, UL, CCB B/2/24, and Durham, UL, CCB B/3/30, Durham, UL, CCB B/13/10, Durham, UL, CCB B/13/11, Durham, UL, CCB B/13/12, Durham, UL, CCB B/13/13, Durham, UL, CCB B/13/14; *Fasti Dunelmenses*, ed. by Boutflower, pp. 71–72.

⁸⁷ Durham, UL, CCB B/3/33, Durham, UL, CCB B/3/34; Durham, UL, CCB B/4/38, Durham, UL, CCB B/4/39A, Durham, UL, CCB B/4/41, Durham, UL, CCB B/4/45, and Durham, UL, CCB B/4/46, Durham, UL, CCB B/5/47 to Durham, UL, CCB B/5/48.

⁸⁸ *Bishop Hatfield's Survey*, ed. by Greenwell, p. 266; Liddy, *The Bishopric of Durham*, p. 112.

Whickham lessees by members of the Lumley family⁸⁹ and by Richard Hedworth, the bishop's bailiff of Whickham through the 1520s and 1530s,⁹⁰ comes most clearly into prominence in the Railey group of mines (Table 34). This, though the largest unit amongst the bishop's coal interests, is not recorded ever to have been in the hands of merchants. The Eure family of Witton-le-Wear who managed the lease from at least 1416 up to the 1460s, and again for a while in the 1470s, was one of the wealthiest families of the palatinate; they were lords of the only large estate in the western part of the bishopric.⁹¹ Ralph Eure, who seems to have initiated the lease, was steward of the bishopric estates under Bishops Skirlaw and Langley until his death in 1422.⁹² The coal mines of Railey, Tofts, and Cold Hurst are known to have been leased together again to Sir William Eure for nine years from 1424, and again twenty-one years from Michaelmas 1442, though in the event the lease did not run full term, was renewed a couple of times, and collapsed for some reason in January 1459.⁹³ The Eures must have subcontracted the working of the pits to teams of colliers — it is difficult to see what else they could have done — but in order to bear the risk they or their estate officers must have carried considerable responsibility for accounting for costs and sales of coal. It is interesting that the family chose to give up the lease during the 1460s, when opportunities for profit were probably lower than usual, even in the region around Railey.

⁸⁹ Surtees, *The History and Antiquities of the County Palatine of Durham*, II, 163.

⁹⁰ Durham, UL, CCB B/5/48, Durham, UL, CCB B/5/50, Durham, UL, CCB B/5/52, Durham, UL, CCB B/5/57, Durham, UL, CCB B/5/60, Durham, UL, CCB B/6/61, Durham, UL, CCB B/6/63, Durham, UL, CCB B/6/66, Durham, UL, CCB B/6/69, Durham, UL, CCB B/7/70, and Durham, UL, CCB B/7/71. For his status, see Surtees, *The History and Antiquities of the County Palatine of Durham*, II, 197. His will (1565) is printed in *Wills and Inventories*, ed. by Raine and others, I, 227–28.

⁹¹ Durham, UL, CCB B/1/1; Hatcher, *The History of the British Coal Industry*, p. 74; Liddy, *The Bishopric of Durham*, p. 47.

⁹² Storey, *Thomas Langley*, p. 102.

⁹³ Louis and Vellacott, 'Mining', p. 323; Storey, *Thomas Langley*, p. 117; Pollard, *North-Eastern England during the Wars of the Roses*, p. 76. Sir William Eure paid rent only up to 8 January 1459, after which the Railey mines were in the hands of a manager (steterunt in appuramento): Durham, UL, CCB B/1/7, Durham, UL, CCB B/1/8. They were managed by John Baker in 1459–60 and by Roger Wotton in 1460–61, leased by Roger Wotton from 1464–65 or earlier until 1471 or 1472, were managed by John Mullok in 1472–73 and 1473–74, leased by Richard Moreton in 1474–75, managed by John Kelyng, clerk, in 1476–77, before the lease was temporarily taken up again by Sir William Eure in 1478–79. For this lease, see Nef, *The Rise of the British Coal Industry*, I, 137.

Table 34. Recorded lessees of the Railey group of pits, 1416–17 to 1539–40

1416–22	Sir Ralph Eure
1424–59	Sir William Eure
1464–c. 1471	Roger Wotton
1474–75	Richard Moreton
1478–79	Sir William Eure
1487–88, 1490–95	Thomas Witton or Wotton
1509–24	Robert Sympson and partners
1524–40	Richard Bellecys and partners

Source: Durham, UL, CCB B/1/5 to Durham, UL, CCB B/8/71.

