Devon’s Economy During the Long Fifteenth Century: Wealth, Population and Maritime Trade.

Submitted by Richard William Ingram Cooke to the University of Exeter as a thesis for the degree of Doctor of Philosophy in September 2021.

I certify that all material in this thesis which is not my own work has been identified and that no material has been submitted and approved for the award of a degree by this or any other university.

Signed.

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Abstract

Devon's relative increase in prosperity during the fifteenth century has been recognised by several historians of the period including Hoskins, Hatcher, Fox and Kowaleski amongst others. Explanations for this phenomenon have included the county's late economic development and the effect of the introduction of new technologies. By contrast, this thesis argues that the great diversity of economic activities is a more likely explanation. After an introduction, Devon's economic performance in the long fifteenth century and the likely causes behind it are examined, taking two main approaches. Firstly, the existing literature on towns, industry, and agriculture in late medieval Devon as described by earlier historians is reviewed. Then three main indicators of economic prosperity are examined: wealth, population and maritime trade. Evidence for Devon's prosperity in the fifteenth century includes taxation records, records of debt and credit, and the building and extension of parish churches. Taxation records are also used to estimate population change, another important indicator of late medieval social and economic performance. Finally, evidence of international trade is considered, as a key indicator of Devon's new-found importance in the economy of western Europe in this period. From the data presented, it is argued in conclusion that Devon's late medieval prosperity rested not on a single economic activity, but on the diversity of its industries and trade.

Table of contents.

List of figures and tables

Figures.

Tables.

Chapter 1. Devon's Economic Development in the Fifteenth Century

1.01 Introduction

The fifteenth century in England was a time of mixed fortunes in its different regions. These may have been the result of the socio-economic effects of the Black Death, wars with France, and internal conflicts. Old trade patterns were changing with the decline of the Hanseatic and Italian trade but increasing Franco-Iberian commerce. Devon, a large county, but still relatively poor and with a low population in 1400, appeared to make rapid progress economically during the fifteenth century, with obvious wealth by the end of the century. Increasing economic diversity helps a region to weather times of general hardship. This has been seen, for example, during the twentieth century in the USA, when economic diversity in east and west coast states protected wealth growth during the depression, whilst in the central plains with their agricultural and industrial 'monocultures' of corn and steel, the economy failed. Stronger economies have a variety of goods and services to trade.[1] This can be shown to be the case in Devon in the fifteenth century. Devon's economic success in the fifteenth century is striking. This thesis aims to investigate the reasons behind the increase of Devon's wealth at this time compared with most other English counties, and the probability that its regional economic diversity contributed to it.

In this chapter, firstly economic diversity is explored as an explanatory factor in both modern and late medieval economics. This is followed by a brief overview of economic development in England in the fifteenth century, before examining different approaches taken by historians to explain such changes in economic development in the past.

1.02 Economic diversity as a model

Although the benefits of industrial diversity to the economy have been the cause of some controversy, there appear to be several examples to illustrate them both in the twentieth century and the late medieval period. The advantages of diversity in times of austerity are not confined to industry and the economy but are also clearly seen in nature from ecological, biological, and genetic diversity.

[1] Y. Xiao and J. Drucker, 'Does Economic Diversity Enhance Regional Disaster Resilience?' *Journal of American Planning Association*, 79 (2013), 148-60.

Economic diversity has been used to explain different patterns of economic development. It is usually defined by the degree to which an economy's mix of industries, sectors, skill, and employment levels differ from a larger reference economy, or the degree to which a region utilizes a broad mix of economic activities. In the United States for instance there tends to be a greater economic diversity in the states of the east and west coast but less in the central plains states. The least diverse county is Cattahoohee, an impoverished county in Georgia, and the most diverse Orange County, California and their respective wealth mirrors this. Early opinion from the depression era of the 1930s in the US maintained that industrially specialised regional economies were more susceptible to economic distress than those economies that were more diversified.[2] Nevertheless, other economists have found limited or no support for this hypothesis.[3] It has been suggested by Wagner and Deller that the main causes for these inconsistent findings are aggregated data sets, poor measures of diversity and simplistic statistical methods.[4]

Economic diversity, it has been argued, helps a region weather the storms of economic hard times. It may gauge how flexible and stable an economy will be during unforeseen adverse events. Although it has often been promoted as the means to achieve economic stability, few empirical studies have been able to relate higher levels of diversity to economic stability or activity. Recent publications on the subject have mainly originated from university business schools. Ashraf and Galor argue that cultural diversity is at least as important in economic development. They cite the civilisations of Asia in the first millennium CE which were relatively isolated from outside influences but well ahead in wealth and knowledge. They were however, overtaken by Europe in subsequent centuries when a more open society industrialised because of the ready adoption of new technologies. This was the so-called 'Great Divergence'

[2] G. McLaughlin, 'Industrial Diversification in American Cities'*, Quarterly Journal of Economics*, 44, (1930), 131-149; A. Rodgers, 'Some Aspects of Industrial Diversification in the United States', *Economic Geography*, 33 (1957), 16-30.

[3] R. Jackson, 'An Evaluation of Alternative Measures of Regional Industrial Diversification', *Journal of Regional Studies*, 18 (1984), 103-112; M. Attaran, 'Industrial Diversity and Economic Performance in US Areas', *Annals of Regional Science,* 20 (1986), 44-54.

[4] J. Wagner and S. C. Weller, 'Measuring the Effects of Industrial Economic Diversity on Growth and Stability', *Journal of Land Economics*, 54 (1998), 106-110.

described by Pomeranz.[5] Cultural diffusion led to a take-off from 'Malthusian stagnation' to a state of sustained economic growth.[6]

Brown and Greenbaum examined the twin influences of industrial diversity and industrial concentration on economic resilience in Ohio counties over a period of thirty-five years. Their results showed that counties with a greater industrial concentration had lower unemployment rates in good times, but those counties with a more diverse economy fared better in times of national or local employment shocks.[7]

A number of historians have commented on the diversity of Devon's economy in the fifteenth century and have alluded to its part in the rise in the county's economy during this period. Hoskins and Finberg wrote of the increase in wealth of medieval Devon emphasising its many industries, as did Carus-Wilson in her published lecture in 1963 on Exeter's success during the fifteenth century.[8] More recently, Kowaleski notes the significant economic growth that occurred in the South-West, particularly in Devon and Cornwall, during the late Middle Ages, pointing to the region's 'highly diversified economy which allowed it to adjust to the crises of the late Middle Ages with less difficulty than most other regions'.[9] She further emphasises this point when referring to agriculture, which was the major occupation at this time, by noting that Devon agriculture was characterised by crop diversity and the flexibility of convertible husbandry, a feature of Devon farming of the period. She also notes that Devon's economy was stimulated by the diversification of livestock husbandry into dairying, stock rearing and sheep farming.[10]

Hatcher has also addressed the effect of industrial diversity in the medieval period for the county of Cornwall and to some extent Devon. In the late

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[5] K. Pomeranz, *The Great Divergence: China and Europe, and the Making of the Modern World Economy* (NJ, Princeton University Press, 2000).
[6] Q. Ashraf and O. Galor, 'Cultural Diversity, Geographical Isolation, and the Origin of Wealth of Nations', National Bureau of Economic Research, Cambridge, Massachusetts (2011), Working paper 17640.
[7] L. Brown and R. T. Greenbaum, 'The Role of Industrial Diversity in Economic Resilience: An Empirical Examination Across 35 years', *Urban Studies*, 54 (2017), 1347-66.
[8] W. G. Hoskins and H. P. R. Finberg, 'The Wealth of Medieval Devon' in *Devonshire Studies* (Cape, London, 1952), pp.212-249; E. M. Carus-Wilson, *The Expansion of Exeter at the Close of the Middle Ages*
[9] M. Kowaleski, 'The Expansion of South-Western Fisheries in Late Medieval England', *Economic History Review*, 53 (2000), 429-454.
[10] M. Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1995), pp. 13-14.

fourteenth century and most of the fifteenth century, Cornish land prices held up when they were falling elsewhere in most of England. He argues that:

> Within Cornwall, agriculture was only a part of a diversified economic structure. In that structure, mining, fishing, and shipping played a crucial role, and textile manufacture, quarrying and shipbuilding all assumed an importance.[11]

Textiles were made on the Cornwall-Devon border, and Cornish tin, wool, and fish were all traded eastwards, mainly through Exeter, These industries provided a stimulus to agriculture by providing a market for its produce to feed its workers.

Britnell, describing major urban economies in the fifteenth century, points out that the most successful had very mixed industries. About half of these included food and drink, and cloth, but other specialist artisan occupations abounded.[12] Small towns too benefitted from a mixed economy, mainly supplying their hinterland, but they also needed to develop a specialty or distinctive product to attract interest to appeal to a wider market. Confirmation of the wealth this generated is seen in the towns' property markets.[13]

An example of economic diversity in the north-east of England in the fifteenth century is given by Brown who compares the responses of two ecclesiastical landowners to the severe agricultural recession during the first half of the century. In the light of falling land rentals, the monks of Durham priory leased out their lands, but the bishops of Durham held on to theirs and diversified their sources of income to supplement the falling rent rolls. They exploited their forests, parks and coal mines selling their products such as timber, wax, honey, and coal. Coal mining was still done on a small scale, and the production sold mainly for domestic use.[14] In the longer term this strategy proved to be much more profitable. Economic diversity appears to be advantageous to communities both in contemporary and historical periods.

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[11] J. Hatcher, 'A Diversified Economy: Later Medieval Cornwall'*, Economic History Review,* 22 (1969), 208-227.
[12] R. Britnell, 'The Economy of British Towns, 1300-1540', in D. M. Palliser ed., *The Urban History of Britain, Vol.1, 600-1540* (Cambridge, Cambridge University Press, 2018), pp. 313-334.
[13] C. C. Dyer, 'Small Towns,1270-1540', in Palliser, *Urban History of Britain*, pp. 505-540.
[14] A. T. Brown, *Rural Society and Economic Change in the County of Durham: Recession and Recovery, 1400-1640* (Woodbridge, UK, Boydell and Brewer, 2015), pp. 29-72.

1.03 An overview of England's economic development in the fifteenth century

The time between the Roman retreat from Britain and the present has often been considered as being divided into two periods, the medieval and the modern, with a boundary somewhere about 1500. Historians largely agree that a period of rapid population growth in the twelfth and thirteenth century was curtailed by famine and plague in the fourteenth. Loss of as much as half the population meant that resources such as land were more freely available, wages rose and changes in land ownership and lifestyle occurred.[15] As yet unexplained was the failure of the population to grow again after the plague of 1348 for a century or more, despite apparently favourable conditions. This has been variously attributed to the effects of recurrent epidemics of disease,[16] and/or the adoption of a practice of late marriage.[17] This period between 1350 and about 1520 has been called the 'long fifteenth century' or the 'later middle ages'. It has been seen, paradoxically, by historians such as Postan, as an 'age of economic decline' yet the 'golden age of medieval peasantry',[18] and 'an age of recession, arrested economic development and declining national income',[19] or by Bridbury as one of economic growth and 'an astonishing record of resurgent vitality and enterprise'[20] while A. Dyer emphasises urban decay,[21] and Du Boulay an 'age of ambition, of vitality and upward social mobility'.[22] Hatcher tries to explain these contradictory opinions with the idea that such a simplified line of enquiry does not help when examining the 'distinctive phases' that made up these long periods. He argues that concentrating on these shorter periods would appear to offer a more productive approach to interrogating the economic changes of the century under consideration. Any of the above

[15] C. Dyer, *An Age of Transition: Economy and Society in England in the Late Middle Ages* (Oxford, Clarendon Press, 2005), pp. 1-6.
[16] J. Hatcher, 'Mortality in the Fifteenth Century: Some New Evidence', *Economic History Review*, 39 (1986), 19-38.
[17] P. J. P. Goldberg, *Women, Work, and Life Cycle in a Medieval Economy: Women in York and Yorkshire c. 1300-1520* (Oxford, Clarendon Press, 1992), pp. 203-279.
[18] M. M. Postan, *The Medieval Economy and Society: An Economic History of Britain, 1100-1500* (London, Weidenfeld and Nicholson, 1972), p.142.
[19] M. M. Postan, 'Revisions in Economic History: IX - The Fifteenth Century', *Economic History Review*, 9 (1939), 160-167.
[20] A. R. Bridbury, *Economic Growth: England in the Later Middle Ages* (London, Heineman,1962).
[21] A. Dyer, *Decline and Growth in English Towns 1400-1600* (Cambridge, Cambridge University Press, 1995).
[22] F. R. H. Du Boulay, *An Age of Ambition: English Society in the Late Middle Ages* (London, Nelson, 1970).

authors' descriptions would match at least one or two of the decades of the 'long fifteenth century'.[23]

During this period social structures and methods of production were remodelled, although evidence for change can be seen in earlier centuries. The division of land into cultivated units had largely been completed by the twelfth century, and the patterns of urban settlement were fixed by the end of the thirteenth. Enclosure of farmland is often considered to have mostly occurred in the fifteenth century and later, but had in fact begun much earlier, especially in the South-West of England. Fox states that:

> It is more probable that in the extensive tracts of central and north Devon for which there is little medieval evidence for subdivided arable, most holdings had been enclosed since the date of their creation.[24]

Nevertheless, concentrations of subdivided arable were to be found in east and south Devon, which related to their fertile soils. In east Devon enclosure began in the thirteenth century and was complete by the fifteenth. In south Devon however enclosure was a later process beginning in the fourteenth century but not complete until the sixteenth or seventeenth century in some South Hams villages.

This has led historians such as Britnell, to ask whether the 'long fifteenth century' really was so important after all as a period of change and heralding the beginning of a "commercialised" society. He argues that:

> the period between 1300 and 1530 was more a period of arrested development than one of critical importance, and that 1000 to 1300 showed a much greater shift towards capitalism.[25]

The demographic effects of the events of the first half of the fourteenth century undoubtedly began social change with a move away from directly managed demesnes to tenant managed farms, for labour from customary to waged, and production from largely domestic consumption to production for trade and export, as for example in the cloth industry. These changes accelerated in the

[23] J. Hatcher, 'The Great Slump of the Mid-fifteenth Century', in R. Britnell and J. Hatcher, eds., *Progress and Problems in Medieval England* (Cambridge, Cambridge University Press, 1996), p. 237.
[24] H. S. A. Fox, 'The Chronology of Enclosure and Economic Development in Medieval Devon', *Economic History Review*, 28 (1975), 181-202.
[25] R. H. Britnell, 'Commerce and Capitalism in Late Medieval England: Problems of Description and Theory', *Journal of Historical Sociology*, 6 (1993), 359-76.

late fourteenth and early fifteenth centuries, although the seeds for these changes were sown centuries earlier.

Bridbury emphasised the inflation of town populations by poor immigrants in the early fourteenth century, looking for casual work or charity, whilst the towns' functions were mainly the production of luxury goods for the elite and other market trade such as metal tools and leather goods, having otherwise a rather limited economic base, and depending on their rural hinterlands for food and materials.[26]

Agricultural productivity did not fall after 1348 as much as has been suggested by some historians, leading Dyer to argue that:

> The people of the countryside were generally better off in the fifteenth century: at the end of the middle ages the peasants were better fed, housed, clothed, and equipped than their ancestors had ever been.[27]

Although the labouring population was greatly reduced, output per head increased and unemployment fell. Postan reviewed the apparently conflicting ideas of Denton and Thorold Rogers who disputed the widely held view that the fifteenth century was an age of smooth transition from the medieval fourteenth to the Tudor sixteenth century. Denton emphasised the deterioration of economic life, while Rogers the prosperity of the peasantry. Postan pointed out that the apparent conflict in their views was related to Denton's reading of the economic development of the country as a whole over a prolonged period, whilst Rogers had examined the well-being of some of the lower ranks of rural society in localised areas, examining prices and wages.[28]

The importance that the plague and later epidemic diseases played in stimulating or inhibiting the economic and social changes which occurred between 1350 and 1520 has long been discussed by historians. Despite the demise of at least a third of the European population in the Black Death of 1347-9, nineteenth-century historians such as Cunningham, Ashley and Denton, while acknowledging the sudden reduction in population, attributed economic changes more to political, social and constitutional forces, often seen

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[26] A. R. Bridbury, 'English Provincial Towns in the Later Middle Ages', *Economic History Review*, 34 (1981), pp. 1-24.
[27] C. C. Dyer, *Standards of Living in the Later Middle Ages: Social Change in England c.1200-1500* (Cambridge, Cambridge University Press, 1989), pp. 157-77.
[28] Postan, 'The Fifteenth Century', 160-167.

to predate the plague or to be unconnected with it.[29] Power in 1918 saw the plague as:

> nothing more than a gentle accelerator of pre-existing tendencies…giving the changing world a slight push in the direction it was already travelling.[30]

By contrast Postan in the 1930s created a powerful Neo-Malthusian explanatory system placing the relationship between population and resources at the heart of economic change.[31] The experiences of the later Middle Ages were again seen as the consequence of earlier developments in the medieval period. The denial of great significance to the 1348-9 plague tended to appeal to demographic determinists and Marxists alike with their rationalist explanations of historical development. The admission of the role the plague played meant that the historian was a mere chronicler of random historical events.[32]

More recently, historians have come to a consensus that despite the enormous mortality at the time, many aspects of rural life quite swiftly reverted to normality after 1350. Two further plague epidemics in 1361-2 and 1369 produced only modest changes in the standards of living of labourers and artisans. This again is largely unexplained, although it is possible that a previously unemployed population filled the newly available spaces for work. The problem with such an explanation is that the population had been falling since the first two decades of the fourteenth century due to crop failures and animal murrains, making such an excess unlikely. The Ordinances and Statutes of Labourers of 1349 and 1351 would seem to indicate that wages were indeed rising in the absence of available manpower and needed to be controlled. Although the established and customary relationships between peasant and landlord may have limited the ability of a free market in labour to develop for a while, they probably did little to prevent change ultimately. Manorial records might be expected to show rising wages being paid, but usually do not as this was illegal at the time. Food, drink and bonus payments were often recorded in addition to wages, probably to hide excessive rewards to labourers from the authorities.[33]

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[29] J. Hatcher, 'England in the Aftermath of the Black Death', *Past and Present*, 144 (1994), 3-35.
[30] E. Power, 'The Effects of the Black Death on Rural Organisation in England', *History*, 3 (1918), 109-116.
[31] M. M. Postan, *Essays on Medieval Agriculture and General Problems of the Medieval Economy* (Cambridge, Cambridge University Press, 1973).
[32] Hatcher, 'Aftermath of the Black Death', 6.
[33] Hatcher, 'Aftermath of the Black Death', 6-24.

In the absence of reliable statistical evidence from manorial records for the behaviour of labourers, Hatcher resorts to the literature of Gower and Langland, who describe the changes in behaviour of the lower orders post-plague. These descriptions seem to bear out what one would expect to have occurred in some graphic detail.[34] They describe labourers demanding high wages, and fine food and drink. They are lazy, will only be hired by the day, and wander from place to place, engaging in drinking, gaming and other pursuits, and with their enhanced incomes buying clothes and commodities unbecoming to their lowly status. Wycliff and Chaucer also wrote later in a similar vein. Whilst customary labour and rents may not have changed much immediately after the plague, there is evidence that the lot of free labourers and some wealthier peasants, who were able to buy spare land, was transformed. Within two decades after 1350, grain prices plunged, accelerating the ending of villeinage, and heralding the disturbances of 1381.[35]

For the fifteenth century two basic positions on the effect of epidemic disease on the English population have been proposed. Saltmarsh stressed the high frequency of plague and its social and economic effects.[36] He proposed that between 1200 and 1500, population growth was steady in the thirteenth and early fourteenth century, followed by a decline from 1320 and after the plague in 1348 and later. This decline only terminated in 1450 followed by stagnation until 1480, and then a gradual recovery in growth. Saltmarsh argued that these events caused declining prosperity, including after 1348. He attributed the economic decline to the fall in population caused by these epidemics.

In contrast, Bean argued that Saltmarsh over-estimated the significance of plague on population in the fifteenth century, claiming that by then the plague had become less virulent, and in many cases, epidemics were of other less deadly diseases.[37] He also felt that by the fifteenth century these epidemics were mainly an urban phenomenon from which populations could flee. By reducing the role of plague in the fifteenth century, Bean claimed that more of

[34] Hatcher, 'Aftermath of the Black Death', 24-35.
[35] M. Bailey, The Decline of Serfdom in Late Medieval England: From Bondage to Freedom (Woodbridge, Suffolk, UK, Boydell and Brewer, 2014), pp. 62-84.
[36] J. Saltmarsh, 'Plague and Economic Decline in England in England in the Middle Ages, *Cambridge Historical Journal,* 7 (1941), 23-41.
[37] J. M. W. Bean, 'Plague, Population and Economic Decline in England in the Later Middle Ages', *Economic History Review*, 15 (1963), 423-437.

the adult population survived to marry earlier, increasing birth-rate and the population.

Gottfried used data from a large number of wills, mainly from East Anglia in a computerised study, to derive information on mortality, marriage and fertility and their relationship with epidemic disease in the mid-fifteenth century between 1430 and 1480. In twenty-seven of those fifty years, major outbreaks occurred, which although mainly plague, also included smallpox, dysentery and respiratory infections. Apart from London, town populations were no more susceptible to infection than rural ones, probably because of their small size. The rates of marriage and child replacement declined during epidemics but recovered quickly afterwards. The mean age of both sexes at first marriage was in the mid-twenties. Continual episodes of disease led to long-term population decline, with male replacement levels below unity over the study period, although an improvement began soon after 1460. Wealthier testators and those in rural areas had larger numbers of children, and migration to the towns helped to maintain urban populations.[38]

Attempts to reconstruct population and mortality trends for the medieval period have been made from multiple sources, including manorial court rolls, poll tax returns, and wills, but each have their limitations and biases. Hatcher constructed a table of annual mortality over the century from the records of the Priory of Christ Church, Canterbury, showing a seasonal variation, high by modern standards, punctuated by annual spikes of exceptional mortality from major epidemics from between 1457 and 1505. This community cannot be held to be typical for the whole country, as they had quite high standards of nutrition and cleanliness but on the other hand lived in close proximity to one another, thus spreading infection amongst a larger group than in normal households. Although probably not representing the life expectancy of the peasant classes, for which few records exist, the quality of the data is good, and confirms the continued importance of epidemic disease on life expectancy and population size then.[39]

[38] R. S. Gottfried, *Epidemic Disease in Fifteenth Century England* (Leicester, Leicester University Press, UK, 1978), pp. 2-12.
[39] Hatcher, 'Mortality in the Fifteenth Century', 19-38.

It is also necessary to consider whether the 'crises' afflicting the country between 1300 to 1375, which included extreme weather conditions, famine, epidemic disease and persistent warfare, were the promoters of structural change later in the fifteenth century or were simply incidental to a gradual process of change which had begun centuries beforehand. The failure of the population to recover quickly was undoubtedly due in part to recurrent outbreaks of disease, but also to patterns of social behaviour with regard to marriage and childbirth. Although it has been assumed that the greater availability of land would encourage earlier marriage, young men may not have had the assets with which to acquire it until a greater age, thus delaying their marriageability and fertility. On the other hand, women had greater opportunities for waged work and may have sought to delay marriage until joint assets were sufficient, or to avoid it altogether.[40] However, evidence from Yorkshire suggests that after 1349 areas of arable land were left vacant and not given over to pasture, as enough pasture was already available.[41] This would suggest that the need for men to delay marriage was not a likely factor. By the last three decades of the fifteenth century, in the West Midlands, land was being brought under the plough again, as the economy recovered.[42]

The effects of warfare on the economy of the fourteenth and fifteenth centuries were varied and may not have been as detrimental as might be expected. War with the Scots and French in the last decade of the thirteenth century was soon followed by the conflicts of the 'Hundred Years War' with France between 1337 and 1453, and the civil 'War of the Roses' between 1455 and 1487. Taxes and customs were increased greatly, especially on exported wool, whilst attacks on shipping undoubtedly interfered with the import of wine from Gascony and the export of cloth. Gradually Hanseatic, and then the Flemish trade was lost as exports transferred to French and Spanish ports. On the other hand, the demand for provisions of all kinds to supply invading armies, increased the value of that aspect of the economy, and many individual merchants became very wealthy, especially in the port towns of the south and west of England. The return of much of the wealth generated, together with the spoils of war,

[40] P. J. P. Goldberg, *Women, work and life cycle* (Oxford, Clarendon Press, 1992), pp. 203-279.
[41] E. Miller, *The Agrarian History of England and Wales,* [AHEW], *Volume 3, 1348-1500* (Cambridge, Cambridge University Press, 1991), pp. 48-9.
[42] C. C. Dyer, 'The West Midlands' in 'Occupation of the Land' in Miller, *AHEW*, *Vol. 3*, pp.83-4.

accelerated the changes already occurring in agricultural land ownership, as these entrepreneurs formed large estates by buying up land from smaller owners.[43]

In conclusion, general factors altering the economy of England in the fifteenth century are summarised. The effects of the Black Death on the population level and social and economic development in its aftermath, producing changes in agriculture and town/country balance. Populations were slow to recover whether due to recurrent episodes of plague or customs late marriage. Changes in trade patterns due to warfare and the development new industries were important factors also. In chapter 2, factors relating to Devon's diverse economy are examined in detail, but first the approaches of other historians to economic changes in medieval England are reviewed.

1.04 Models of economic change in the medieval period

A number of different theoretical models have been proposed over the years by historians to explain changes in the economic development of England during the Middle Ages.[44] Broadly, the most important groups of these comprise the effects of population and resources (Malthusian), class relations and property (Marxist) and commercialisation and technological developments (Smithian).

Understanding economic history also requires information about the changes in population over time. Economic growth can result from a simple population increase, with static living standards, or by an increase in productivity per worker without any change in population number. Only the latter represents true economic development. Russell, Postan, Hallam and Wrigley have each published estimates of population and population change for the medieval and early modern periods, and their methods and the assumptions they have made, have been recently reviewed by Broadberry et al.. Best estimates show a peak medieval population of 4.8m. in 1348, falling to 2.6m in 1351, only recovering to

[43] M. M. Postan, 'Some Social Consequences of the Hundred Years War', *Economic History Review,* 12 (1942), 1-12.
[44] J. Hatcher and M. Bailey, *Modelling the Middle Ages: The History and Theory of England's Economic Development* (Oxford, Oxford University Press, 2001).

2.8m by 1545. However, these exceed many other previously published estimates. [45]

Hatcher and Bailey in an earlier publication concluded that six million was an upper estimate for the population of England in about 1300 and two million as a lower estimate by 1400, rising little by 1500. Remarkably, similar estimates made by Clark using a different method (combining information from nominal day wages, the implied marginal product of a day farm labourer, and the purchasing power of a day's wage) arrive at very similar results.[46] In addition Clark concluded, controversially that agricultural technology and the efficiency of the economy were static between 1250 and 1600, and any economic changes seen during these years were the result of demographic shifts, that is, population increases.

Malthusian or neo-Malthusian models consider the balance between the resources available and the population. When 80 percent or more of the population worked in agriculture, this balance influenced real wages and land prices. In late fourteenth and fifteenth century England, a falling population led to rising wages and falling land rents and prices. The rise and fall in population, often associated with famine and epidemic disease, or its absence, has been seen by such authors as the main determinant of economic output at that time. Before the mid fourteenth century, a rising population tended to increase the power of landowners and increase urban development and the building of monasteries and cathedrals. The subsequent falls in population saw a weakening of demesne farming, and serfdom, and a reduction in building and town sizes, although church building seemed to recover in the fifteenth century, especially in the West-Country, and in particular building of parish churches (discussed in detail in chapter 3). Postan was an early advocate of this model but conceded that accurate estimates of population were rarely available, except perhaps locally, and that land values and wages were a more useful surrogate indicator of the extent and direction of population change.[47]

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[45] S. Broadberry, B. M. S. Campbell, A. Klein, M. Overton, B. van Leeuwen, *British Economic Growth, 1270-1870* (Cambridge, Cambridge University Press, 2015), pp. 20-21.
[46] G. Clark, 'The Long March of History: Farm wages, Population, and Economic Growth, England 1209-1869', *Economic History Review*, 60 (2007), 97-135.
[47] Postan, *The Medieval Economy*.

During the period of population growth, as pressures on land use grew, increasingly marginal lands were brought into use. In the south-west this probably continued into the mid-fourteenth century around Dartmoor, Exmoor, and Bodmin Moor. Agricultural fertility eventually failed on these poor soils.[48] Postan also proposed that there was little capital investment at that time in what was almost a subsistence economy with technological improvements such as marling, crop rotation and manuring little used. As arable farming developed into a 'grain monoculture' needed to feed the growing population, loss of meadowland and pasture reduced the amount of manure that was available, and was a limit on animal husbandry.[49] Manorial records from eastern counties in the thirteenth century reveal evidence for the population pressures, in that about half of tenants had less than five acres to cultivate, when it was considered necessary to have at least ten in order to feed a household and meet obligations to the landlord.[50] In the south-west the situation was rather different, with records from the early fourteenth century showing average holdings ranging from thirteen to over thirty acres.[51]

These pressures reversed in the fourteenth century when population decline from famine and epidemic disease occurred, and in the fifteenth century most rural inhabitants were better off in terms of wages and land holdings. Some deficiencies of income from agricultural labour were compensated for with by-employments such as small-scale artisan manufacture. These could be undertaken at slack times when agricultural labour was less in demand, or for those leaving the land, they often provided a more attractive way of making a living in a town. The simultaneous developments in the cloth industry also allowed income generation at all levels of wealth.

Town populations were still relatively small, and trade by farmers in town markets unreliable.[52] Many town markets ceased to trade in the fifteenth century as the population fell, although this should not be regarded as a universal

[48] H. S. A. Fox, 'J: Devon and Cornwall' in 'The Occupation of the Land', Ch. 2 in Miller, *AHEW, Vol.3*, p. 152-174.
[49] M. M. Postan, 'Medieval Agrarian Society in its Prime', in M. M. Postan, ed., *The Cambridge Economic History of Europe, Vol.I, Agrarian Life in the Middle Ages*, (Cambridge, Cambridge University Press, 1966), pp. 549-632.
[50] Hatcher and Bailey, *Modelling the Middle Ages*, p. 45.
[51] H. S. A. Fox, 'J: Devon and Cornwall' in 'Tenant Farming and Tenant Farmers', Ch. 7 in Miller*., AHEW, Vol.3,* pp. 722-42.
[52] Hatcher and Bailey, *Modelling the Middle Ages*, pp. 49-52.

occurrence as other towns were flourishing because of new rural industries such as producing cloth and metalworking.[53]

The Malthusian model in its various forms has proved very influential over the years, although its major proponent, Postan, admitted that demographic factors alone did not account for all the features of the medieval economy, but they could explain periodic fluctuations in the economy over time. It may best explain the events of the early fourteenth century. Freak weather conditions and outbreaks of cattle and sheep murrains between 1315 and 1322 leading to famine conditions, and plague in 1348/9, resulted in a fall in population; although it has also been argued that declining living standards due to over-population may have led to deliberate population limitation and its subsequent decline.[54] Both factors may have operated together. Certainly, the failure of the population to recover steadily during the fifteenth century, at a time of high wages and available land, as Malthusian theory would predict, remains unexplained.

Although Postan suggested that reduced soil fertility, especially in marginal lands was a likely cause of the failure of the population to recover, other evidence from local studies shows good yields per acre extending into the fifteenth century. Marginal lands could also be used for economic activities other than arable agriculture. Stimulation to the economy from the growth of towns, wider trade and industrial developments further complicate any simple relationship between population and rural productivity.

From the 1940s and 1950s onwards a variety of Marxist critiques of the Malthusian approach arose, which, while agreeing that the medieval economy was essentially agrarian, argued that the method of production and class relations were more important than demography in determining economic change in what was essentially a ‘feudal’ system. The agricultural failures of the first half of the fourteenth century and later the revolt of 1381 were attributed to the extraction of excessive rents from the tenants whether in terms of labour, cash, or kind, leading to tension between landlords and peasants. This extraction, it was argued, was primarily for the conspicuous consumption of luxury goods, castle building and warfare, leaving little if any for reinvestment

[53] Dyer, *An Age of Transition*, p.194.
[54] W. C. Jordan, *The Great Famine* (New Jersey, Princeton University Press, 1996), pp. 24-39.

into improving estates or the maintenance or development of tenants' holdings.[55] Failure to invest resulted in reduced production and economic crisis (as with Malthusian models) but this was due to class inequality, that is a social rather than natural causes.

Marx in his writings was not particularly concerned with the medieval period, but his ideas were adapted by others such as Brenner, Dobb and Hilton.[56] They emphasised the 'mode of production' (society and its structures), the 'means of production' (tools, raw materials) and the 'relations of production' (worker vs. owner, and how the product of labour is shared). Brenner argued that demographic models ignored class structure as a determining factor for economic development. Different balances of power could mean that the same demographic trends had opposite outcomes in different places and time periods. An increasing population led to fragmentation of land holdings in medieval England but engrossment in sixteenth century England with increased commercialisation, whereas in Eastern Europe it led to a second serfdom. Society was composed of producers (the workers) and non-producers who extracted part of the product, by force if necessary (feudal lords). He claimed that the demographic model ignored the 'working of legal and social institutions' and the patterns of landholding in the medieval period. [57] Class struggle resulted in new ways of organising production, innovation and investment, and that economic change occurs mainly through changes in 'relations of production'.

Agriculture is capitalist when its main purpose is production for the market rather than subsistence.[58] Brenner argues that agrarian capitalism was an unintended outcome of class conflict between lords and peasants. In a feudal society, peasants were largely subsistence orientated, farming the land they held from the lord, mainly with family labour and selling any excess products in

[55] Hatcher and Bailey, *Modelling the Middle Ages*, pp. 66-120.
[56] R. Brenner, 'Agrarian Class Structure and Economic Development in Pre-Industrial Europe'. in T. H. Aston and C. H. E. Philpin, eds., *The Brenner Debate: Agrarian Class Structure and Economic Development in Pre-Industrial Europe* (Cambridge, Cambridge University Press, 1985), pp.10-63; M. Dobb, *Studies in the Development of Capitalism* (London, Routledge, 1946); R. Hilton, *Bond Men Made Free, Medieval Peasant Movements and the English Rising of 1381* (London, Routledge, 1973).
[57] R. Brenner, 'The Agrarian Roots of European Capitalism', in T. H. Aston, C. H. E. Philpin eds. *The Brenner Debate* (Cambridge, Cambridge University Press, 1985), pp. 213-327.
[58] J. P. Cooper, 'In Search of Agrarian Capitalism', in T. H. Aston and C. H. E. Philpin eds., *The Brenner Debate* (Cambridge, Cambridge University Press, 1985), pp. 138-191.

a market to buy things they could not make, or to earn cash to pay fines to the lord or taxes. By the late fourteenth and early fifteenth century feudalism was transforming into capitalism. Labourers were now mostly free to earn a wage, but many did not have land of their own. Society now consisted of landlords, tenants and landless labourers.[59] Landlords after the Black Death had diminished returns from their lands. They could not increase customary rents but used increased entry fines instead to increase income. Unoccupied land was assimilated into demesne lands while vacant, and in the sixteenth century this was parcelled up to be leased at market level rents. These changes encouraged commercial farming and engrossment, making more efficient and profitable enterprises.[60] Commercialisation promoted a growth in trade, markets, and technological and organisational specialisation through market competition. Brenner argued that class relations were the prime mover in these changes, downplaying the role of demographic changes, the growth of rural industry and the development of towns. However, although technological advances at this time were not stressed by Malthusian or Marxist historians, they were undoubtedly occurring.

The agricultural recession of the late fourteenth and fifteenth centuries led to social changes, with a weakening of the power of the landowner and an increase in power to the tenant. Lords initially tried to extract more from the peasantry, but also resorted to warfare and plunder abroad to replenish their falling incomes. The empowered tenants began to increase production for exchange rather than simply for use (subsistence) enabling an increase in trade with local towns and also further afield, with the further development of capitalism.

Nevertheless, Marxist models fail in some ways to adequately explain the change in tenant / landlord relationships before and after the mid-fourteenth century. The collapse of the population, resulting in an abundance of land and a rise in living standards with a reduction in serfdom and an inability of lords to resist the demands of tenants, cannot credibly be attributed to class conflict. However, later attempts by landlords to increase the revenues from their lands

[59] R. H. Hilton, 'A Crisis of Feudalism', in T. H. Aston and C. H. E. Philpin eds., *The Brenner Debate* (Cambridge, Cambridge University Press, 1985), pp. 119-137.
[60] Brenner, 'Agrarian Class Structure', pp. 10-63.

to pre-plague levels, probably did result in conflict and resistance later in that century.[61] Bailey, however, after a study of thirty-eight manors in Norfolk and the Midlands, concludes that lordly control over their tenants in the feudal sense had all but disappeared by 1380 with only a few surviving examples. Episodes of resistance and conflict were only sporadic, and he concludes that the revolt of 1381 concerned wider grievances.[62]

Both neo-Malthusian and Marxist models stress the restraints that population changes and class conflict imposed upon economic development. Models based on commercialisation and the development of trade emphasise their effect on easing these restraints by the increase in exchange and craft specialisation. A rise in population, rather than outrunning production, could stimulate trade and development. Rising demand would provide positive feedback to the economy. This viewpoint, which is contrary to the neo-Malthusian one, was put forward by Boserup. She argued that population growth stimulates agricultural development and increased productivity:

> The power of ingenuity would always outmatch that of demand. [63]

A high population density was necessary to produce the surpluses needed to enable urbanisation. Over the years the tendency is for workers to improve their techniques and productivity and to pass on their ideas to their descendants. Dawkins refers to the concept of 'memes', the ability of mankind to pass on ideas, like genes, to their descendants rather than having to reinvent them themselves.[64] This is not inevitable, however, and there have been periods when the growth of ideas and productivity have stalled or even gone into reverse, such as in England after the collapse of the Roman Empire in the fifth century.

Bois and Hilton, have suggested that rents and obligatory labour requirements were relatively fixed, and that much of the increase in the lords' income before the Black Death was through increasing the number of tenants, and by bringing more land into production and by the sale of demesne products in town

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[61] Hatcher and Bailey*, Modelling the Middle Ages*, pp. 109-10.
[62] M. Bailey*, The Decline of Serfdom in Late Medieval England: From Bondage to Freedom* (Woodbridge, Boydell and Brewer, 2014), pp. 307-337.
[63] E. Boserup, *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure* (London, George Allen and Unwin, 1965), pp. 11, 56, 70-71.
[64] R. Dawkins, *The Extended Phenotype* (Oxford, Oxford University Press, 1982), pp. 97-117.

markets.[65] This approach placed less emphasis on the importance of conflicts between lord and tenant, while still stressing the importance of lord-tenant relations. Increasing populations provide more available labour for agriculture, although this only increases productivity to a point. After that, surplus labour or seasonal excess labour could find alternative occupations, particularly in towns. Although often overlooked by historians, it has been postulated that the growth of technology in Northern Europe in the early medieval period had a profound effect on peasant life, increasing food supply and aiding the development of towns. The heavy plough was introduced to England in the tenth century, windmills and horse drawn ploughs in the twelfth century, water-powered fulling mills and flour mills in the thirteenth century together with the heavy horizontal loom, the spinning wheel by 1350, and mechanical clocks and guns in the fifteenth century. In towns during the later medieval period, continued development of technology allowed increased manufacturing output of products such as cloth, thus allowing the development of international markets and the further growth of capitalism.[66]

Adam Smith in 1776 pointed out that specialisation in any work activity (the division of labour) and the new technologies tended to increase productivity. He also advocated free markets and competition rather than monopolies.[67] The new technologies that Smith associated with economic growth were most obvious during the Industrial Revolution (1760-1840) but were not as important in the late medieval period. There were fewer opportunities to specialise in agriculture unless suitable transport and local markets existed. The development of towns facilitated specialisation, and rural environs usually had to be capable of supporting an urban population as well as themselves.

It is difficult to estimate with any great accuracy the importance or extent of the effects of commercialisation on medieval economic development in the absence of adequate written sources. Britnell argues that the best indicators historically are the extent of urban development, regular markets, transport, money supply

[65] G. Bois, *The Crisis of Feudalism; Economy and Society in Eastern Normandy, c.1300-1550* (Cambridge, Cambridge University Press, 1984); R. Hilton, *Bond Men Made Free: Medieval Peasant Movements and the English Rising of 1381* (London, Routledge, 1973).
[66] L. White, *Medieval Technology and Social Change* (Oxford, Clarendon Press, 1962), pp. 41-56, 71-75, 88-89.
[67] A. Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations,* R. S. Campbell and A. S. Skinner, eds., (Oxford, Oxford University Press, 1976), pp. 25, 456.

and evidence for agricultural specialisation. By the end of the thirteenth century, almost half of rural tenants were smallholders, with too little land to support their households, but surviving through a wide range of by-employments and trades, at least for part of each year.[68] Plentiful evidence for the development of new towns and markets exists, at least until the mid-fourteenth century, although there were signs of localised decline thereafter. Also well documented from customs records are the export of wool and cloth, and imports of wine, although overseas trade was often affected by outbreaks of warfare. The number of towns in England rapidly increased between the eleventh and fourteenth century, although many were small by contemporary European standards.[69] Evidence from tax assessments shows that as many as one in five of the population may have been town dwellers by the fourteenth century, if towns are defined as having a population of two thousand or more. A wide range of highly specialised occupations was recorded. [70]

Was the evidence for the effects of commercialisation in improving output enough to show that it could offset the negative effects of the rise in population and social conflict? Increases in agricultural output differed greatly between regions. East Anglia, Kent and Surrey had high populations and high levels of grain production, whereas other areas supported mixed and less intensive methods. Where the population density was relatively low, lower arable and pastoral productivity was often found, but where population density was high such as in Norfolk, much higher arable productivity per acre was seen. This was mainly due to labour-intensive farming methods, although there is plentiful evidence for the use of manuring, marling, night soil, and planting of legumes in rotation to increase productivity.[71] Relatively poor transport links meant that

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[68] R. H. Britnell*, The Commercialisation of English Society, 1000-1500* (Manchester, Manchester University Press, 1996), pp.80-81.