Even as the value of the Railey pits increased in the early sixteenth century, lessees from the gentry class remained predominant. Amongst them was Richard Bellasis, who headed a consortium to lease the Railey pits under Cardinal Wolsey in the later 1520s for the sum of £183 10s. a year in 1524–25 and then at the reduced rent of £178 10s. a year between 1526–27 and at least 1529–30.⁹⁴ His business enterprise and other activities established the family of Bellasis of Houghton-le-Spring.⁹⁵ He was deputy sheriff of Durham, 1518–19,⁹⁶ bailiff of Stockton between 1524 and his death in 1539,⁹⁷ constable of Durham Castle between 1527 and 1539,⁹⁸ and deputy bailiff of Auckland between 1529 and 1539.⁹⁹ He also had a minor role between 1523 and 1539 as collector of Morton in Houghton-le-Spring, where he leased a manor and grange.¹⁰⁰ Wolsey commissioned him with

⁹⁴ Durham, UL, CCB B/5/52, Durham, UL, CCB B/5/57, Durham, UL, CCB B/5/60, Durham, UL, CCB B/6/63.

⁹⁵ Surtees, *The History and Antiquities of the County Palatine of Durham*, 1, 202.

⁹⁶ Durham, UL, CCB B/5/47.

⁹⁷ Durham, UL, CCB B/5/50, Durham, UL, CCB B/5/52, Durham, UL, CCB B/5/57, Durham, UL, CCB B/5/60, Durham, UL, CCB B/6/61, Durham, UL, CCB B/6/63, Durham, UL, CCB B/6/65, Durham, UL, CCB B/6/66, Durham, UL, CCB B/6/68, Durham, UL, CCB B/6/69; Durham, UL, CCB B/7/70. His widow succeeds him as collector of Morton in the Receiver General's account of 1539–40 (Durham, UL, CCB B/7/71).

⁹⁸ Durham, UL, CCB B/5/60, Durham, UL, CCB B/6/61, Durham, UL, CCB B/6/63, Durham, UL, CCB B/6/65, Durham, UL, CCB B/6/66, Durham, UL, CCB B/6/68, Durham, UL, CCB B/6/69, Durham, UL, CCB B/7/70.

⁹⁹ Durham, UL, CCB B/6/61, Durham, UL, CCB B/6/63, Durham, UL, CCB B/6/65, Durham, UL, CCB B/6/66, Durham, UL, CCB B/6/68, Durham, UL, CCB B/6/69; Durham, UL, CCB B/7/70.

¹⁰⁰ Durham, UL, CCB B/5/50, Durham, UL, CCB B/5/52, Durham, UL, CCB B/5/57,

William Strangways, another trusted estate officer, to survey and improve all mines within his bishopric.¹⁰¹ Richard's brother Anthony was a lawyer of sufficient stature to serve the Council of the North.¹⁰² Richard Moreton, the lessee of 1474–75, was perhaps from the family or families that held the lordships of Morton Tinmouth in Gainford parish and Morton Palms in the parish of Haughton le Skerne.¹⁰³ The Wittons were neither Newcastle merchants nor major Durham gentry, but seem to have been a little-known family from Witton-le-Wear.¹⁰⁴

Such engagement in coal-mining by landlords of every status was no new phenomenon of the fifteenth century. It goes back well into the 'boom' phase of development in the decades following the Black Death. The Nevilles were directly interested in coal mining at their manor of Winlaton at least as early as the 1360s, and acquired coal-bearing property at Colepike Hall in 1388.¹⁰⁵ In 1378 the earl of Northumberland leased a mine in Whickham from the bishop for seven years at £30 a year, and the Hatfield Survey records that he leased a coal pit at Fugar House in Whickham for £26 13s. 4d.¹⁰⁶ An interest in coal also occurs at a very early date amongst gentry families. The earliest known large lease on the bishopric estate, that of Whickham in 1356, was to Sir Thomas Grey of Heaton and to the parson of Whickham, who was perhaps no more than Sir Thomas's local agent.¹⁰⁷ This is another example of the overlap between the ministerial and gentry groups; Thomas Grey was steward of the bishopric at the time.¹⁰⁸ Other

Durham, UL, CCB B/5/60, Durham, UL, CCB B/6/61, Durham, UL, CCB B/6/63, Durham, UL, CCB B/6/65, Durham, UL, CCB B/6/66, Durham, UL, CCB B/6/68, Durham, UL, CCB B/6/69, Durham, UL, CCB B/7/70; Surtees, *The History and Antiquities of the County Palatine of Durham*, I, 202.

¹⁰¹ Galloway, *Annals of Coal Mining and the Coal Trade*, p. 85. Strangways was Receiver-General in 1526–27 and 1528–29 (Durham, UL, CCB B/5/57; Durham, UL, CCB B/6/61).

¹⁰² Surtees, *The History and Antiquities of the County Palatine of Durham*, I, 202n.

¹⁰³ Surtees, *The History and Antiquities of the County Palatine of Durham*, III, 269–70; IV, 23. See too Storey, *Thomas Langley*, p. 260, which relates to Morton Tinmouth: Liddy, *The Bishopric of Durham*, p. 159.

¹⁰⁴ In 1478–79 the sheriff's sub-bailiffs were paid expenses for travelling twice to Witton-le-Wear 'to distraint upon the chattels of Thomas Wotton for unpaid sums of money owed to the lord for a coal mine (or for coal mines)' (pro districcione catallorum Thome Wotton pro denariis de minera (or mineris) carbonum domino debitis non solutis): Durham, UL, CCB B/2/24.

¹⁰⁵ Liddy, *The Bishopric of Durham*, p. 55.

¹⁰⁶ *Bishop Hatfield's Survey*, ed. by Greenwell, p. 93; Liddy, *The Bishopric of Durham*, p. 54.

¹⁰⁷ Kew, TNA, Durh. 3/30, m. 11d.

¹⁰⁸ Liddy, *The Bishopric of Durham*, p. 129.

sources of evidence, recording the involvement of Durham and Finchale priories in the exploitation of coal, demonstrate that religious houses were another source of investment by the mid-fourteenth century. Durham Priory began mining operations at Rainton in the 1350s, and at Ferryhill in the 1360s; Finchale Priory was mining at Lumley in the 1340s and at Softley by the 1360s. Although representing much smaller interests than that of the bishop's, and more concerned with supplying their own needs, the priories' activities deserve to be logged, albeit briefly, into this analysis.¹⁰⁹ By the later fifteenth century the involvement of even some small religious houses is demonstrated by the bishop's wayleave rents.¹¹⁰

To complete the entrepreneurial scene, it is also necessary to add that some entrepreneurs in coal came from below the social level of the gentry. Three partners who mined at Chowdene, and acknowledged a debt of £40 to Bishop Langley in 1436, were named as John Mayson, yeoman, Robert Horner, franklin, both of Lamesley, and Robert Preston, franklin, of Durham.¹¹¹ Some entrepreneurs were local men with technical knowledge of mining operations. William Counce, also called William Bankemen,¹¹² an early manager and bankman of Whickham pits, was one of the bishop's tenants at Whickham.¹¹³ With his son he was paid in 1460 for carrying stone at Whickham, where his son worked as a hewer at Estgate and Westgate pits.¹¹⁴ In 1466–67, together with Thomas Wakefield, he took the lease of a small residue of coal in an old Whickham pit for £6, and to that humble extent entered the list of Whickham leaseholders. The two men bought six keels of coal from the bishop's Whickham mine in the following year.¹¹⁵ Then in 1472–73 and 1473–74 William was in partnership with John Cok and Nicholas Hanyng, in leasing the mining operations of all Whickham for £66 13s. 4d. In the latter year the three men also leased a mine from Sir William Lumley, paying the bishop for a wayleave to carry coals to Redheugh on the Tyne.¹¹⁶ It seems likely that William

¹⁰⁹ Dobson, *Durham Priory*, pp. 278–79; Galloway, *Annals of Coal Mining and the Coal Trade*, pp. 52–54; Hatcher, *The History of the British Coal Industry*, pp. 75–76; Lomas, *North-East England*, pp. 199–200; Louis and Vellacott, 'Mining', pp. 322–24.

¹¹⁰ See, too, Louis and Vellacott, 'Mining', p. 323.

¹¹¹ Kew, TNA, Durh. 3/37.

¹¹² Durham, UL, CCB B/79/5. He was bankman at Estgrove pit in 1457–58 and at Middlegrove pit in 1460 (Durham, UL, CCB B/79/1; Durham, UL, CCB B/79/5).

¹¹³ In 1461–62 he carried coal amongst other tenants of the bishop in Whickham (Durham, UL, CCB B/78/6).