[69] R. H. Britnell, 'The Proliferation of Markets in England, 1200-1349', *Economic History Review,* 33 (1991), 209-221; P. Bairoch, J. Batou, P. Chevre, *The Population of European Cities from 800-1850* (Geneva, Librairie Droz, 1988), pp. 183-206.

[70] R. Holt, 'Society and Population, 600-1300', in D. M. Palliser, ed., *The Cambridge Urban History of Britain, Vol.1, 600-1540* (Cambridge, Cambridge University Press,2000), pp.79-104; C. C. Dyer, 'How Urbanised was Medieval England?' , in J-M. Duvosquel, and E. Thoen, eds., *Peasants and Townsmen in Medieval Europe*. (Gent, Snoek-Ducaju, 1995), pp. 169-183.

[71] B. M. S. Campbell, 'The Regional Uniqueness of English Field Systems? Some Evidence from Eastern Norfolk', Ch.3, in *Field Systems and Farming Systems in Late Medieval England (*Ashgate, Variorum Press, 1981).

trade in more bulky products such as grain tended to remain regional rather than national, so that prices varied considerably between regions as a result.[72]

Describing the effects of commercialisation on the medieval English (and European) economy, Persson emphasises the positive effects of an expanding labour force and improving technology on productivity to produce a "dynamic" model, in a similar vein to Boserup and in contrast to the 'stagnationist' models of the Neo-Malthusians and Marxist historians.[73] His "dynamic" model does not accept that the famines and disease in the first half of the fourteenth century were due to endogenous factors (population growth and social conflict), but treats factors such as freak weather conditions and virulent epidemics as exogenous factors. The rise of commercialisation fails, however, to adequately explain the apparently widespread economic depression in the early to mid-fifteenth century.

While theories such as Persson's appear objective owing to their use of mathematical models, they depend almost entirely on the relative weightings given to the variables included which in turn have been largely derived by inspired guesswork. They also fail to account for the widespread regional variations documented by other historians.[74] The landlords' main objective was to attain the highest profit, whilst the tenants would have wanted the highest productivity. High productivity meant extensive use of labour, the cost of which might have been saved with less intensive methods. The importance of the influence of urban centres may also be overplayed. Whilst London was larger by far than any other city in England, and clearly acted as a stimulus for the surrounding rural economies, most other towns were relatively small, and their influence much less important. In small towns many householders also had lands in the surrounding countryside which they would exploit to meet household and local market demands. Britnell has been more cautious in his overall assessment of the importance of commercialisation in the Middle Ages.[75] Although markets proliferated in the medieval period, access to them was

[72] J. Langdon, 'Inland Water Transportation in Medieval England', *Journal of Historical Geography*, 9 (1993), 1-11; J. Masschale, 'Transport Costs in Medieval England' *Economic History Review*, 46 (1993), 266-279.
[73] K. G. Persson, *Pre-industrial Economic Growth: Social Organisation and Technological Progress in Europe* (Oxford, Blackwell, 1988).
[74] Hatcher and Bailey, *Modelling the Middle Ages*, pp. 161-162.
[75] Britnell, *Commercialisation*.

heavily controlled by those who were able to profit from them most. Peasants would sell produce to obtain cash for rents, rather than to profit themselves. Commercialisation may have improved standards of living for many, but ultimately proved unable to compensate for the consequences of the reduction in land available for each household as the population grew.

Thus, the theoretical models which aim to explain economic change or development based on population, social relations or commercialisation each have both their strengths and weaknesses. It seems unwise to argue that there was 'one primary mover'.[76] Models having good explanatory power when applied to the centuries preceding the plague, often do not work well for later periods. Other models have been proposed in recent years.

1.05 Alternative models

This section reviews a variety of approaches to history, many of which are based more on mathematical treatments of historical records and new types of evidence, rather than the largely theoretical methods outlined in the previous section. These models have mostly been developed in the past fifty years and use data from a wide variety of records.

One favoured amongst economists is that based on the perceived importance of money supply as an economic driver.[77] Food prices have been shown to correlate well with money supply, but wages and other commodities did not, whereas all should move in the same direction. Demographic models also depend to some extent on the presence of a market economy. Fisher described an equation linking prices with money supply, MV=PT, where M is money supply, V the velocity of circulation, P prices and T the number of transactions occurring. Mayhew has popularised such ideas recently, but although the concept seems obvious and robust, in practice it is difficult to determine the values for these variables in the medieval period.[78] Money supply was influenced by chance discoveries of silver and the exhaustion of sources, minting practices and the adulteration of silver with base metals to increase

[76] Hatcher and Bailey, *Modelling the Middle Ages,* p.171.
[77] N. J. Mayhew, 'Population, Money supply, and the Velocity of Circulation in England, 1300-1700', *Economic History Review*, 48 (1995), 238-257.
[78] Mayhew, 'Money Supply'.

available bullion.[79] Broad correlations may be seen between mine outputs, population, economic expansion, trade volume and prices, but correlation does not prove causation.[80] Money supply should perhaps be regarded as only one of many factors interacting to explain economic change.

Williamson notes marked regional differences in in England in social structures, patterns of settlement, and field systems, with early twentieth century authors attributing these to the actions of past leaders and migrations, although by the latter half of the century others felt that these were minor influences. Possibly due to an emphasis on the role of urban centres, the role of physical geography in determining these differences has been neglected. In contrast, Williamson argued that these differences are in the main the consequences of environmental factors such as climate, geology, soils, and hydrology. The topography of the land also has had its effect on patterns of contact and communication.[81] On a broader canvas, similar ideas are expressed by Diamond, when he showed that on continents with a relative paucity of cultivatable food plants and animals, human civilisations had progressed slowly or not at all.[82] In England, a line joining the River Exe and Tees divides the geology into ancient north and west, and the newer south and east. The light sandy soils of the east coast proved ideal for arable farming, especially wheat, whereas the west supported more pastoral agriculture and the production of wool. At various times these forms of farming assumed different economic importance, driven by changes in demand for different agricultural products. Up until the mid-fourteenth century Devon farmers mainly practised forms of subsistence agriculture, but after the Black Death moved to producing specialties for sale. North Devon with its heavy clay soils raised cattle for meat and grew oats and rye for subsistence, whereas South Devon specialised in

[79] M. Allen, 'The Volume of the English currency, 1158-1470', *Economic History Review*, 54 (2001), 595-611; M. Allen, ' Silver Production and the Money Supply in England and Wales, 1086-c.1500', *Economic History Review,* 64 (2011), 111-131; P. Nightingale, 'Gold, Credit and Mortality, Distinguishing Deflationary Pressures on the Late Medieval Economy', *Economic History Review*, 63 (2010), 1081-1104.
[80] N. J. Mayhew, 'Numismatic Evidence and Falling Prices in the Fourteenth Century', *Economic History Review,* 27 (1974), 1-15.
[81] T. Williamson, *Environment, Society and Landscape in Early Medieval England* (Woodbridge, Boydell Press, 2013), pp. 6-35.
[82] J. Diamond, *Guns, Germs, and Steel: a Short History of Everybody for the Last 13,000 years* (London, Chatto and Windus, 1997).

wheat, barley, dairying, and cider. Patterns of trade were also determined by rivers, valleys and the proximity of the sea which facilitated transport.[83]

Traditional historical models for explaining economic development have relied on an essentially linear correlative approach, and each rest on some major assumptions. Each tends to have a 'prime mover', a variable such as population change or social conflict, and relegates other potential factors to a lesser role, or may ignore them altogether. Such an approach helps to manage the complexity of life, but inevitably imposes oversimplification. Similar problems arise in the study of the natural sciences which have led to the wider use of methods which emphasise the interdependence of variables in determining outcomes. Multivariate analysis, widely used in medical epidemiology and social science, enables the effects of many variables to be examined as they interact simultaneously. These are termed the independent variables and the outcome the dependent variable. In practice, many of the variables that should be included are difficult to measure or even unknown, making predictions of outcome practically impossible. A type of multivariate analysis is cluster analysis, where variables are placed into groups or clusters each having features in common with each other but differing from other clusters. Campbell has used this technique to analyse medieval farming types.

During the last two decades historians have begun to employ very large databases to answer important questions in economic history. These databases are not on the scale of so-called 'big data' involving millions of subjects but are of a size that generally require computational techniques for their effective analysis. In the UK Campbell and Overton have used these techniques in conjunction with several other European research groups to produce novel results. In 2006 Campbell, in his book *English Seigniorial Agriculture*, made use of large databases containing variables describing the use of land, livestock and crops grown on demesne land for nine thousand medieval manors in the UK, mainly in England.[84] The data was obtained from a variety of sources but mainly manorial accounts and inquisitions post-mortem (records of a manor's assets

[83] H. Fox, 'Medieval Farming and Rural Settlement', Ch. 36 in R. Kain and W. Ravenshill, eds., *Historical Atlas of South-West England* (Exeter, University of Exeter Press, 1999), pp. 273-280.
[83] A. Munslow, *Deconstructing History,* (London, Routledge, 1997), p. 237.
[84] B. M. S. Campbell, *English Seigniorial Agriculture, 1250-1450* (Cambridge, Cambridge University Press, 2000).

upon the death of its owner). This resultant large database was then investigated using cluster analysis (a form of multivariate analysis) to show that manors could be allocated to several discreet groups based on husbandry types. Different areas of the country demonstrated varied patterns of agriculture, probably based on their underlying geology and their geography. These types were then plotted on maps to show their national distribution.

Subsequently, the databases were extended to include other variables that could be derived from national and local archives, such that the total value of national economic output, agriculture, manufacturing and services could be estimated annually between 1270 and 1870, together with population growth.[85] From these outputs gross domestic product per capita over the period was calculated. While the amount of data compiled is impressive, the sophisticated techniques can hide the major assumptions made about somewhat fragile data. Overall, the work discussed gives a good oversight of the national situation, but lacks detail at a more local level, as in particular counties such as Devon. Nevertheless, the newer approaches that have been discussed in this section have allowed new insights to history to be opened up and new perspectives to be developed.

1.06 World models

The rise of global history also offers a fresh perspective on late medieval change. Abu-Lughod (1989) argues that knowledge about the world, both social and historical, is not fixed but develops by the introduction of new facts or new ways of knowing.[86] Three factors tend to enable this development to occur. Firstly, approaches which cut across disciplines such as sociology, economics, politics, and history are often very productive. Secondly, new ways of thinking are introduced by the coming together of scholars from all parts of the world and varied cultures especially when they challenge the West versus the Third World approach. Thirdly, knowledge may change by seeing facts from a distance or a new perspective. She describes 'traditional' historians as being organised vertically by time, horizontally by space and in the third dimension by focus. At

[85] Broadberry et. al., *British Economic Growth*.
[86] J. L. Abu-Lughod, *Before European Hegemony: The World System A.D. 1250-1350* (Oxford, Oxford University Press, 1989).

each intersection of this academic matrix a few specialists dig long and deep, but often lose their peripheral vision.

In her book she rejects the opinions of previous historians who make a sharp distinction between types of western cities and those in the east. If today much of Asia is seen as lagging the West, this was not always so. The flowering of a European dominated world system did not arrive de novo in the sixteenth century, as some historians have claimed and neither was this 'success' attributable to the unique genius of Europeans, their culture or even capitalism. Abu-Lughod traces the near simultaneous development of many civilisations and points out that they are joined in an 'interlinkage of orbits of exchange'. Diamond (1997) considers world civilisations with a similar non-occidental approach, examining the success or failure of each around the World and though history. He emphasises the ecological aspects of their existence. Sub-Saharan nations have to some extent failed to progress because of disease and the lack of native crops or animals that could be easily cultivated. The 'fertile crescent' in the Middle East was almost the opposite case, with native grasses, horses, cattle, sheep, and goats forming the basis of a successful agriculture. Climatic change also featured in the success or otherwise of early civilisations.[87]

Campbell has named the period between the mid thirteenth century and the late fifteenth century 'The Great Transition', emphasising that 'nature as much as society needs to be acknowledged as a protagonist of historical change'.[88] By using multiple sources such as dendrology, stalagmites, and crop yields from manorial records, he has been able to build up a record of climate change over a period of three hundred years. Using this data, it is possible to link historical, ecological, and economic events over the late medieval period, not only in England but in Europe and more widely. Campbell argues that the period in question can be roughly divided into three, before 1340, 1340-1370 and 1370-1470. These periods are strongly related to climatic changes, mostly associated with alterations in solar activity. In the mid-thirteenth century, solar irradiance decreased compared with the previous two hundred years, resulting in changes

[87] J. Diamond, *Guns, Germs and Steel* (London, Chatto and Windus, 1997); J. Diamond, *Collapse: How Societies Choose to Fail or Succeed* (London, Penguin Books, 2005).
[88] B. M. S. Campbell, *The Great Transition: Climate, Disease, and Society in the Late Medieval World* (Cambridge, Cambridge University Press, 2016), pp. 1-19.

in temperature and rainfall, and leading to failing harvests and epidemics of animal and human disease.

By the 1340s accelerated climate change had led to escalating warfare, commerce and economy had moved into recession, and bubonic plague had struck. This trio of crises led to an episode of pivotal historical change. The fall in solar irradiance led to a cold period between 1342 and 1354 (worst in 1348) which left long established ecological circulation patterns in disarray. Trade routes with the east were interrupted leading to England having a negative trade balance.

The arrival in Europe of plague by 1348 produced an enduring check on human population unlike the harvest failures of 1315-22 which caused a temporary halt. Repeated episodes continued the decline over the following years. Over the following century, recovery seemed to be inhibited by the combined forces of climate, epidemiological, commercial, and economic factors, leading to stasis until around 1470. The 'Little Ice Age' of the mid-fifteenth century and recurrent but more localised outbreaks of plague both contributed to the economic nadir of the third quarter of the century. But the period from 1470 was one of recovery, continuing well into the following century and Campbell concluded that:

> The final quarter of the fifteenth century marks the turning point when the Great Transition finally came to an end and a resurgent western Europe embarked upon a new sustained phase of expansion and growth.[89]

Episodes of the plague diminished, possibly due to the evolution of a population more resistant to the disease, bullion scarcity was helped by improved credit and financial instruments, and the climate improved. These models allow the historian to place more local histories in a wider perspective and often to identify factors inducing change but acting from afar. As will be shown in chapter 2, such influences were significant in the late medieval economic development in Devon.

1.07 Conclusion

Many historians, as has been shown in this chapter, have seen the fifteenth century as a time of change, metamorphosing from the medieval world to that of

[89] Campbell, *The Great Transition,* p. 335.

the Tudor dynasties. The beginnings of these changes can often be dated to earlier centuries, but many were achieved in the 'long fifteenth century'. Nineteenth-century European history writing is now considered somewhat elitist, dominated as it is by the histories of the nobility, politics, and the origins of empire. In the twentieth century, Marxism and the ascendency of the labour movement allowed the history of ordinary people to be written, with the subsequent rise of 'social history'. One consequence is that the previously unified subject of history spawned numerous sub-specialities covering areas such as the history of economics, statistics, gender, ethnicity and sexual orientation, while social history concerning mainly working-class politics has moved on to other topics in the later twentieth century. Thus, historical writing is indeed heavily influenced by what Foucault called the 'dominant discourse' of the time.[90]

Bearing these ideas in mind, this thesis proposes to critically evaluate the evidence for the accelerated economic development in Devon, relative to other English counties, between c.1350 and 1525. Chapter 2 reviews the existing literature describing the economic activities in Devon that would have contributed to the county's success during the fifteenth century. These include the development of towns and markets, the textile industry, tin extraction, agriculture, and fishing, emphasising the role of economic diversity. In the following three chapters, this thesis presents new research into the relative increase in Devon's wealth, population, and maritime trade during the late medieval period.

[90] M. Foucault, *Language, Counter-memory, Practice: Selected Essays,* Trans. by D. F Bouchard and S. Simon (New York, Ithaca, 1973), p. 153.

Chapter 2. Devon's Towns, Industries and Agriculture – A Review

2.01 Introduction

This chapter examines the different forms of production in fifteenth century Devon, and Devon's network of towns and markets. It reviews the existing literature, and where possible makes use of published primary evidence and draws comparisons with other English counties. After exploring the nature of towns and markets in Devon as evidence of the county's economic vitality, sections of the chapter focus in turn on the cloth industry, tin mining, agriculture, and fishing. Our knowledge of these topics has benefitted greatly from the research of historians such as Hoskins, Finberg, Hatcher, Kowaleski and Fox. None of these authors, however, has attempted to account for Devon's rising prosperity in the fifteenth century in comparison to other English regions, by associating the growth directly with the regional diversity of these industries.

Devon had an unusually high density of towns, and many of these showed a high degree of resilience through the fifteenth century. The evidence of towns, boroughs and markets is reviewed to provide context of Devon's prosperity in this period. However, the complexity of relating numbers of towns to economic performance means that the existence of a dense network of small towns cannot be used with any certainty to measure Devon's economic success in the fifteenth century in comparison with other English counties. Attention is then turned to the forms of production in Devon's economy. The most important form of industrial production was cloth making, although Devon was a relative late comer to the scene. Tin mining and smelting were well developed in Devon in the early thirteenth century, almost disappeared at the time of the Black Death but were having a renaissance in the fifteenth century. Agriculture was the main form of employment, experiencing changes in the balance of arable to pastoral during this period. Sea fishing developed during the century, both as a form of supplementary food production and as a major maritime export.

2.02. Markets, boroughs and towns

This section makes use of four existing sources to investigate markets, boroughs, and market towns. Firstly, the gazetteer of medieval markets by

Samantha Letters was used.[91] This is the most recent and comprehensive source of information on markets and fairs by county in England and Wales. Each market town is listed alphabetically with its lay subsidy paid in 1334, the dates of establishment of markets and fairs, and where known, the charter or other source of information as to origin. The fact that many of these were also boroughs is noted. Secondly, Britnell collected extensive data on markets in England using a wide range of sources, published in his 1981 article on the proliferation of medieval markets. He classified them by their time of foundation from 1200 until 1325 and concluded that there were few important establishments after that.[92] Thirdly Beresford and Finberg's handlist of boroughs is an earlier publication covering English counties only but giving their dates of foundation where known and the source of that information. These included royal charters, taxation records and the *Calendar of Close Rolls* amongst others. The authors state that they are unlikely to have found all the boroughs that existed and that other records could be discovered in the future. Indeed, their handlist has an addendum included before publication.[93] Finally, use was made of Alan Everitt's lists and maps of market towns in England and Wales for the period 1500-1640. He drew on a wide range of earlier secondary sources including those compiled by Hoskins, Finberg and Beresford.[94]

The prevalence of markets and their associated towns and boroughs could be thought to relate to the generation and expression of wealth in a county or region. This section reviews the history of their growth in England in the late medieval period and the factors determining their development before looking closely at the incidence of markets, towns, and boroughs in Devon.

Markets

A market may mean a reserved space for trade, or an occasion or day when people met to buy and sell goods. Evidence for a market is often a royal charter giving permission for a weekly market to be held. However, such markets may

[91] S. Letters, *A Gazetteer of Markets and Fairs in England and Wales to 1516 With Their Dates of Foundation* (London, TNA, Kew, 2005) and British History Online, http://w.w.w. british history.ac.uk/list-index-soc/markets-fairs-gazetteer-to-1516 (accessed Nov.2018).
[92] R. H. Britnell, 'The Proliferation of Markets in England, 1200-1349', *Economic History Review*, 34 (1981), 209-221.
[93] Beresford and Finberg, *English Medieval Boroughs*.
[94] A. Everitt. 'The Number and Origin of Market Towns' in J. Thirsk, ed., *The Agrarian History of England and Wales, Vol.4, 1500-1650* (Cambridge, Cambridge University Press, 1967), pp. 467-77.

never have been established, or may have resulted in an early failure due to changing conditions, such as a fall in population or a move to larger town sites. Although dates for establishment may exist, discontinuation is rarely recorded: this makes it difficult to use the presence of markets as a measure of economic performance in medieval England. Markets developed to sell produce surplus to the requirements for subsistence, whether from demesne or tenants lands; they also helped provide the means for lords to buy luxuries to enhance their status, and tenants to acquire the cash to pay rents, fines and taxes. Food items were mostly bought by landless labourers who worked for cash wages. Tenants bought mainly artisan products such as tools, clothes, and shoes.