¹¹⁴ Durham, UL, CCB B/79/5.

¹¹⁵ Durham, UL, CCB B/2/13, Durham, UL, CCB B/2/14.

¹¹⁶ Durham, UL, CCB B/2/19, Durham, UL, CCB B/2/20, and Durham, UL, CCB

operated as the local manager to Cok and Hanyng, who were both Newcastle merchants. Thomas Wakefield, his partner in 1466–68 was another technician; he was paid in 1460 for structural work at Whickham around a pit head, for felling and carrying timber, for carpentry work on an underground carriage system, and for drainage work.¹¹⁷ Knowledge of drainage operations was perhaps particularly valuable for such men. John Baker, the *appruator* of the Railey pits between 14 June and Christmas, 1460, was simultaneously responsible for maintaining a drainage pipe across Palace Green in Durham.¹¹⁸ Coal management, in other words, was offering local mining experts, even without significant capital, the chance to engage in entrepreneurial activity. Doubtless many such men served the bishop's lessees as local managers or, in a more exalted capacity, as junior partners with special responsibilities.

Conclusions

The evidence so far examined allows several conclusions relating to the bishop's coal interests during the late Middle Ages. First, the marketing pattern of the two principal areas of mining on the bishop's estate was very different. Sales depended on water transport in Whickham and Gateshead but on land transport at the Railey mines. The bishop's control of resources, and ability to dominate the market, were considerably greater in the latter group. His income from coal suffered severely in the fifteenth century, chiefly because of a collapse in the demand for coal in distant locations previously supplied with fuel from northeastern England. Because of these problems with distant markets, the Tyneside pits were more adversely affected by commercial problems than the inland pits throughout the fifteenth century and declined in relative importance. In fact, economic recovery did not benefit the bishop's Tyneside mines until the second decade of the sixteenth century, and even then his total income from coal on Tyneside was not as large as it had been in the later fourteenth century. This conclusion, well supported by the evidence of coal exports, is of relevance for the coalfield as a whole during the fifteenth and early sixteenth centuries.

Observations from the bishop's estate also allow several conclusions relating to the social contexts of development in the early northeastern coalfield. The entrepreneurship needed to launch coal mining in the Durham coalfield

B/2/21. For Cok and Hayning, see nn. 68 and 69, above.

¹¹⁷ Durham, UL, CCB B/79/5.

¹¹⁸ He is described as 'warden of the (underground) channel of the aqueduct between the castle and the abbey' (*custus fistule aqueductus inter castrum et abbatiam*) in 1459–60 and 1460–61: Durham, UL, CCB B/1/9, Durham, UL, CCB B/2/10.

between 1350 and 1540 was broadly based, involving Newcastle merchants, episcopal administrators, ecclesiastical bodies of all sizes, gentry families, other lay landowners of varied status, and local tenants skilled enough to serve as pit managers. In this kaleidoscope of talent, merchants were no more prominent than men from other social groups, except in the Tyneside mines. Indeed, the greatest and most complex leases on the episcopal estate, those of the Railey group, were never taken up by merchants. Furthermore, this variety of social origins amongst those involved in the getting of coal was already apparent in the period of rapid growth in the later fourteenth century, and there is no evidence that members of any particular social group acted as pioneers. The commercial attitudes, processes and skills needed to develop the coalfield after 1350 were already available among merchants, landlords, administrators, and manorial tenants, by the time of the Black Death. This must be attributable to earlier economic developments that had inculcated normal practices of commercial rationality in the northeast, and encouraged the adoption of advanced systems of accounting and estate administration. The commercial development of coal was already compatible with local culture at all social levels by 1303, when in response to a petition of grievances to Edward I, Bishop Bek had granted the commons of Durham that they could mine coal and iron on their own land.¹¹⁹ Partnerships, large rents, and correspondingly large outputs in the 1350s are well represented by Sir Thomas Grey's impressive commitment to Bishop Bury in 1344 and Bishop Hatfield in 1356; he needed to extract and sell 10,000 tons of coal simply to pay his rent, and the lease permitted three times this amount.¹²⁰ To judge from the evidence of the Durham bishopric estate, therefore, there was no observable growth in the scale or the complexity of enterprise between the 1350s and the 1540s.

¹¹⁹ *Registrum Palatinum Dunelmense*, ed. by Hardy, III, 42, 62; *Records of Anthony Bek*, ed. by Fraser, no. 89, p. 94.

¹²⁰ Hatcher, *The History of the British Coal Industry*, p. 29.

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