Markets had developed extensively in England by the thirteenth century, usually springing up at a convenient site or crossroads within a day's walk or carting distance from the producer's home. Markets were supposed to have a royal charter, but many did not, while those that did have a charter did not always develop into active markets. Most but not all small towns had a market, usually weekly, with its own set of rules, charges for trading and penalties for forestalling and regrating.[95] Unfortunately, detailed records of most of the activities of these markets are few and far between. Kowaleski, however, has researched the markets in and around Exeter in the fourteenth century where the city records are detailed and survive.[96]

Towns, as with boroughs, usually, but not always had a market. The prevalence and siting of markets was probably determined by several factors, including the local geography and economy. C. Dyer suggests that six miles each way was the distance a man or woman could walk with goods to a market and back in a day, which tended to determine the spacing of rural markets.[97] Farmer notes that markets were originally held mainly on Sundays and often in churchyards, although this was later supressed by the clergy. Neighbouring markets, however, were frequently held on different weekdays thus allowing trade between nearby towns and facilitating the exchange of the specialties of one village for those of another. In the first half of the fourteenth century the number

[95] Forestalling is buying goods before reaching a market to sell them later in the market at a higher price. Regrating is the act of buying and selling again in the same market, thus raising the price.
[96] M. Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1995).
[97] C. Dyer, 'Small Towns 1270-1540', in Palliser, *Urban History,* p. 505-40.

of markets began to reduce, particularly small village markets, some by amalgamation but others, usually those with a later foundation date, simply failed to become fully established.[98]

It has been estimated that there were up to 2500 markets in England by 1300. Markets were established mainly by local landlords, who could be secular or ecclesiastical, in the twelfth and thirteenth century to provide an opportunity to extract tolls from traders and stimulate the economy. Their creation was necessary to give the rural population the opportunity to obtain coin to pay taxes and dues. In the twelfth century new silver had come into England, and the new short-cross silver penny come into circulation, which helped stimulate the economy.[99] By the fourteenth and fifteenth century markets were more likely to have been established and permanent, and include covered stalls, warehousing, a weighing beam, and a fresh water supply. Most occurred weekly. Maintenance was by the local landlord, ecclesiastical or secular organisations, towns or parishes.[100]

The distribution of markets was uneven, often dependent upon geographical features. Devon had more markets than the size of its population would seem to justify, probably because of its moorland and poor roads: as people needed to be able to travel to and from their local market within a single day. Lords often tried to establish new markets or towns to provide a direct income from tolls and rent, not only in Devon but elsewhere.[101]

Both Letters and Everitt record the numbers of markets or market towns in 39 counties of England, with Lincolnshire and Yorkshire considered as single counties (Table 2.01). The rank order of counties for the number of markets is shown for the period up to 1516 (Letters) and for between 1500 and 1650 (Everitt). Norfolk ranked highest for the first period and Yorkshire for post 1500. Devon's ranking rose from eighth to second across the two periods. It could be argued that this represented a flourishing economy or simply progress from economic backwardness to greater prosperity. Everitt comments that markets diminished after 1500 to about a third of the number that there were previously,

[98] D. L. Farmer, 'Marketing the Produce of the Countryside', in Miller, AHEW, *Vol.3*, pp 324-430.
[99] Palliser*, Urban History*, p. 47.
[100] J. Schofield and G. Stell, 'The Built Environment', in Palliser, *Urban History*, pp. 379-84.
[101] Kowaleski, *Local markets*, p. 41; R. H. Britnell, 'The Proliferation of Markets, 1200-1349', *Economic History Review,* 34 (1981), 209-21.

and the data compiled here bears that out for most counties. In the period 1500-1650 Devon had 37 percent of the number of market towns that it had prior to 1500. Devon had 123 markets before 1516, the sixth highest in England.[102] It also had 45 market towns between 1500 and 1650, the second highest in England (Fig 2.01). Devon, however, is a large county in terms of area, only exceeded by Lincolnshire and Yorkshire, and would therefore be expected to have a high number of markets and market towns. If these figures are corrected for county area, Devon lies twentieth for markets up to 1516 (7.42 per 100,000 acres) and fifteenth for market towns in the sixteenth century (2.71 per 100,000 acres), which is a middling position (Table 2.02). This indicates that the high rankings seen in Table 2.01 are mainly associated with Devon's large area.

[102] Letters. *A gazetteer of markets.*

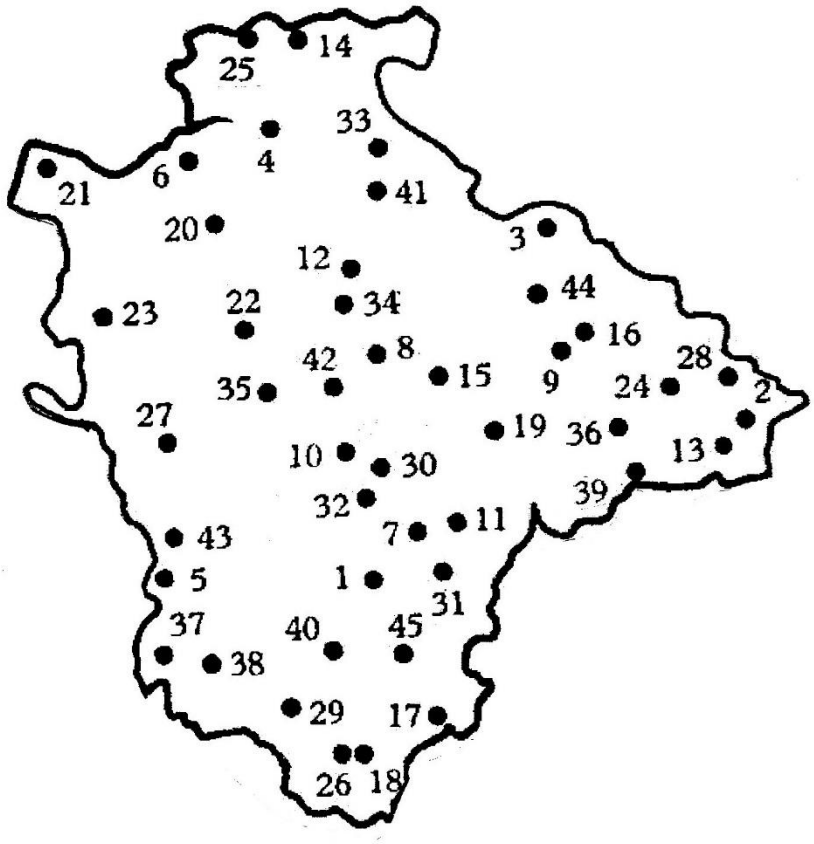
Table 2.01 Numbers of markets by county and period.

County	Markets pre 1516	Markets 1500-1650	Remaining after 1500 organisations(%)
Bedfordshire	26 [32]	10 [29]	38
Berkshire	36 [26]	12 [26]	33
Buckinghamshire	41 [20]	15 [21]	37
Cambridgeshire	37 24]	8 [34]	22
Cheshire	21 [35]	13 [24]	62
Cornwall	55 [14]	25 [11]	45
Cumberland	25 [34]	16 20]	64
Derbyshire	31 [30]	10 [29]	32
Devon	**123 [6]**	**45 [2]**	**37**
Dorset	56 [13]	21 [14]	38
Durham	12 [36]	7 [37]	58
Essex	92 [8]	27 [10]	29
Gloucestershire	63 [11]	34 [5]	54
Hampshire	61 [12]	21 [14]	34
Herefordshire	36 [26]	9 [31]	25
Hertfordshire	41 [20]	20 16]	49
Huntingdonshire	26 [32]	8 [34]	31
Kent	137 [3]	33 [7]	24
Lancashire	43 [18]	31 [9]	72
Leicestershire	36 [26]	13 [24]	36
Lincolnshire	127 [4]	37 [4]	29
Middlesex	11 [38]	6 [38]	55
Norfolk	173 [1]	31 [8]	18
Northamptonshire	55 [14]	15 [21]	27
Northumberland	39 [23]	8 [34]	21
Nottinghamshire	32 [29]	9 [31]	28
Oxfordshire	36 [26]	13 [24]	36
Rutland	7 [39]	2 [39]	29
Shropshire	52 [16]	18 [18]	35
Somerset	124 [5]	39 [3]	31
Staffordshire	50 [17]	19 [17]	38
Suffolk	111 [7]	33 [6]	30
Surrey	40 [22]	10 [29]	25
Sussex	81 [9]	21 [14]	26
Warwickshire	42 [19]	17 [19]	40
Westmoreland	12 [36]	8 [34]	67
Wiltshire	73 [10]	23 [12]	32
Worcestershire	26 [32]	11 [27]	42
Yorkshire	169 [2]	54 [1]	32

Source: Letters, *Gazetteer of Markets,* and Everitt, *Number and Origin of Medieval Towns*.

Note: Rank order in square brackets. Percentage remaining after 1500 in third column.

Figure 2.01. Market towns in Devon 1500-1650



1. Ashburton	16. Cullompton	31. Newton Abbot
2. Axminster	17. Dartmouth	32. North Bovey
3. Bampton	18. Dodbrooke	33. North Molton
4. Barnstaple	19. Exeter	34. North Tawton
5. Bere Alston	20. Gt. Torrington	35. Okehampton
6. Bideford	21. Hartland	36. Ottery St. Mary
7. Bovey Tracey	22. Hatherleigh	37. Plymouth
8. Bow	23. Holsworthy	38. Plympton St. Mary
9. Bradninch	24. Honiton	39. Sidmouth
10. Chagford	25. Ilfracombe	40. South Brent
11. Chudleigh	26. Kingsbridge	41. South Molton
12. Chumleigh	27. Lifton	42. South Tawton
13. Colyton	28. Membury	43. Tavistock
14. Combe Martin	29. Modbury	44. Tiverton
15. Crediton	30. Moretonhampstead	45. Totnes

Source: Redrawn from Everitt, 'Number and Origin of Medieval Towns', in Thirsk, *AHEW,* Vol.4, pp. 467-77.

Table 2.02. Numbers of markets and market towns by county by area.

County	Markets pre 1516 per 100,000 acres	Markets 1500-1650 per 100,000 acres
Bedfordshire	8.72 [9]	3.36 [6]
Berkshire	7.69 [17]	2.56 [[17]
Buckinghamshire	8.67 [11]	3.17 [9]
Cambridgeshire	6.73 [25]	1.45 [36]
Cheshire	3.63 [34]	2.25 [26]
Cornwall	6.34 [27]	2.88 [12]
Cumberland	2.58 [37]	1.65 [33]
Derbyshire	4.68 [32]	1.51 [35]
Devon	**7.42 [20]**	**2.71 [15]**
Dorset	8.87 [8]	3.33 [7]
Durham	1.79 [39]	1.04 [38]
Essex	9.31 [7]	2.73 [13]
Gloucestershire	8.55 [13]	4.61 [2]
Hampshire	5.87 [30]	2.02 [31]
Herefordshire	8.43 [14]	2.11 [28]
Hertfordshire	10.02 [6]	4.89 [1]
Huntingdonshire	11.21 [5]	3.45 [5]
Kent	12.07 [3]	2.91 [11]
Lancashire	3.54 [35]	2.55 [18]
Leicestershire	6.82 [24]	2. 46 [20]
Lincolnshire	7.46 [19]	2.17 [8]
Middlesex	6.08 [28]	3.31 [8]
Norfolk	13.24 [1]	2.37 [28]
Northamptonshire	8.55 [12]	2.33 [24]
Northumberland	3.15 [36]	0.65 [39]
Nottinghamshire	5.93 [29]	1.67 [32]
Oxfordshire	7.55 [18]	2.73 [14]
Rutland	7.22 [22]	2.06 [30]
Shropshire	6.85 [23]	2.37 [22]
Somerset	12.17 [2]	3.83 [3]
Staffordshire	6.63 [26]	2.52 [19]
Suffolk	11.67 [4]	3.47 [4]
Surrey	8.26 [16]	2.07 [29]
Sussex	8.71 [10]	2.26 [25]
Warwickshire	7.27 [21]	2.94 [10]
Westmoreland	2.47 [38]	1.65 [34]
Wiltshire	8.30 [15]	2.61 [16]
Worcestershire	5.59 [31]	2.37 [23]
Yorkshire	4.35 [33]	1.39 [37]

Source: Simplified from C. Dyer, in Palliser, *Urban History*, p. 536.

Note: Rankings in parentheses.

Markets, towns and boroughs developed as medieval society moved out of an age of a subsistence economy, into one capable of producing surpluses which could be sold to acquire other material assets. Examination of the founding, prevalence and survival of these institutions may give an indication of economic activity and wealth creation. Beresford suggests that the promotion of new boroughs arose from a realistic assessment of their chance of success in an expansionary economy, but the near cessation of new foundations of boroughs in the fourteenth century and later, indicates a change in the direction of the economy. As A. Dyer states:

> towns had always been first and foremost market centres before some assumed a more industrial role, and most small towns earned their living by their weekly markets which brought in country custom to their shops.[103]

Nevertheless, by the early sixteenth century markets had dwindled to little more than a third of their previous number.[104] This could have been related to falls in population or to changes in the organisation of the economy following the weakening of the feudal management of estates and a move from arable to pastoral agriculture. Alternatively, there may have been movement to larger towns and a more concentrated urban economy as the smaller towns declined. This is borne out by the observation that bigger market towns appeared rather larger in 1520s than they had in 1370s, despite only a small increase in the national population by then.[105]

Commercialisation of the economy was indicated by an increase in the number of markets and the urban population. In the medieval period this peaked at around 1300. Increasing regional specialisation occurred, particularly in agriculture.[106] Commercialisation cannot be equated with capitalism, although the latter had begun. Capitalism requires that entrepreneurs own the means of production, that production is for the market, and that the workers depend mainly on wages for their livelihood. Most but not all artisans owned their own tools, and rural agricultural workers were more likely to be small landowners

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[103] M. Beresford and H. P. R. Finberg, *English Medieval Boroughs: A Handbook* (New Jersey, U.S.A., Rowman and Littlefield, 1973), p. 57.
[104] Letters, *Gazetteer of Markets*, Everitt, *Number and Origin of Medieval Towns*.
[105] A. Dyer. *Decline and Growth in English towns, 1400-1640* (Cambridge, Cambridge University Press, 1995), pp. 10-11.
[106] R. H. Britnell, *The Commercialisation of English Society, 1000-1500* (Manchester, Manchester University Press, 1993), p. xiv.

paying rents to landlords for their fields. Entrepreneurs, however, existed in the cloth trade for example, buying wool and taking it to workers who would process and weave it, usually in their own homes, before it went to market, but the workers would still have mostly owned their own spinning wheels and looms.[107]

The money supply too had increased from a twelfth century low, but this growth had ceased in the fifteenth century, although with a lower population the supply *per capita* was probably higher. Increased money supply contributed a stimulus to the creation of new towns, boroughs, and fairs. Britnell argues that this effect was probably more marked in the twelfth and thirteenth centuries, with a degree of contraction in the fourteenth and fifteenth centuries, although the regional variation was considerable.[108] This contraction related to economic difficulties such as a reduction in trade associated with the loss of Normandy and Gascony, and a loss of the Baltic trade routes due to deterioration in relationships with the Hanseatic League in the early fifteenth century. Later in the century, London became increasingly dominant as a trading centre. This resulted in a decline of east coast ports with loss of their wool and grain exports, while the activity at Southampton and Exeter was maintained. Bristol cloth merchants gradually moved their trade to London. York's cloth finishing declined again associated with a loss of industry to London, but Exeter's increased. Another loser was Coventry with little access to ports or large rivers and marked population decline.[109]

In the South-West, during the fourteenth century, the economy developed at a slower pace. Landlords developed their estates by creating new small towns. These were often near waterways due to the transport difficulties in the hinterland. A marked diversity of products to trade arose.[110] Small towns such as Crediton, Tiverton and Totnes experienced an expansion of the cloth trade from 1460s onwards. This grouping of textile towns allowed networks to develop, especially useful where international trade was involved.

[107] Dyer, *An Age of Transition?* pp. 40-2.
[108] Britnell, *The Commercialisation of English society,* pp. 228-237.
[109] Dyer, *Decline and Growth,* pp. 17-19.
[110] T. R. Slater, 'The South-West of England', in D. M. Palliser, ed., *The Cambridge Urban History of Britain* (Cambridge University Press, 2018), pp. 583-607.

Boroughs

Boroughs at this time were usually small towns containing burgage tenures, although at a later date some grew to a considerable size. The tenurial freedom of burgage marked the owner out from villeinage and was a legal distinction. The tenant enjoyed fixed rents, was able to sell the tenure to whom they pleased and could trade in the market toll-free. A royal charter was the best evidence of such a freedom as were manorial records describing tenures as burgages, but the great majority of such records no longer exist, and some may never have been created. The burgesses rented burgage plots on which they could build a house, and which also usually had a narrow frontage on a road near the market. The lay subsidy imposed on a borough was higher than that imposed on rural communities, and they normally paid at a rate of one tenth rather than one fifteenth of moveable wealth. Boroughs administered their own justice provided either by the crown or borough court. They were created over the centuries from Saxon times until the mid-fourteenth century by royalty, the church or wealthy landowners in about ninety percent of cases, and all had markets. The remaining boroughs were probably seigneurial also, but no archival information survives to confirm this.[111] Table 2.03 shows the distribution of boroughs by county through England and their approximate date of foundation.

Table 2.03. Dates of establishment and numbers of boroughs by county.

County	**Prior to 1086**	**12th century**	**13th century**	**14th century**	**15th 16th century**	**Total**
Bedfordshire	1	1	3	0	1	6
Berkshire	2	3	7	2	0	14
Buckinghamshire	2	1	6	1	0	10
Cambridgeshire	1	0	2	0	0	3
Cheshire	1	0	12	2	0	15
Cornwall	1	3	16	8	2	30
Cumberland	1	0	4	4	0	9
Derbyshire	1	1	4	0	0	6
Devon	**6**	**6**	**30**	**21**	**11**	**74**
Dorset	5	0	9	1	2	17
Durham	0	7	4	0	0	11

[111] Beresford and Finberg. *English Medieval Boroughs,* pp. 21-57.

Essex	3	2	5	0	5	15
Gloucestershire	4	6	13	5	1	29
Hampshire	3	6	10	1	2	22
Herefordshire	3	0	11	2	0	16
Hertfordshire	5	1	4	1	0	11
Huntingdonshire	1	0	1	6	0	8
Kent	9	1	3	1	2	16
Lancashire	1	2	13	3	1	20
Leicestershire	1	1	1	0	0	3
Lincolnshire	5	3	4	0	1	13
Middlesex and London	1	0	0	0	0	1
Norfolk	3	1	2	0	0	6
Northamptonshire	2	3	3	1	1	10
Northumberland	0	6	8	6	1	21
Nottinghamshire	2	0	1	0	0	3
Oxfordshire	1	2	6	1	0	10
Rutland	0	0	1	0	0	1
Shropshire	2	3	11	3	3	22
Somerset	10	5	9	7	0	31
Staffordshire	4	5	12	1	0	22
Suffolk	7	0	3	0	1	11
Surrey	2	2	4	0	1	9
Sussex	8	2	6	0	0	16
Warwickshire	1	3	8	2	1	15
Westmoreland	0	2	1	0	0	3
Wiltshire	10	3	8	3	2	26
Worcestershire	4	0	4	2	1	11
Yorkshire: York E.Riding N.Riding W.Riding	1 2 0 2	0 3 8 4	0 3 5 8	0 1 1 4	0 0 0 0	1 9 14 18
Total	118	96	273	90	34	609

Source: Data from Letters, *A Gazetteer of Markets*.

The peak time for creation of boroughs was the thirteenth century, and only around three percent were created after 1400. The fall in population after the Black Death may have contributed to this together with further growth of larger

towns. The actual number of boroughs per county obviously depended on the county size, but a large county such as Norfolk only had six (4.6 per million acres), while Devon although somewhat larger in area had seventy-four in total (44.6 per million acres). Boroughs continued to be established in Devon when other counties had almost ceased to do so. While this could be attributed to the county's increasing prosperity, it could also be explained by its late development commercially. In Devon 'organic' towns (those originating spontaneously) were outnumbered three times by 'planted' towns (those established by landlords in the hope that they would generate local economic activity). In Cornwall, the proportion was nearly equal, while in Norfolk there were very few planted towns. Goddard suggests that boroughs should be considered as

> Manorial enterprise zones wherein craft production and exchange were encouraged.[112]

After the Black Death, those newly established boroughs from the previous centuries often had to repurpose themselves to survive. He gives many examples of towns with varying fortunes. Those which were larger and served an extensive hinterland were more likely to survive, although those towns that had developed very rapidly often had an infrastructure less able to recast itself when the economy was less buoyant. Goddard concludes that these small boroughs are best seen as:

> zones within the manorial economy linking functional modification with changes in seigneurial estate management.[113]

In assessing economic activity, it must be borne in mind that urban wealth and population were not always directly related. A good example would be Totnes in Devon which, in 1524/5, despite its small size compared with Exeter (220 taxpayers) paid very high taxes, £143.17s.11d, due to the presence of a few extremely wealthy entrepreneurial cloth merchants whose wealth derived largely from overseas trade. The neighbouring town of Stokenham of similar size (218 taxpayers) paid £19.0s.2d. [114]

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[112] R. Goddard, 'Small Boroughs and the Manorial Economy: Enterprise Zones or Urban Failures?', *Past and Present*, 210 (2011), 1.
[113] Goddard, 'Small Boroughs', 5.
[114] Dobson, 'General survey, 1300-1540' in Palliser, *Urban History,* pp. 273-90.

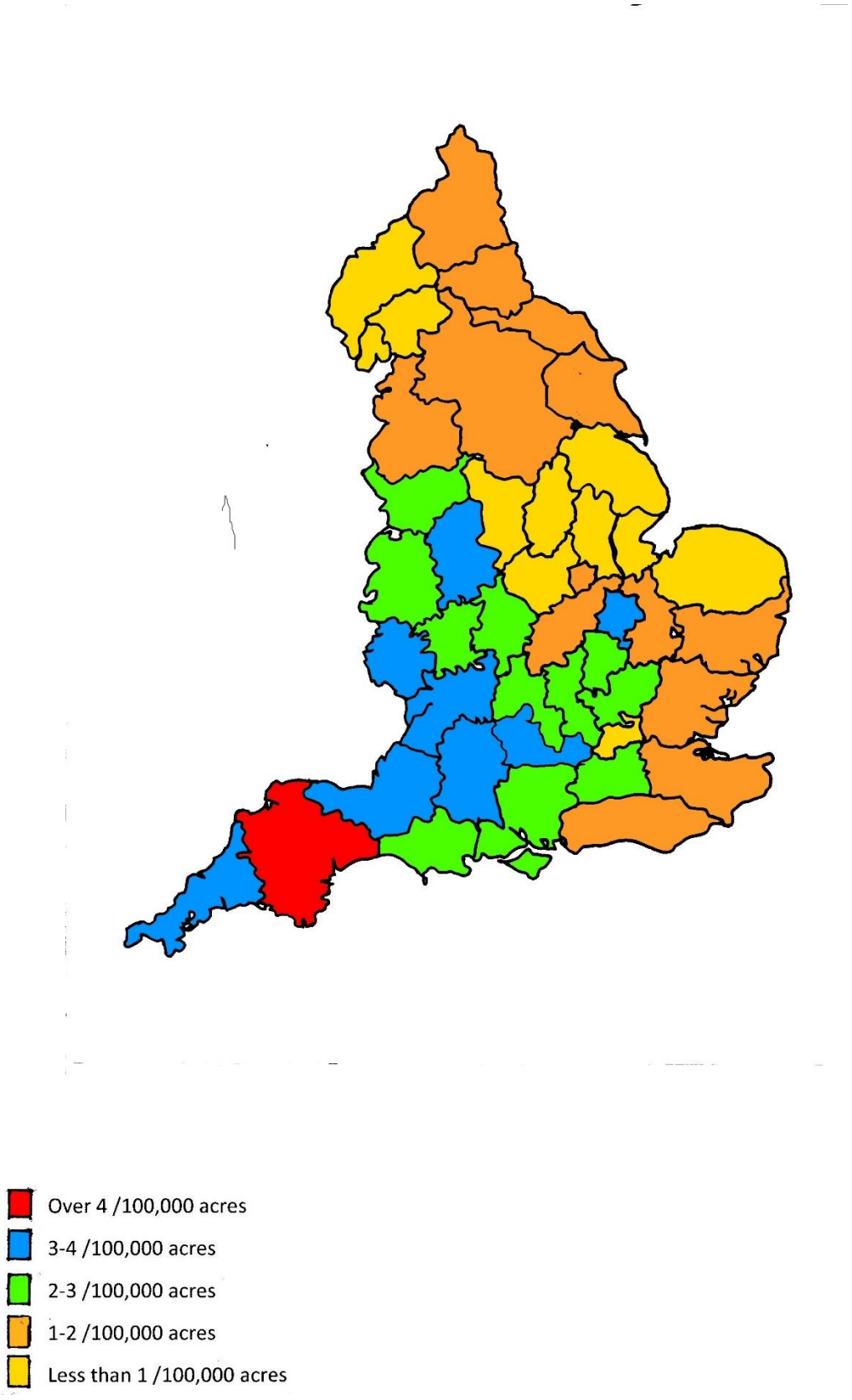
Beresford states that Devon had the highest density of boroughs before 1500. His data for numbers of boroughs and their density before 1500 is shown in Table 2.04, and graphically in Figure 2.02. The density is expressed as boroughs per 100,000 acres. Devon had the highest density of boroughs in England at 4.5 per 100,000 acres while counties with a longer history of commerce such as Norfolk, with only 0.5 per 100,000 acres, did not seem to find the need to establish them.

Table 2.04. Boroughs by county at 1500.

County	Boroughs by county at 1500	County area (1000 acres)	Boroughs per 100,000 acres
Bedfordshire	6	300	2.0
Berkshire	14	450	3.1
Buckinghamshire	10	480	2.1
Cambridgeshire	3	560	0.5
Cheshire	15	620	2.4
Cornwall	30	870	3.4
Cumberland	9	970	0.9
Derbyshire	6	640	0.9
Devon	**74**	**1650**	**4.5**
Dorset	17	620	2.7
Durham	11	620	1.8
Essex	15	960	1.6
Gloucestershire	29	770	3.8
Hampshire	22	1020	2.2
Herefordshire	16	540	3.0
Hertfordshire	11	400	2.8
Huntingdonshire	8	230	3.5
Kent	16	970	1.6
Lancashire	20	1030	1.9
Leicestershire	3	520	0.6
Lincolnshire	13	1690	0.8
Middlesex	1	220	0.5
Norfolk	6	1300	0.5
Northamptonshire	10	630	1.6
Northumberland	21	1280	1.6
Nottinghamshire	3	520	0.6
Oxfordshire	10	470	2.1
Rutland	1	97	1.0
Shropshire	22	860	2.6
Somerset	31	1030	3.0
Staffordshire	22	690	3.2
Suffolk	11	940	1.2
Surrey	9	450	2.0
Sussex	16	900	1.8
Warwickshire	15	560	2.7
Westmoreland	3	500	0.6
Wiltshire	26	860	3.0
Worcestershire	11	440	2.5
Yorkshire (ER)	9	740	1.2
Yorkshire (NR)	14	1350	1.0
Yorkshire (WR)	18	1610	1.1
Total	607	31,357	1.9

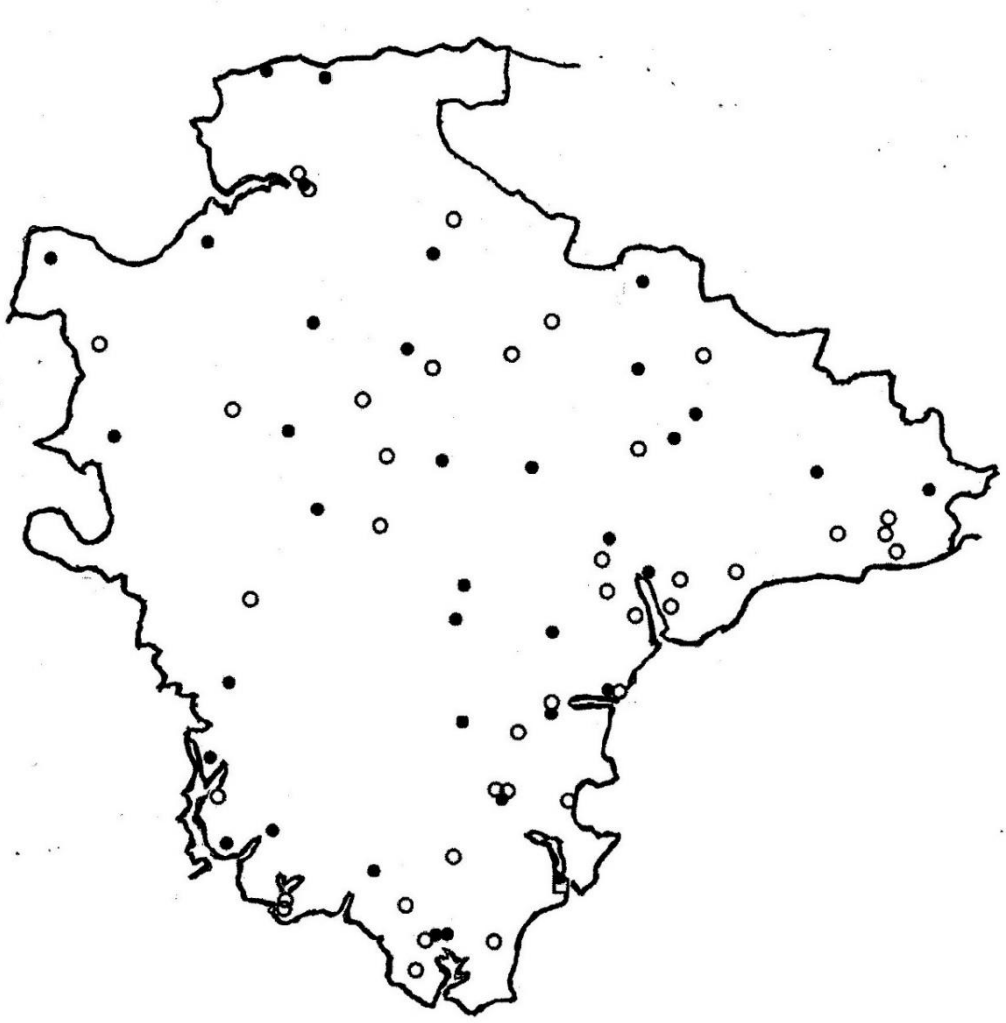
Source: Data from Beresford and Finberg, *English Medieval Boroughs: A Handbook*.

Figure 2.02 Number of boroughs by county by area in England as at 1500



Source: Data from Beresford, *English Medieval Boroughs, A Handlist.*

Figure 2.03 Borough towns in Devon at 1500.



Source: Redrawn from Fox, ‘Medieval Urban Development’ in *Historical Atlas of* South-*West England*, pp. 400-7.

Note: Open circles are those towns showing a ‘loss of urban character’ after 1500.

Towns

Historians have debated the definition of a market town. Reynolds wrote that:

> a town was a concentrated human settlement in which a significant proportion of the population is engaged in non-agricultural occupations[115]

but she makes no reference to size. They differed from Graeco-Roman cities or *civitas* which were mainly political and military centres and consumers of goods rather than producers. In the late medieval period, there is no easy distinction between small town and 'non-town' or village as there was a continuum between the two types of settlement. Generally, market towns were larger, had a wider range of artisans and a weekly market. Larger towns often developed merchant guilds with exclusive and proprietorial rights for members. Civic authorities could develop from these such as a mayor or similar and council. This happened in some towns as early as the twelfth century, yet there were towns such as Norwich which did not achieve this until the fifteenth century.[116] Smaller towns remained for the most part under the control of manorial courts.

Most English towns in the fourteenth and fifteenth centuries were small compared with their European counterparts. By 1370 some forty English towns had ceased to grow. In the early fourteenth century, many small towns attracted landless labourers, but the Black Death had reduced town populations by more than a third, many of whom may have been amongst them.[117] The fourteenth and fifteenth century saw a decline in the number and size of many but not all market towns. As has been already argued, this may have been due to population changes or centralisation. Fifteenth century records suggest that many major towns were suffering from a diminishing corporate income, falling rents, vacant plots, and reduced trade. Hatcher and Bailey have written pessimistically about the prospects for small towns at this time, although C. Dyer is more upbeat about their fortunes, noting a revival in the late fifteenth and early sixteenth centuries, as does A. Dyer.[118]

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[115] S. Reynolds, cited by Palliser in, *Urban History*, p.5.
[116] J. Campbell, 'Power and authority, 600-1300', in Palliser, *Urban History*, pp. 51-78.
[117] Swanson, *Medieval British Towns*, pp. 15-21.
[118] Hatcher, 'The Great Slump', p. 267; M. Bailey, 'A Tale of Two Towns: Buntingdon and Standon in the Late Middle-Ages', *Journal of Medieval History*, 19, (1993), 351-371; Dyer, 'Small Towns', pp. 505-40; Dyer, *Decline and Growth'*.

C. Dyer records the change in some small-town populations by county in England between the poll taxes of the late fourteenth century and the lay subsidies of 1524/5 shown here in Table 2.05.

Table 2.05 State and number of towns by county.

County	In decline	No change	Growing
Berkshire	1	0	1
Cambridgeshire	1	0	1
Cornwall	0	2	2
Devon	**1**	**3**	**24**
Essex	2	6	5
Gloucestershire	3	3	1
Leicestershire	4	1	0
Lincolnshire	1	0	0
Norfolk	0	2	2
Northamptonshire	3	4	1
Oxfordshire	5	2	2
Rutland	1	0	0
Somerset	3	0	3
Staffordshire	10	2	1
Sussex	0	0	1
Warwickshire	0	0	1
Wiltshire	11	2	7
Total	46	28	53

Source: C.Dyer, ‘Small Towns, 1270-1540’ in Palliser, *Urban History*, p. 536.

This table shows an uneven picture with towns in decline but others growing within the same counties. Devon stands out as a county in which the population of its small towns was growing considerably during the fifteenth century. Lee takes an interesting approach to the fortunes of small towns and markets by the early sixteenth century by examining the writings of John Leland. Leland was a scholar who had been given a royal commission by Henry VIII to search the libraries of English monasteries which involved him travelling around England

for six years and recording what he saw.[119] Leland noted that expanding towns were generally to be found in the West Country, the south and parts of East Anglia, whereas, in the East Midlands and the north, towns had declined or stood still. Ports received a special mention with decline noted as having occurred on the east coast ports and expansion in western ports due to trade with France, Iberia and Ireland in cloth, tin, and fish. Markets were seen to be substantially in decline, except where they had developed a specialist interest such as grain or cloth.[120]

Beresford attributes any reduction in towns largely to the loss of 'planted towns'. In the South-West landlords in areas lacking rich arable resources founded towns and boroughs in the hope of profit.[121] Distinct patterns of urbanisation developed as regional economies differed. Local geography and geology tend to determine land use. In Devon, Dartmoor with its acidic soils encouraged pastoral economies with a dispersed pattern of rural settlements with few towns of any size. Mining and transhumance were also factors in the development of this pattern, together with a long coastline with fishing, coastal trade and maritime trade with France and Iberia.[122] Towns became linked by trade forming groups with common interests and geography. There were a series of towns on the fringes of Dartmoor with pastoral and mining links, cloth towns in East Devon, and Exeter with its outports and hinterland involved in local, coastal and international trade.

Towns founded later in the fourteenth and fifteenth centuries rarely flourished for long, probably because of over-provision. Urbanisation at this time in Devon was widely dispersed, the towns were small, and there was population loss following the plagues of the fourteenth century and there was less attraction of towns for rural workers who found it easier to obtain land than in the past. Contraction of some small towns in the fourteenth and fifteenth centuries freed up spaces such as local fields and waste for conversion into orchards and

[119] J. Chandler, ed., *John Leland's Itinerary: Travels in Tudor England* (Stroud, Sutton Publishing Ltd., 1993).
[120] J. S. Lee, 'The Functions and Fortunes of English Small Towns at the Close of the Middle Ages: Evidence from John Leland's Itinerary', *Urban History*, 37 (2010), 3-25.
[121] Beresford and Finberg, *English Medieval Boroughs*; Beresford, *English Medieval Boroughs,* pp. 59-65; M. Kowaleski, *Local markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1995), pp. 41-80.
[122] Slater, 'The South-West of England' in Palliser, *Urban History,* p. 583.

gardens, but this change did not prevent a decline in their markets.[123] The decline in the institutional structure of trade is not definitive evidence of a failure of commerce overall, as much trade was probably being conducted away from markets on a private basis, but little record of this exists.

Beresford suggests that the high density in Devon is more remarkable because of the large area of infertile moorland and poor inland transport, although other counties had mountainous areas or fenland too. Devon's towns were all established by the end of the fourteenth century, and most were relatively small as indicated by their tax returns. He also suggests that Devon had a late but intense burst of economic development in the fourteenth and fifteenth centuries compared with other counties, with 'internal colonisation' (exploitation of unused land), the 'tin rush' (a renaissance of tin-mining after The Black Death) and the development of the cloth industry particularly in rural areas. The south coast developed a high concentration of ports to facilitate the export of these commodities both coastally and internationally.[124]

Fox estimated that at the end of the fifteenth century only six towns in Devon (Exeter, Plymouth, Barnstaple, Great Torrington, Totnes and Dartmouth), had a population of over a thousand persons, and 88 percent of the urban population lived in boroughs or towns with a population of 200 or more. A few boroughs at this time such as Axminster had fewer than 200 persons, but nevertheless survived. The greatest concentration of large towns was in the south of Devon which contained twenty-six percent of the urban population. [125]

Beresford suggested that one of the reasons that Devon had so many boroughs and market towns was the great diversity of industries which the county exhibited. Although almost all these towns and markets were established before the fifteenth century, loss of urban characteristics is seen by the sixteenth century in more than a third of cases, mainly in mid-Devon, Figure 2.03.[126] The towns in the south and east were, however, protected by the growth of the cloth industry, tin mining and maritime trade.

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[123] B. Dobson, 'General Survey, 1300-1540', in Palliser, *Urban History,* pp. 273-90.
[124] M. Beresford, *New Towns of the Middle Ages* (London, Lutterworth Press, 1967), pp. 417-8.
[125] H. Fox, 'Medieval Urban Development' Ch.51 in R. Kain and W. Ravenhill eds., *A Historical Atlas of South-West England* (Exeter, Exeter University Press, 1999), pp. 400-407.
[126] Fox, 'Medieval Urban Development'.

As with markets, market towns and boroughs also had varying fortunes, which if recorded could have provided evidence for economic activity in the fifteenth century both locally in Devon and in the rest of the English counties. Population decline in the late fourteenth and fifteenth centuries meant that more resources were available per person, and thus productivity per person rose as did the standard of living. Sheep and cattle markets became more common as the importance of livestock farming increased, while small weekly rural markets decayed. This decay which had begun in the early fourteenth century continued into the fifteenth century. Many markets and towns which failed were of a later foundation date, and perhaps were never viable concerns, whilst the older and larger markets survived. It could also be argued that smaller markets were being absorbed into larger markets.

In summary, although towns were an integral part of the economy at this time, their foundation or failure does not seem to relate clearly to increasing wealth in fifteenth century Devon or elsewhere. Nevertheless, Devon was well endowed with markets and boroughs whose populations were seen to be growing faster than in any other county at the beginning of the sixteenth century. This analysis demonstrates that the causes of the establishment and decline of towns, boroughs, and markets are unfortunately too multifaceted to provide a useful measure of comparative economic change within England during the fifteenth century.

2.03 Wool and cloth in England

From prehistoric times it is evident that the people of England collected sheep's wool, spun it, and made it into garments for domestic consumption. But by the twelfth century an international market had developed in English wool. Before 1275 there had been a virtually free trade in wool, and it had become an important English export. Edward I, however, introduced a tax on the export of wool for both denizen (native) and alien traders. Flanders and then later Italian towns had cloth industries which were dependent on English wool exports. Initially this tax yielded £8,000 to £10,000 per year. It continued for nearly three centuries until 1547, when the export of wool, which by this time had dwindled, was eventually prohibited.[127] Exact accounts of this trade have been difficult to

[127] E. M. Carus-Wilson and O. Coleman, *England's Export Trade, 1275-1547* (Oxford, Clarendon Press, 1963), p. 2.

construct due to the fact that local customs accounts were riddled with exemptions, although exchequer accounts have proved more useful.

In the mid-fourteenth century, wool staple towns were established, most linked to specific ports such as York and Hull, and Lincoln and Boston. These were towns through which the wool trade was compulsorily canalised ensuring that the wool custom was collected efficiently. Initially in the thirteenth century the wool custom was 6s 8d per sack and was the same for all merchants. A sack weighed 364 lbs which was equivalent to the wool from 260 sheep. By the following century an extra 3s 4d was added, for aliens only, bringing the custom to 10 shillings. Further increases occurred over the years. Between 1355 and 1362 aliens had the sole right of export, but subsequently denizen merchants could export wool if they paid custom at the alien rate. In 1363 a single wool staple had been established for all at Calais, through which all exports to the continent had to be directed, at a time by which almost all the merchants were English. Wool exports from England were restricted at the end of the fourteenth century by increasing the custom payable, thus conserving wool for the home industry. This was associated with a flourishing of the cloth trade England in the fifteenth century. Limited export of wool meant that home prices for wool were much lower than foreign buyers had to pay. This was a great aid to the growing cloth industry. The tax on exported wool was now 33% but on exported cloth 2%. Cloth production, which had decreased in the late thirteenth and early fourteenth century recovered partly because the increase in export duty on English wool made Flemish cloth more expensive to produce than English cloth. The English dependence on the domestic supply of wool did, however, limit the capacity of the industry to grow further, and by the end of the fifteenth century the entire national clip was used by the English industry.[128]

A customs charge on exported cloth was introduced in 1347. In the thirteenth century exports had consisted almost entirely of wool, but by the time of the Tudors 90 percent of exports were woollen textiles. Broadberry et al. state that:

> the textile industry's national economic importance is beyond dispute. Cloth manufacture made a major contribution to the incomes of many households, bolstered the economies of some of the country's remoter and hillier regions, made a significant contribution to export earnings and

[128]Carus-Wilson and Coleman, *England's Export Trade*; S. Broadberry, B. Campbell, A. Klein, M. Overton, Bas van Leeuwen, *British Economic Growth* (Cambridge, Cambridge University Press, 2015), p. 144.

> pioneered an array of institutional and technological innovations with far-reaching benefits for English industry and commerce.[129]

As cloth production increased in England manufacturers had the advantage that they did not have to import raw materials. The export taxes derived from cloth formed one half of the royal revenues by the end of the fourteenth century and were a highly dependable source of income. Different rates of export custom existed for denizens and aliens, and between groups of alien merchants. For instance, the Hanseatic merchants negotiated a lower rate equivalent to the previous 'New Custom'. This had been imposed in 1303 on all goods imported or exported by alien merchants, including wool.[130] At that time there were no staples for cloth, allowing it to be exported a wide range of English ports.

In the later fourteenth century cloth manufacture increased at a time when the English population had decreased. No major change in technology in the industry had appeared at that time, and increased productivity is thought to be related to the adoption of a greater division of labour. Evidence for this is in the wide variety of surnames related to specific processes in clothmaking which appeared then.[131]

Munro has suggested that there were several important economic and social changes in England during the medieval period (prior to 1500) which had an impact on the cloth industry.[132] Initially the English cloth industry developed, as did its continental neighbours, as an essentially domestic concern, where one household completed all the processes needed to make a cloth. Competition led to the need for higher efficiency and quality of the product, leading to a division of labour, with a separation of the stages of production between workers. As early as the twelfth and thirteenth centuries there were mercantile capitalists, who dealt in the raw materials and finished cloth, and financed the growth of the industry by supplying capital and facilitating distant trade. Under them were weaver-drapers or clothiers who organised the 'putting-out system', dividing up the stages of production between different workers in their own homes. This involved cleaning, carding, and spinning the wool and weaving,

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[129] Broadberry et al., *British Economic Growth*, p. 147.
[130] Carus-Wilson and Coleman, *England's Export Trade,* p. 2.
[131] A. R. Bridbury*, Medieval English Clothmaking* (London, Heinemann, 1982), p. 68.
[132] Munro, 'The Medieval Period', pp. 217-227.

using the worker's own equipment, and was paid as piece work. Dyers and finishers were usually men, paid a fee, and valued for their knowledge of the latest fashions in colours. In England in the fourteenth and fifteenth centuries, many tasks, especially weaving, moved from female to male workers, possibly as the result of the introduction of the heavier horizontal loom with treadles. Weavers began to be entrepreneurs in their own right and formed guilds in the towns to protect their interests.

During the fourteenth century, there appeared to have been a crisis in east coast cloth manufacturing towns from York to London.[133] The demand for lighter cloths declined. There are a variety of opinions about why this should have occurred. Firstly, the towns may have suffered from oppressive guilds and taxation as witnessed by appeals for reductions in the lay subsidy. Secondly transport and transaction costs were rising and thirdly there may have been cost advantages to rural clothmaking over the towns, although no direct comparison of these exists. There was a gradual drift of the centre of clothmaking from east to west, but manufacture continued to some degree in most towns, and thrived in rural areas in Norfolk, Suffolk, and Kent. Oldland argues that:

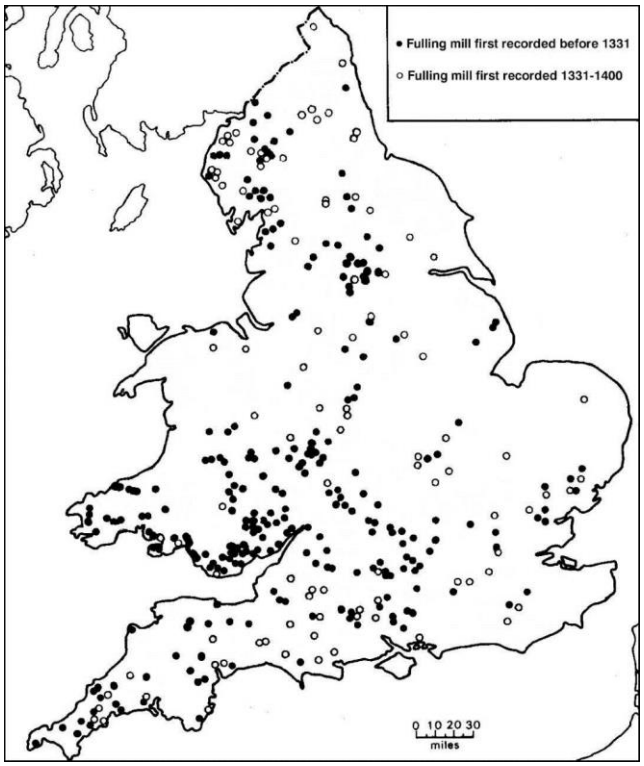
> Wool and cloth production, its trade, and the jobs it created, seem to have been the key driver in the geographical redistribution of wealth to the southern half of the country from the fourteenth to the mid-sixteenth century.[134]

Carus-Wilson, on the other hand, promoted the idea that fulling mills were responsible for the growth of the West Country cloth industry, and that the decline of East coast manufacture was because of a lack of suitable sites for fulling mills. Miller offered a differing view preferring the cost advantages of rural over urban manufacture, while Bridbury (1982) suggested that East coast areas used their rivers for corn mills rather than fulling.[135] Norfolk also produced worsteds (named after the town *Worstead* in eastern Norfolk) which were not fulled. Figure 2.04 shows the distribution of fulling mills in England before 1301

[133] Munro, 'The Medieval Period', pp. 243-4.
[134] J. Oldland, 'The Economic Impact of Cloth Making on Rural Society, 1300-1550', in M. Allen and M. Davies eds*., Medieval Merchants and Money* (London, University of London Press, 2016), pp. 229-251.
[135] E. Miller, 'The Fortunes of the English Textile Trade in the Thirteenth Century'*, Economic History Review* 19 (1965), 64-82; Bridbury*, Medieval English Clothmaking.*

and at 1400 as recorded in manorial records, as mapped by Pelham and Bridbury

Figure 2.04. Distribution of fulling mills in England at 1400.



Source: R. A. Pelham, Fulling mills. SPAB no.5, 1958. Cited in A. R. Bridbury *Medieval English Clothmaking* (London, Heinemann, 1982), p.18.

It indicates that a cloth industry was extensively developed in the thirteenth century in much of England, but especially the West Country and developed further in the fourteenth century. According to Bridbury, towns continued to account for most production until the middle of the fifteenth century, but Carus-Wilson proposed that there was an expansion of the industry out of towns into the countyside.[136]

Can the spread of rural cloth manufacture out of the towns be attributed to a freedom from guilds and other 'restrictive urban institutions'? The urban versus rural argument is probably a false dichotomy, as there had always been rural clothmaking, and villagers supplied some of the labour in the towns. Often preliminary stages in manufacture were carried out in the country with finishing

[136] Bridbury, *Medieval English Clothmaking*, p. 62.

in the towns. Towns also had better access to credit and marketing, and when villages became large enough, they effectively became towns.[137]

In the late nineteenth and early twentieth century, economic historians recognised the importance of the wool trade and tin in English history, many influenced in their writings by its role as the mainstay of royal finances. Later, in the inter-war years, Power published on the wool trade, mainly from the standpoint of the fifteenth century, and her Ford Lectures of 1939 were published posthumously.[138] After World War II, Carus-Wilson and Coleman collected data on wool and cloth customs, and published detailed estimates of exports over a period of nearly three hundred years derived from exchequer records.[139] Much subsequent work was summarised by Lloyd.[140]

Power asserted that the numbers of sheep at pasture in late medieval England fell by a third between the early fourteenth and mid-fifteenth century,[141] although paradoxically, agricultural historians writing since then have indicated either a maintained or increased sheep population over this period.[142] Power's argument was based on evidence for falling wool exports, unlikely to have been offset by an increase in cloth exports or domestic demand for cloth. During this period arable output declined steadily on all lands. Rather later, by 1500, around two-thirds of farm land was pasture, mostly, but not all, for sheep.[143] Breeding sheep became more profitable as more mutton was eaten, and stocking densities in many areas increased.[144] In the north and the midlands farms moved mostly to

[137] Munro, 'The Medieval Period', p. 227.
[138] E. Power, *The Wool Trade in English Medieval History being the Ford Lectures* (Oxford, Oxford University Press, 1941).
[139] Carus-Wilson and Coleman, *England's Export Trade*.
[140] T. H. Lloyd, *The English Wool Trade in the Middle Ages,* (Cambridge, Cambridge University Press, 1977).
[141] Power, *Wool Trade*, pp. 36-7.
[142] T. H. Lloyd, *The Movement of Wool Prices in Medieval England* (Cambridge, Cambridge University Press, 1973), pp. 27-8.
[143] B. M. S. Campbell, *A Social History of England, 1200-1500* (Cambridge, Cambridge University Press, 2006), p. 187.
[144] M. M. Postan, 'Village Livestock in the Thirteenth Century', *Economic History Review*, 40 (1962), 219-49; M. Overton and B. M. S. Campbell, 'Norfolk Livestock Farming, 1250-1740: A Comparative Study of Manorial Accounts and Probate Inventories', *Journal of Historical Geography*, 18 (1992), 388.

cattle.[145] Towards the end of the fifteenth century, the evidence for increase in sheep flocks becomes overwhelming, at least in Norfolk.[146]

Recently new estimations of the sheep population have been made for five separate periods between 1311 and 1545.[147] This involved determining the amount of wool required to produce both the cloth exported and that used for domestic purposes (not included in Power's estimates), combined with the number of sacks of wool exported. Account was taken of likely changes in the weight of a broadcloth over the periods, as demand had developed for higher quality and heavier cloths for export, while lighter cloths appeared for local consumption. Even cheaper and shorter cloths such as kerseys increased in weight and quality over time, although they seem to have been counted and taxed similarly to broadcloths. Overall, Oldland argued that sheep numbers in late medieval England decreased by about 13 percent between 1300 and 1500 rather than the third suggested by Power,[148] and then increased rapidly in the sixteenth century. A combination of shifts in consumer demand, rising exports and heavier cloth and wool yields suggested a strong wool production in the face of demographic decline after 1350, with a soaring demand from the late fifteenth century onwards.

The European market became increasingly dominated by English woollen cloth during the fifteenth and early sixteenth centuries. England had exported little cloth before the mid-fourteenth century, but trade flourished later with a peak in the mid-fifteenth century. An economic depression between 1450 and 1460 halted progress, before it picked up again and peaked for a second time by early to mid-sixteenth century.[149] Towns principally engaged in weaving such as York, Coventry and Norwich ceased to grow as the industry shifted gradually westwards towards centres in the Stour Valley, the Cotswolds and around East Devon and Exeter. The export trade, previously extensively controlled by alien merchants, was now most often in English hands, and passed mainly through

[145] B. Dodds, *Peasants and Production in the Medieval North-East: The Evidence from Tithes, 1270-1356* (Woodbridge, Boydell Press, 2007), pp. 101-21.
[146] K. J. Allison, 'Flock Management in the Sixteenth and Seventeenth Centuries', *Economic History Review*, 11 (1958), 100.
[147] J. Oldland, 'Wool and Cloth Production in Late Medieval and Early Tudor England', *Economic History Review*, 67 (2014), 25-47.
[148] Power, *The Wool Trade*.
[149] N. Ramsay, *English Medieval Industries; Craftsmen, Techniques, Products* (London, Hambledon Press, 2001), p. xxxi.

the ports of London and the South-West of England rather than those on the East coast.[150]

In summary, the cloth industry in England developed from part-time non-specialist production for the domestic market to be the major national export over a period of four centuries. As a major producer of wool, England initially supplied Flemish and other weavers on the continent. Wool exports, so important in the thirteenth and fourteenth centuries, declined as English cloth exports increased. The principal areas of cloth production by the fifteenth century were Yorkshire, the south-east and the south-west, the balance in importance between these areas being determined by exports. Cloth production was located both in rural areas and the towns but with a mutual interdependence. Entrepreneurs increasingly controlled the industry, providing capital and a route to foreign markets.

Types of woollen cloth made.

A wide variety of cloth types was produced in England despite the crown's attempts to standardise their size and quality. The major differences were between woollen cloth (mostly broadcloths) and worsteds. Woollen cloth was made from short-haired or fallow sheep's fleeces. The wool was carded before spinning and the resultant cloth was fulled. Much of the West of England was involved in making broadcloth from local wool, although Devon had an extensive kersey production centred on Exeter and its environs. Kerseys were more finely woven, narrower and lighter than standard broadcloths, and in areas such as Devon, gradually replaced the previously roughly woven cloths such as Tavistocks during the fifteenth century. Worsted was made from the wool of long haired or pasture sheep, the wool was combed with hot oil, and the cloth left unfulled.[151]

Cloth was generally traded in numbers of a standard broadcloth, 24 yards by 1 1/2 or 2 yards, the 'cloth of assize'. Smaller cloths were traded pro rata. For instance, in the Southampton customs records (chapter 5), four straits or three kerseys were equivalent to one cloth of assize. At the end of the fifteenth

[150] J. Lee, 'The Trade of Fifteenth Century Cambridge and its Region', in M. Hicks, ed., *The Fifteenth Century, 2: Revolution and Consumption in Late Medieval England* (Woodbridge, Boydell Press, 2001), pp. 127-140.
[151] Munro, 'The Medieval Period', pp. 182-189.

century some cloths were made as long as 40 yards, and were often ‘under customed’, that is a longer cloth paid the same duty as a standard one. The custom payable depended on the type of cloth the highest being for ‘cloth in grain’ (dyed scarlet) and less for others, although these were not often undyed but dyed with woad or madder. One sack of wool made 4-4 ½ cloths of assize, each weighing thirty-eight pounds in the early fourteenth century increasing to sixty-four pounds in the mid-sixteenth century. Customs for a standard cloth was charged at 1s 2d, but 1s 9d for aliens (later 2s 9d) and only 1s for Hanseatics. Sometimes, but only rarely, poundage was charged on top of this.[152]

Sizes of cloth and styles of weaving were very varied, and almost every town had its own brand of cloth. Worsteds were, for instance, named after the Norfolk village, where they were first made as were kerseys, and Tavistocks after a Devon town. There are many other such examples, which are shown by county in Figure 2.05. Serge was a type of worsted. Norwich worsteds were renowned, and worsteds could display complex designs such as diamonds and chevrons or ‘rays’. Essex made ‘dozens’ and ‘straights’.

[152] Carus-Wilson and Coleman, *England’s Export Trade,* pp. 1-16; E. Power, *The Wool Trade in Medieval History* (Oxford, Oxford University Press, 1941), pp. 2-102.

Figure 2.05. Regional varieties of non-standard cloths (black) and areas of principal broadcloth production (red).

Source: Data from E. Kerridge, *Textile Manufactures in Early Modern England* (Manchester, Manchester University Press, 1985), pp. 25-120.

Processes of cloth manufacture.

Depending on the cloth type, processes of manufacture could include washing, carding, spinning, weaving, fulling, shearing and dyeing. Wool was usually washed initially to degrease it, which could result in a weight reduction of up to a fifth. Before carding, it was often re-greased with butter or olive oil to enable the process, but this was removed again at fulling. After carding, the wool fibres were spun using a distaff, although this was replaced at a later period by the spinning wheel. The earliest spinning wheels were introduced to England in the thirteenth century, but subsequent improvements occurred until the sixteenth century and beyond. Although their introduction greatly speeded up the process they were thought to result in an inferior yarn, suitable for wefts but not warps.[153]

Weaving in the thirteenth century was mostly by a warp weighted loom, although these were later replaced by the horizontal loom, and later the broad loom. The older type of horizontal loom was cheaper and generally used for smaller cloths known as ‘chalons’ and ‘tapets’ which were only three to four meters in length, but broadcloths were twenty-two yards long. A weaver took twelve days to weave a broadcloth. This would result in the remarkable total of twenty to thirty broadcloths a year from a single loom.[154]

For broadcloths, the next process was fulling. This cleaned, de-greased and felted the newly woven cloth. This was a traditionally labour-intensive process involving trampling the cloth in a vat of water together with urine or fuller’s earth as a cleansing agent. This would take from between three to five days by foot, but only about twenty hours using a fulling mill. Fulling mills required a high initial investment which made their introduction relatively slow, but they had become universal by the fifteenth century. Figure 2.04 shows the sites of fulling mills in England at 1400. This shows the highest concentration of mills in South Wales, at a time when much cloth production was in the lowlands to the east. This has been taken as evidence of the growth of cloth production in the West Country and South Wales. However, mills will work with low water flow, and corn mills were certainly in use in the lowlands of eastern England. Some eastern cloths such as Worsteds were lighter and were not usually fulled.[155]

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[153] Munro, ‘The Medieval Period’, p. 202.
[154] Munro, ‘The Medieval Period’, pp. 191-5.
[155] Bridbury, *Medieval English Clothmaking,* pp. 16-26.

After fulling, the wet cloth was tentered, that is stretched out on a frame to dry and recover some of its size. At this time, any minor repairs could also be carried out. Before the fifteenth century, cloth was then napped by hand using teasels to raise the fibres, a process which took many hours. Gig mills, often associated with fulling mills appeared in the early fifteenth century in England, reducing the process of napping to a few minutes. Concerns were raised, however, about the quality produced. The cloth would then be hand sheared to clip off any protruding fibres before proceeding to dying. Striped cloths and 'rays' were not dyed as they had been woven from yarn 'dyed in the wool', that is prior to weaving.

For many English cloths, the first dying was with woad, a blue dye which did not require a mordant to fix the dye to the wool. Woad was mostly imported from Europe, especially France, and needed a complex preparation before use. The plant material was initially boiled with bran, cooled, and then fermented with potash to render the dye water-soluble. The cloth was then moistened, plunged into vats of dye, before being wrung out and dried, fixing the colour. Cloths dyed with woad were often then re-dyed with madder (red) or weld (yellow) to produce a variety of shades. Red and yellow dyes required the use of a mordant which was usually alum, again imported, but from the Middle East. The cloth was boiled with alum, washed, and then boiled again with madder added, releasing alizarin red.[156]

Other colours were created too. Imperial purple (*Murex spp.*) was not available in Western Europe, but 'scarlets' were popular. The name scarlet was originally derived from a type of fine cloth rather than the colour. The Arabs in Spain had developed *kermes* dye from the dried eggs of shield lice, which had been originally used for dyeing silks red. This dye was imported and used on fine woollen cloth and termed *granum* or *grain*. Cloths so dyed were referred to as being *in granum* and were the highly prized scarlets. Usually, March or Cotswold wools were used in the manufacture of such cloth. This dye could also be used on cloths previously dyed with woad to produce purples and brown shades. Such dying processes had been developed in Italy and Flemish towns

[156] Munro, 'The Medieval Period', pp. 211-215.

but by the fifteenth century were popular in England as the demand for novel fabrics grew.[157]

Finishing cloth was often carried out in towns using cloth woven elsewhere, and cloths could be taken as far as London for aulnage, that is official inspection and taxation. Trade in unfulled cloth was made illegal in 1476, probably to stop avoidance of taxes. Cobb suggested that an apparent decline in London's share of the cloth trade in the late fourteenth century was due to cloth being sent to Southampton before being customed, although such differences may simply be due to changes or peculiarities in the recording of cloth custom at that time.[158]

Clothmaking was very labour-intensive, but relative to the final price of the cloth, labour was cheap. Costs in production mainly derived from the raw materials, the wools and dyes. Although the success of the English cloth trade in the late fourteenth and fifteenth centuries has been attributed to mechanical fulling, or increased taxation on exported wool, Bridbury concludes that these were not the main factors. It was simply the quality and great variety of English cloths that won them an extensive overseas market.[159] Certainly kerseys became a major export from the mid-fifteenth century, popular with an emerging artisan class in continental Europe because of their fineness, quality and lower cost when compared with broadcloth.

The main sources of information about the extent of cloth manufacture *per se* in England in the late medieval period, are export and aulnage accounts, poll tax returns and the records of the Court of Common Pleas.[160] For years historians such as Postan, Carus-Wilson, Britnell, Trow-Smith, Bowden and Miller each appeared to have underestimated the extent of the English cloth trade. Dyer and Muldrew have published much higher estimates and the whole subject has been recently reviewed by Oldland showing its likely true extent, at around eleven percent of national income or twenty-nine percent of industrial output at the beginning of the sixteenth century.[161]

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[157] Munro, 'The Medieval Period', pp. 214-5.
[158] H. S. Cobb, 'Cloth Exports from London and Southampton in the Later Fifteenth and Early Sixteenth Centuries: A Revision', *Economic History Review*, 31 (1978), 601-609.
[159] Bridbury, *Medieval English Clothmaking*, p. 100.
[160] J. S. Lee, 'Identifying Clothiers' in J. S. Lee ed., *The Medieval Clothier* (Woodbridge, Boydell and Brewer, 2018), p. 115.
[161] Oldland, 'The Economic Impact of Cloth Making', pp. 229-250.

International trade in cloth and English exports.

The English overseas trade in woollen cloth grew in the mid-fourteenth century the country exporting three times as much cloth as it imported. Exports were mainly in lighter fabrics directed towards the Mediterranean and Italy in particular by the early fifteenth century. These were being made in Eastern lowland towns in England under such names as Northamptons, greys and Stanforts. They had a third or less the weight of a broadcloth. Imports included silks and other luxury cloths from the Mediterranean but also linens and canvas from Brittany.[162]

There was a shift in the later fourteenth century away from the continental land routes to maritime trade, largely because of warring states in Europe. This initially reduced transport costs, although within a few years rising piracy meant that these costs were increased by the expense of arming or escorting ships. There was also a tendency for Baltic markets to displace those of the Mediterranean later in the fourteenth century, when Norfolk worsteds were popular.[163] There was an expansion of broadcloth exports and a decline in the export of worsteds in the late fourteenth century. Kerseys, lighter and finer woollen fabrics than broadcloths, came into their own as exports in the fifteenth century, being cheaper and more attractive to populations with a new wealth. Flemish bans on the import of English cloth in the mid-fourteenth century was another factor that increased the Baltic trade. This peaked in around 1400 and declined thereafter, mainly because of disputes, military actions, and piracy.

The fifteenth century brought the loss of Gascony and defeat in the ‘Hundred Years War’. The Italian exclusion of English shipping from the Mediterranean harmed exports from Bristol, Exeter and Southampton and the West Country clothmaking towns. In mid-century conflicts with the Hanse and Denmark caused the loss of much of the Scandinavian and Baltic markets. This produced a toll on commerce from Hull, Boston, and Ipswich with their decline. Minor Yorkshire producers now avoided York and sent their cloth directly to London and Antwerp. Figure 2.06 shows the changing quantities of cloth exports from England, Southampton, and Exeter during the fifteenth century in graphical form, as published in 1963 by Carus-Wilson and Coleman, using evidence from

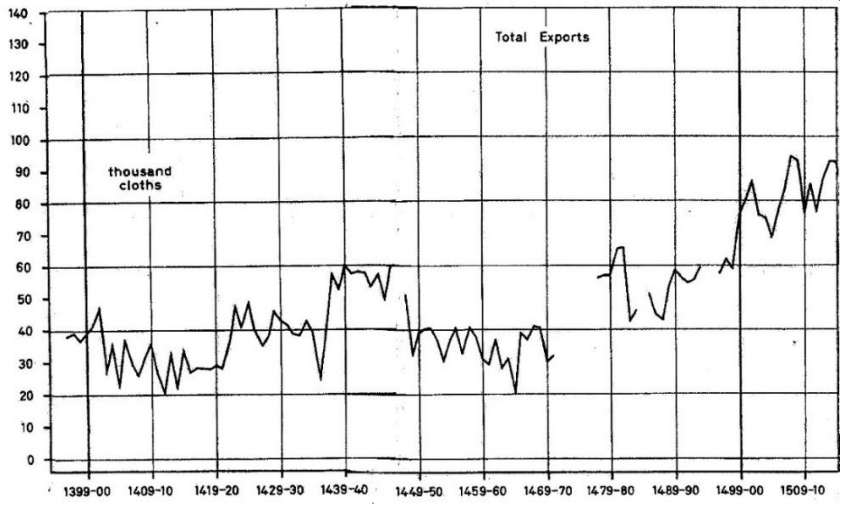
[162] Munro, ‘The Medieval Period’, pp. 230-40.
[163] Munro, ‘The Medieval Period’, pp. 229-240.

exchequer records.[164] They each show considerable variability from year to year, but all show an upturn in exports in the last decades of the fifteenth century and the first few years of the sixteenth. The exports are described in thousands of cloths of assize, smaller cloths considered *pro rata.* It is remarkable that Exeter in the last decade of the fifteenth century was exporting nearly fourteen percent of the national total.

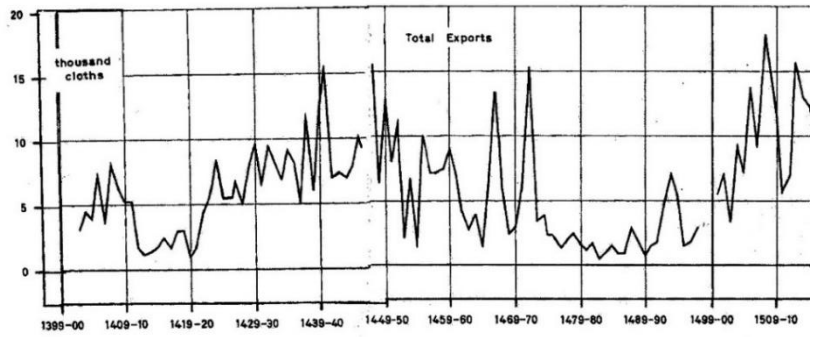
In the late fourteenth and fifteenth centuries English broadcloths became cheaper than luxury woollens from the Low Countries, and the English found that the ports of Middleburg and Antwerp were a profitable alternative to the Baltic trade. Finishing cloth was often done in Antwerp where the workers had a better grasp of the colours and fashions required. The trade with Antwerp boomed for eighty years, from 1460 to 1540.[165] It was helped by the discovery of new silver mines in Germany which increased the available coin. The great rise in exports in the latter part of the fifteenth century continued well into the sixteenth century, with London's portion of the trade growing dramatically. This growth was in part helped by a temporary end of war with France and a decline in outbreaks of plague. By the end of the century the Italians and Hanseatics had caught up, and at the end of the fifteenth century about half the total trade in cloth was in the hands of aliens. This depended on the port though. South-West ports had very few Hanseatic traders and the Italians were dominant in Southampton. Exeter's trade was about seventy percent coastal according to Kowaleski and had few if any Hanseatic or Italian traders in the fifteenth century (as discussed in chapter 5).

[164] Carus-Wilson and Coleman, *England's Export Trade*, pp. 99, 138-155.
[165] Munro, 'The Medieval Period', pp. 296-7.

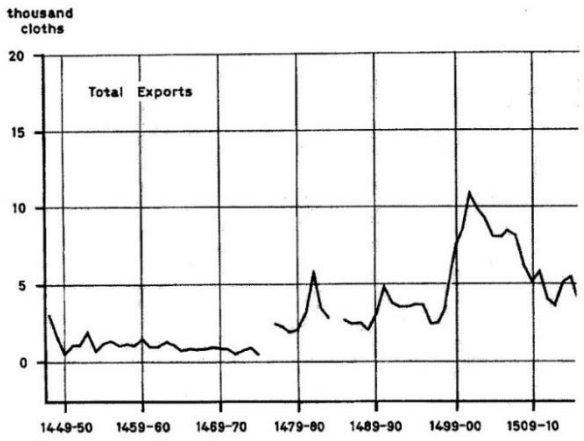
Figure 2.06. Changes in cloth exports from England, Southampton and Exeter in the fifteenth century.



England



Southampton



Exeter

Source: Carus-Wilson and Coleman, *England's Export Trade, 1275-1547* (Oxford, Clarendon Press, 1963), pp.138-155. Data extracted from Enrolled Customs Accounts at TNA.

Aulnage.

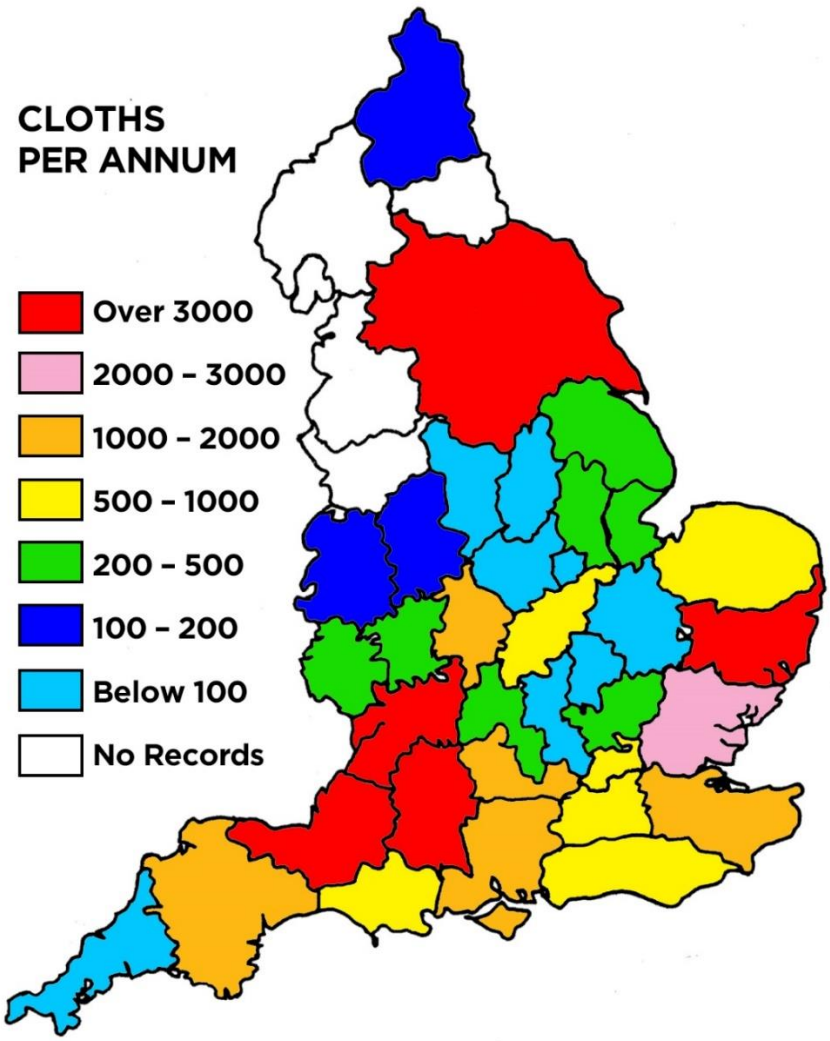
Aulnage accounts form an important but problematic source for the study of the fifteenth century cloth industry. Aulnage was the inspection of completed cloths to confirm their size and quality. Cloths which passed inspection were 'sealed' with a lead seal to confirm their standard, and that the duty of four pence had been paid together with a fee of a halfpenny for the aulnager. Without this seal it was illegal to offer the cloth for sale. The requirements for a standard cloth (cloth of assize) often changed. Unsatisfactory cloths could be confiscated. Since many cloth making towns made different sizes of cloth normally, many sought licences of exemption from the aulnage. The cloths were sealed at a local town of presentation, which was not usually the site of manufacture. Evasion almost certainly occurred, although this was less likely in the case of major producers and shippers.[166] Aulnage accounts were exchequer summaries of local daybooks and lack their detail, although very few of the latter have survived. Appearances and disappearances of towns often seen in the accounts may simply be due to changes in accounting practices.

Early use of the aulnage records as historical resources was made by Heaton and Gray, although a few years later Carus-Wilson dismissed aulnage records as a source after she found clear evidence of falsification in the original records.[167] As a result, for many years, they were ignored by historians until Bridbury showed that the earlier ones were probably useable and to some extent rehabilitated them.[168] Amor also felt that Carus-Wilson had been too dismissive and had 'thrown the baby out with the bath water'.[169] Aulnage returns are available for the fourteenth to sixteenth centuries for most counties in England.[170] They give a rough general comparison of the quantities of cloth offered for sale in various counties. These figures cannot be taken as total production as cloth for domestic use was not aulnaged. Heaton used figures from 1468 to 1478 to compare counties. Returns were not always complete for

[166] N. R. Amor, *From Wool to Cloth: The Triumph of the Suffolk Clothier* (Suffolk, RefineCatch, 2016), pp. 11-14.
[167] H. Heaton, *The Yorkshire Woollen and Worsted Industries From the Earliest Times Up to the Industrial Revolution*, *2nd ed.* (Oxford, Clarendon Press, 1965), pp. 84-88; H. L. Gray, 'The Production and Exportation of English Woollens in the Fourteenth Century', *English Historical Review*, 39 (1924), 13-35; E. M. Carus-Wilson, 'The Aulnage Accounts, A Criticism', *Economic History Review*, 2 (1929), 114-123.
[168] Bridbury. *Medieval English Clothmaking*, p. 114.
[169] Amor, *Wool to Cloth*, p.13.
[170] Exchequer K.R. Accounts 339-46, TNA.

every year in this period or even for full years, so he was unable to calculate a decennial average, but chose representative annual figures for each county. These are shown graphically in Figure 2.07.

Figure 2.07. Estimated broadcloths made per county based on contemporary aulnage records from the late fifteenth century.



Source: Data from H. Heaton. *The Yorkshire Woollen and Worsted Industries from Earliest Times Up to the Industrial Revolution* (Oxford, Clarendon Press, 1965), pp. 84-88. Data extracted from Exchequer K.R. accounts, bundles 339-46, T.N.A.

The areas of highest production are clearly shown, and include Yorkshire, Suffolk, Essex, Gloucester, Wiltshire, and Somerset, all aulnaging over three thousand cloths a year, with Devon at 1-2000 per annum. These figures are dependent on the reliability of the aulnage records which, as has been discussed already, are partial and variable in their coverage. Heaton's conclusions were that for this decade in the fifteenth century, the northernmost counties were not important to the exchequer as they mainly made lower quality cloth for domestic consumption, the Midlands had a low production, and that the main areas of production were Yorkshire, Suffolk and the West Country. Low recorded production in areas such as Norfolk may have been because the county concentrated on the production of worsteds rather than broadcloths, and worsteds were not included in the aulnage.

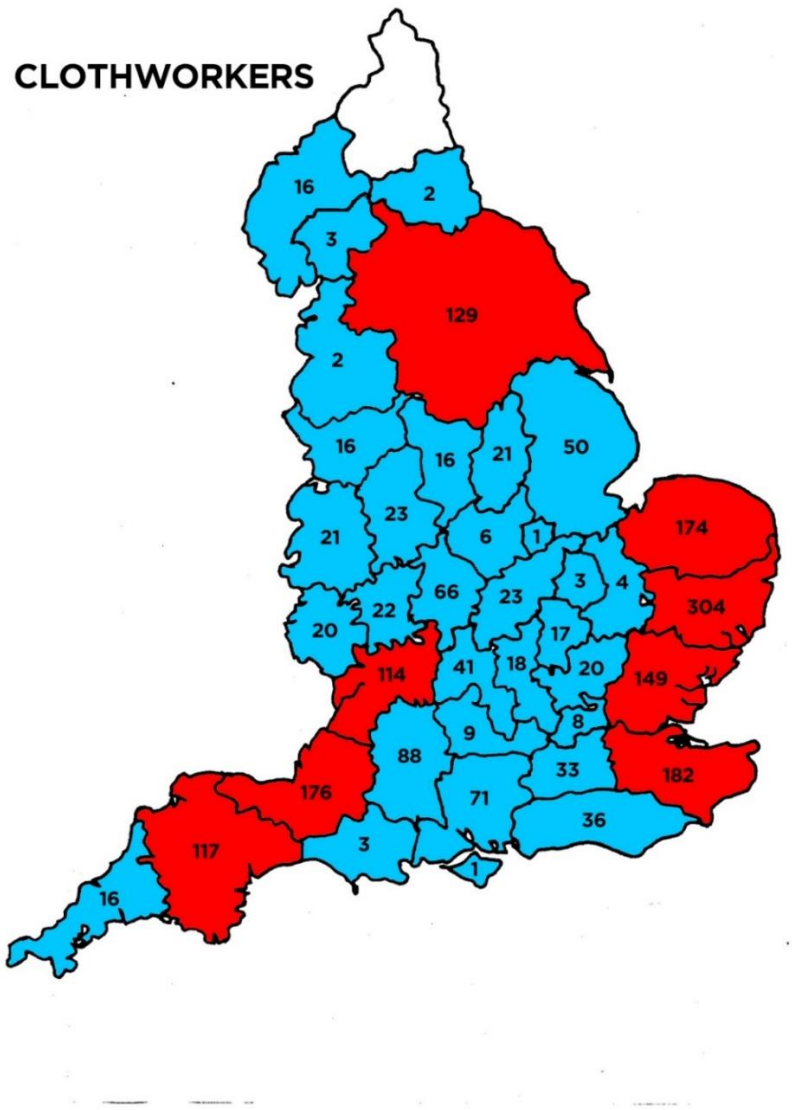
Rolls of the Court of Common Pleas.

An alternative source related to cloth production, or rather clothmakers is provided by the Rolls of the Court of Common Pleas in Westminster. This court tried cases, mainly of debt, but also trespass (as discussed in chapter 3). Citizens who lived outside London also used the court, although in fewer numbers because of the need to travel to London. The court records are somewhat brief, and often do not state the outcome of the case. The names of the plaintiff and the accused are recorded, together with their occupations, places of residence and the charge. Stevens also calculated the number of cases per thousand population in 1450 and 1501 for each county and showed that London and Middlesex were grossly over-represented.[171] This could have been because more business was conducted there, or more likely that these counties had easier access to the court. Personal observation from the archived records, however, shows a fairly wide representation from all counties in England. Bridbury used some of these records when investigating the commercial relationships between Shrewsbury clothiers and others such as weavers or dyers. It gave him an indication of the distances over which these entrepreneurs operated.[172]

[171] M. F. Stevens, 'Londoners and the Court of Common Pleas in the Fifteenth Century', in *London and Beyond: Essays in Honour of Derek Keene,* M. Davies and J. A. Galloway eds., (London, University of London Press, 2012), pp. 225-45.
[172] Bridbury. *Medieval English Clothmaking*, pp. 71-78, 112-113.

Recently, a volunteer team under the auspices of the University of Houston, Texas, USA, have digitised and indexed many of these plea rolls, making them more accessible to researchers.[173] Amor has used these records in order to estimate the number of cloth-workers and clothiers by county between 1480 and 1500.[174] These included card-makers, spinsters, weavers, fullers, dyers, shearmen and clothiers. The totals Amor derived are shown graphically in Figure 2.08.

Figure 2.08. Clothworkers by county based on Court of Common Pleas records during the late fifteenth century.



Source: Amor. *Wool to cloth,* pp. 222-239. Data derived from TNA CP40B.

[173] http;//*AALT.law.uh.edu.*
[174] Amor, *Wool to cloth,* pp. 222-239.

The data offer some comparison of the number of workers in the cloth industry by county. He assumes that the proportion of cases coming to the court were similar in each county, but we do not have an estimate of the proportion of cloth-workers prosecuted and so little more may be deduced.

Table 2.06. Comparison of numbers of clothworkers per county and cloths registered in the late fifteenth century.

County	Workers	Cloths
Bedfordshire	17	69
Berkshire	80	1294
Buckinghamshire	18	68
Cambridgeshire	13	41
Cornwall	16	30
Derbyshire	16	40
Devon	117	1037
Dorset	21	708
Essex	145	2628
Gloucestershire	114	4875
Hampshire	72	1451
Herefordshire	20	340
Hertfordshire	20	250
Huntingdonshire	3	30
Kent	183	1027
Leicestershire	6	66
Lincolnshire	50	286
London/Middlesex	119	983
Norfolk	174	830
Northamptonshire	23	781
Nottinghamshire	21	69
Oxford	41	200
Rutland	1	10
Shropshire	21	110
Somerset	176	4982
Staffordshire	23	109
Suffolk	304	5188
Surrey/Sussex	69	769
Warwickshire	66	1200
Wiltshire	88	4310
Worcestershire	22	478
Yorkshire	129	4972

Sources: Numbers of clothworkers from Amor, *Wool to cloth,* pp. 222-239. Data from digitised records of Court of Common Pleas at http;//*AALT.law.uh.edu.* Numbers of cloths aulnaged from H. Heaton. *The Yorkshire Woollen and Worsted Industries from the Earliest Times Up to the Industrial Revolution* (Oxford, Clarendon Press, 1965), pp. 84-88.

In an exercise to attempt ‘triangulation’ of the data in the last two sections, shown in Table 2.06, the number of cloths by county recorded by aulnage has been compared with the number of cloth-workers per county recorded by the Court of Common Pleas, using linear regression. A statistically significant correlation is seen in Figure 2.09, suggesting that both sources may be a valid indicator of the activity of the cloth industry at that time. Representative counties are marked on the figure, Yorkshire, Suffolk, Somerset, Gloucestershire and Wiltshire are shown as high producers. Devon’s low showing may have been because much its cloth, being non-standard, was not aulnaged.

Figure 2.09. Correlation between estimated number of clothworkers (Court of Common Pleas) and cloths made (aulnage) by county around 1470. Each point represents a county.

Source: Data as in Table 2.06.

A similar comparison was made between the numbers of cloths made for each county and the tax paid in 1524, corrected for county area, which was also significant (r^2=0.354, $p<0.01$). A comparison between number of cloths made and the change in rank of wealth between 1334 and 1524, also corrected for

county area, was only weakly significant (r^2=0.131, p=0.42). These findings do not support a link between cloth numbers aulnaged and other indicators of wealth.

The following sections explore the role of the cloth trade in the economic changes seen in Devon during the fifteenth century.

Wool and cloth in Devon in Devon's economy

Two industries, cloth weaving and tin production, were a major part of Devon's economy during the fifteenth century and certainly contributed to the county's developing wealth. The fifteenth and early sixteenth centuries saw the rapid development of towns such as Totnes, Cullompton and Tiverton as centres of cloth manufacture, which ushered in a simultaneous surge in church building as wealthy merchants strived to make their mark. Exeter had a wide range of industries at this time, which included cloth making, but perhaps more importantly a cloth finishing industry, with many fulling mills and tenter-grounds.[175] Most Devon cloth was originally exported via South Devon ports, but by the sixteenth century, London had become such an important market for English cloth, and some Devon merchants took their cloth there to be distributed to the Low Countries and Northern Europe, although some still shipped cloth directly to the Low Countries from Devon. Despite peaking in the early sixteenth century, Devon cloth exports fell by 1530, although remaining higher than in earlier centuries, while English exports overall continued to soar.[176]

In North Devon, sheep farming had been widespread since the eleventh century, but the quality and quantity of the wool was poor. In 1341, Devon ranked fifteenth out of all English counties as a wool producer.[177] Enclosure of land had been normal practice in much of Devon from the twelfth century onwards, but further enclosure occurred after the plague, encouraged by the increasing demand for wool. Sheep could be moved from one enclosure to a fresh one, improving yield. The land used for enclosure was not necessarily

[175] Carus-Wilson, *Expansion of Exeter*, pp. 19-23.
[176] Carus-Wilson, *Expansion of Exeter*, pp. 28-29.
[177] J. E. T. Rogers, *The History of Agriculture, and Prices* (Oxford, Oxford University Press, 1866), p. 110.

arable but included hilltop wastes.[178] Like many areas of Devon, Tavistock and the surrounding area developed a thriving cloth industry during the fifteenth century, with an improved variety and quality of cloths. Demesne receipts from the Tavistock area over a period of two hundred and fifty years show the increasing importance of pastoral farming over arable, even though in the sixteenth century about half of the manor incomes were from grain. A balance of arable and pastoral was maintained because of the need for sheep manure to maintain soil productivity.[179]

Despite differences in opinion over the volume of wool production, there is general agreement that the manufacture of cloth became very important in the fourteenth and fifteenth century. Traditional areas for cloth production such as the east of England remained very productive, but at the same time the South-West of England developed rapidly, especially in the later part of the fifteenth century, driven by the expansion of international markets.

Textile manufacture began in rural areas producing rough cloths for domestic and local consumption only. Cloth production on a larger scale developed later in towns such as Exeter and Totnes on a commercial basis by the twelfth and thirteenth centuries, and the resulting textiles traded widely.[180] By the fifteenth and early sixteenth century, south Devon was a major producer and exporter of textiles.[181] Initially in rural areas of Devon small scale farmers and their families took to spinning and weaving and tin extraction out of need. Later, spreading from Europe, the intervention of entrepreneurs in the form of clothiers, and drapers provided capital but also a degree of dependence.[182]

Dartmoor in the fourteenth and fifteenth century was described by Fox as a 'proto-industrial' region with dependent workers distributed in the countryside.[183] The term 'proto-industrialisation' was popularised by Mendels, who postulated

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[178] H. P. R. Finberg, *Tavistock Abbey: A Study in the Social and Economic History of Devon* (Cambridge, Cambridge University Press, 1951), p. 52.
[179] Finberg, *Tavistock Abbey*, pp. 46, 152, 156 (Table XXII).
[180] M. Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1995), p.19, 37.
[181] Kowaleski, *Local Markets*, p.94.
[182] J. H. Munro, 'The Medieval Period', in D. Jenkins, ed., *The Cambridge History of Western Textiles* (Cambridge, Cambridge University Press, 2003), pp. 218-221; J. Hatcher, *English Tin Production and Trade before 1550* (Oxford, Clarendon Press, 1973), pp. 50-66.
[183] H. Fox, 'Medieval Rural Industry', in R. Rain and W. Ravenshill eds., *Historical Atlas of South-West England* (Exeter, Exeter University Press, 1999), pp, 322-329.

that surplus agricultural labour was occupied in industry during slack periods to supplement rural incomes, which broke the power of urban guilds and weakened rural traditions which had limited population growth. The resulting increase in population and production expanded the economy, ultimately leading to full industrialisation.[184] This concept was taken up by some historians such as Ogilvie and Clarkson but resisted by others such as Coleman and Daunton who felt that these ideas failed to recognise the importance of non-domestic industries such as mines, mills and forges.[185]

'Industrial metabolism' is a term which has also been used by Fox to describe the rural situation around Dartmoor in the fourteenth and fifteenth centuries, when the decline in one activity may be compensated by a growth in another, such as cloth and tin, providing a degree of economic resilience. As Fox states:

> The presence of a cloth industry in a region ensured resilience, or even growth economically, when decline was taking place elsewhere.[186]

This idea was also put forward by Hoskins and Finberg, who stated that when the cloth trade in Devon had a depression in the 1450s, the tin trade expanded compensating, although the cloth industry recovered in the 1470s and both flourished into the following century.[187] This is best illustrated in the borders of Dartmoor, with small farms mainly concerned with livestock farming, where a coincident distribution of cloth and tin industries is seen. An ebb in one industry was compensated by a surge in another, such as was the case in the early fifteenth century at Tavistock when a decline in the tin industry was accompanied by an increase in the number of fulling mills.[188]

In Devon cloth making was associated mostly with small rural communities around the stannaries of Dartmoor and in East Devon. In east Devon, cloth making had earlier beginnings in the thirteenth century. There were many pastoral smallholders with surplus labour and a need for extra income. Away

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[184] F. Mendels, 'Proto-industrialisation: The First Phase of the Industrialisation Process*', Economic History Review* 32 (1972), 241-261.
[185] S. Ogilvie, 'Proto-industrialisation In Europe', *Continuity and Change,* 8 (1993) 159-179; C. A. Clarkson, *Proto-industrialisation: The First Phase of Industrialisation* (London, Macmillan,1985); D. C. Coleman 'Proto-industrialisation – A Concept Too Many', *Economic History Review,* 36 (1983) 435-448; M. Daunton, *Progress and Poverty. An Economic and Social History of Britain, 1700-1850* (Oxford, Oxford University Press, 1995), p. 169.
[186] Fox, 'Medieval Rural Industry'.
[187] W. G. Hoskins and H. P. R. Finberg, *Devonshire Studies* (London, Jonathan Cape, 1952), p. 212.
[188] H. P. R. Finberg, *Tavistock Abbey: A Study in Social and Economic History of Devon* (Cambridge, Cambridge University Press, 1951), pp. 154, 189.

from these regions In North and mid-Devon post-plague, larger farms had developed on the Culm measures using waged labour rather than cottagers, and which were less likely to be involved in cloth production but more concerned with stock-raising.[189]

Cloth production in Devon 1250-1500.

Cloth making was well established in Exeter, Totnes, and neighbouring boroughs by the late twelfth century. Rural manufacture of cloth at this time is evidenced by the widespread existence of fulling mills in rural areas, Figure 2.10.

Figure 2.10. The distribution of fulling mills in Devon in the early and late fifteenth century.

1350-1425 1426-1500

Source: H. Fox, 'Medieval Rural Industry', in R. Rain and W. Ravenhills, eds., *Historical Atlas of South-West England* (Exeter, Exeter University Press, 1999), pp. 326-7. Data mainly extracted from manorial records.

Exeter and Plymouth were heavily involved in cloth exports from the thirteenth century, and their volume of trade broadly followed national trends as seen from

[189] Fox, 'Medieval Rural Industry'.

the enrolled accounts. Exports rose in the mid-fourteenth century, but a set-back occurred in the 1370s during war with Gascony. Stagnation in 1410 was followed by growth throughout 1440s and a decline in the 1450s and 1460s, before a take-off in 1470s onwards into the sixteenth century.[190]

Lee, using aulnage records, poll tax returns, records of the Court of Common Pleas and the writings of John Leyland postulates that, in the late fourteenth century, Devon cloth sales were highest in north and mid-Devon centred on Barnstaple. In 1390, Barnstaple was the centre of Devon's main cloth producing area, connecting with north and mid-Devon, and exporting through Bristol. Most production then was in small towns. By the early fifteenth century, cloth production in the rest of Devon was overshadowing that of North and mid-Devon, and East Devon was producing fifty percent of the county's output. During the fifteenth century East Devon became more prominent as a centre of production and traded through Exeter as its commercial hub.[191] East Devon had been an early centre of Devon's cloth manufacture, often using Exeter for finishing and sale. By the fifteenth century, much of East Devon's cloth was produced in rural villages and small towns. These included Crediton, Honiton, and Bampton which were small boroughs, while Culmstock, Cullumpton and Ottery St.Mary were rural parishes.[192]

South Devon had cloth production around Plympton and Totnes, but it was Totnes that was the foremost centre by the end of the fifteenth century. International exports left from Exeter, Dartmouth and Plymouth. Much of this cloth had been brought overland from centres in South Devon, Dartmoor, East Cornwall, or by coastal ships from Exeter, East Devon, Dorset and Somerset.[193]

The cloth trade in the South-West.

In the fourteenth century dozens, a smaller cloth than a broadcloth, were made widely and by the end of the century, according to aulnage accounts, Devon's weavers had made over 8000 cloths, with Exeter and its environs, making nearly 3000. Exporting to France and Spain had become important. Straits,

[190] M.Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1995), pp. 19-22.
[191] Lee, *The Medieval Clothier*, pp. 134-6.
[192] Kowaleski, *Local Markets*, pp. 23-26.
[193] Kowaleski, *Local Markets*, pp. 27-28.

another small coarse cloth were also produced, and known as Tavistocks. At the beginning of the fifteenth century there was a substantial cloth industry in the South-West. The industry declined in the early fifteenth century until the production of kerseys later, which led to the rise of cloth manufacture in East Devon in towns such as Tiverton and Cullompton. Within a hundred years, Devon had become a leading textile manufacturer. East Devon also had major cloth merchants. Some were clothiers and involved in financing cloth production as well as sales, and others were merchants who often sold several different goods as well as cloth. John Lane of Cullompton, a clothier, is remembered from his donations to the town church. John Greenway of Tiverton traded in cloth, tin and hides from local ports and from London, where he became a merchant venturer and a member of the Draper's Company. He owned three ships and traded out of Dartmouth. He too was a generous benefactor to his local church.[194] As well as East Devon, Totnes also began to produce higher quality cloths[195]

Cloth exports from Exeter in the fifteenth century were modest until 1470 when there was a surge which led Exeter's exports to exceed those of any other English provincial port in 1500. This is illustrated in Table 2.07 based on Carus-Wilson and Coleman's data alongside data for Plymouth from the same source. Plymouth at that time was a rising port but handled relatively little cloth. There were considerable fluctuations in cloth exports during the fifteenth century which may reflect changes in merchants' preferences for a particular port rather than falls in production. Transport of finished cloths from Devon was by coastal shipping to major ports such as Southampton or London, and overland from Devon to Somerset and thence to London.[196] By 1485 to 1509, London and Bristol were handling two thirds of England's cloth exports annually.

[194] Lee, *The Medieval Clothier,* pp. 135-6; P. Maunder, *Tiverton Cloth* (Exeter, Short Run Press, 2018), pp. 22-3.
[195] W. G. Hoskins, *Devon* (Chichester, Phillimore, 2003), pp. 124-127.
[196] Fox, 'Medieval Rural Industry', pp. 325-8.

Table 2.07. Cloth exports from Exeter and Plymouth by decade between 1400 and 1520.

Decade	Exeter	Plymouth	Total for Devon
1400/10	2,660 (376)	309 (25)	2,969 (401)
1411/20	4,148 (560)	2,264 (128)	6,412 (688)
1421/30	3,424 (440)	2,763 (237)	6,187 (677)
1431/40	10,462 (1,068)	7,517 (455)	17,979 (1,523)
1441/50	16,,834 (448)	9,113 (445)	25,947 (893)
1451/60	12,458 (133)	3,754 (749)	16,212 (882)
1461/70	7,753 (588)	1,702 (392)	9,455 (980)
1471/80	11,743 (1,524)	2,292 (600)	14,035 (2,124)
1481/90	24,597 (7,210)	3,805 (3,316)	28,402 (10,526)
1491/00	33,854 (5,074)	4,627 (1,221)	38,481 (6,295)
1501/10	79,641 (3,036)	7,005 (583)	86,646 (3,619)
1511/20	41,979 (2,658)	3,506 (932)	45,485 (3,590)

Source: Data from Carus-Wilson and Coleman, *England's Export Trade,* pp. 75-119. Data extracted from exchequer accounts, TNA.

Note: Numerals represent broadcloths or their equivalent in smaller cloths. (numbers in brackets are alien exports).

Table 2.08 shows numbers of broadcloths or their equivalent exported as recorded by the exchequer records and the port books of Southampton.This port not only handled cloth from the south-west of England, but also cloth carted from London and originating in towns in the east and the midlands. The years chosen are determined by the port books available in print. There is broad agreement between the two sources.

Table 2.08. Cloth exports from Southampton between 1426 and 1509 as recorded in the exchequer accounts as compared with the local port books in the same years.

Year	Source	Denizen	Alien	Total	
1426	CW PB	1810 123	5106 4980	6916 5103	
1428	CW PB	2698	5235	7983 5451	
1430	CW PB	2242	4334	6576 7662	
1435	CW PB	1161 329	7127 6623	8288 6952	
1438	CW PB	595 210	5453 4670	6048 4880	
1439	CW PB	789 100	11,309 10,430	12,098 10,530	
1448	CW PB	1971	4639	6610 4769	
1450	CW PB	963 310	7087 7385	8050 7695	
1457	PP PB	1563 1090	5756 6810	7319 7900	
1469	CW PB	423 734	2829 4267	3252 5001	
1470	CW PB	893 528	4680 5124	5573 5652	
1477	CW PB		 4735	 4735	
1480	CW PB	480 453	431 3404	911 3857	
1509	CW PB	1695	9712	11,407 11,291	

Sources: Data from CW = Carus-Wilson and Coleman, *England's Export Trade*; PB = Cobb,*The Port Book of Southampton, 1439-40*, pp. lxvii; PP = E. Power and M. M. Postan, eds., *Studies in English Trade in the Fifteenth Century* (London, Routledge,1933).

The figures show the dominant position of alien merchants and stable exports over the century with peaks in 1439 and 1509. Fortunately, the port books give the equivalents of the many types of cloth exported in whole cloths of assize. The cloth of assize was referred to as a *pan' curt* or short cloth, a 'fictional' cloth, equivalent to a cloth twenty-four yards long and one and a half to two and a half yards wide. A *pan' long* could be up to forty yards long but was usually

customed at one and a third *pan' curt*. Table 2.09 gives some other types of woollen cloth in equivalents of one *pan' curt.*

Table 2.09. The numbers of various non-standard woollen cloths equivalent to one pan' curt (cloth of assize).

1 bastard	1 pan' curt
3 kerseys	1 pan' curt
24 northerns	1 pan' curt
4 straits or narrow dozens	1 pan' curt
2 Welsh friezes	1 pan' curt
6 Cardinall whites	1 pan' curt

Source: T. B. James, *The Port Book of Southampton 1509-10 Vol.1*, pp. xxii-xxxvii.

A further source of information about the cloth industry during the fifteenth century may be found from examining the records of the Exeter customs regarding materials imported used in the dyeing of cloth. Alum used as a mordant was imported from the Middle East, madder and woad were popular dyes and imported in large quantities, mainly from Brittany and Gascony. Imports varied hugely between years (chapter 5), possibly because of warfare and variation in the cloth industry, but was clearly impressive at the end of the fifteenth century and at the beginning of the sixteenth, supporting the evidence for a burgeoning cloth industry in Devon at this time.

In summary, this section has examined aulnage accounts for around 1470 for Devon and nationally, exchequer records for exports from England, Southampton, and Exeter over the fifteenth century, an approximate estimation of the clothworkers in Devon and England from the rolls of the court of common pleas between 1480 and 1500, and cloth export records from Southampton and Exeter, and the import of alum and dyes at Exeter during the fifteenth century. From the sources here it is concluded that there is good evidence that Devon had become a substantial producer and exporter of cloth by the fifteenth century, and although the volume exported varied during the century, it accelerated from about 1470 onwards reaching just over eleven percent of the national total by the first decade of the next century. However, cloth

production was more dominant during this period in some other counties such as Suffolk and Somerset.

2.04 Tin mining, smelting and trade in Devon and Cornwall

Tin has been extracted in the South-West of England for at least four thousand years and was originally used in Devon and Cornwall in an alloy with copper as bronze, and in some decorative crafts. From 300-1240, it was Europe's only source of the metal until the discovery of tin in Germany in Bohemia and Saxony in the fourteenth century, although England maintained an almost total monopoly of international markets until the seventeenth century.[197] Tin mining was not recorded in Devon until the twelfth century,[198] although it has been suggested that the town at Lydford and mints at Lydford and Exeter owed their early wealth to trading in tin as early as the tenth century.[199] Tin had been traded out of Exeter since Saxon times, and in the twelfth century, Devon rather than Cornwall was the major producer. Devon's production peaked at the end of the twelfthand early thirteenth century but was overtaken by Cornwall in the later thirteenth century. The thirteenth century onwards saw the development of stannary towns in Devon for coinage and regulation of the industry such as Lydford, Tavistock, Ashburton and Exeter, and the growth of exports via many small ports around the coast.[200] Devon and Cornwall provided most of the tin used in Europe until the seventeenth century. In the fourteenth and fifteenth centuries Italian merchants from Venice and Genoa were the major traders and appreciated the metal's quality and purity. The metal was mostly used at this time in pewter to make plates and vessels, and it became England's second most important type of export after wool, textiles and hides.[201]

Devon continued to produce tin at about one tenth the volume of Cornwall, until the end of the fifteenth century when a resurgence in tinning occurred lasting about thirty years, with a peak production in 1524 of 252 tons.[202] Thereafter the industry declined in Devon until it ceased in the 1640s and was by then no

[197] E. E. Rich and C. H. Wilson eds., *Cambridge Economic History of Europe*, *Vol.4*, (Cambridge, Cambridge University Press, 1967), p. 424.
[198] H. P. R. Finberg, 'The Stannary of Tavistock', *Transactions of the Devonshire Association*, 81 (1949), 155-84.
[199] J. R. Maddicott, 'Trade, Industry and Wealth of King Alfred', *Past and Present*, 123 (1989), 3-51.
[200] J.R. Maddicott, 'Trade, Industry and the Wealth of King Alfred', *Past and Present*, 123 (1989), 3-51.
[201] Hatcher*, English Tin,* pp. 1-26.
[202] G. M. Spooner and F. R. S. Russell, eds., *Worth's Dartmoor* (Newton Abbot, David and Charles, 1967).

longer of importance to the Devon economy.[203] Because of the high value of tin, the miners and refiners (tinners) were given special privileges by the crown with the Stannary Charter of 1201.[204] These privileges included freedom to dig for tin on other men's land, reductions in taxation and the right to be tried by a stannary rather than a crown court.

The records of the tinners' courts and of the taxation of the metal means that plentiful sources remain for historians, of which Hatcher has written most extensively. The earlier enrolled customs accounts did not separate tin from other exports until the late fifteenth century. Particulars of customs, from which the enrolled accounts were compiled, where they have survived, can be used before then to reconstruct quantitative data on export volumes, which Lewis, Finberg and Hatcher each have done.[205] Such attempts may be compromised because of smuggling and fraud. The high taxes on production (15-20%) made these worth evading.[206] The Pipe Rolls from 1155-6 onwards record receipts of the farm of the tax on tin outputs, largely in West Devon at this time. These increased rapidly over the following fifty years. In the twelfth and thirteenth century, South-West ports were mainly exporting to ports in South-West France, such as Bayonne.[207]

Originally tin mining involved streaming; making use of alluvial deposits of the ore cassiterite which fanned out along riverbeds flowing off Dartmoor after being eroded from the source lode, but in the mid-fifteenth century tinners had begun to tap lodes, resulting in deeper mines and higher production costs.[208] The archaeological evidence for centuries of mining activities remains on Dartmoor today, although evidence of later mining often obscures signs of earlier activity.[209]

After the plague of 1349, marked shortages of labour occurred, often as labourers preferred to work on the land, as the wages were better and the work

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[203] Hoskin, *Devon*, pp. 130-132.
[204] *Calendar of the Charter Rolls*, 225-57, 380.
[205] G. R. Lewis, *The Stannaries: a Study of the English Tin Miner*, (Cambridge, MA, Harvard University Press, 1924), pp. 252-258; Finberg, *Tavistock Abbey*, p. 189; Hatcher, *English Tin*, pp. 164-193.
[206] Hatcher, *English Tin*, p. 6.
[207] Hatcher, *English Tin*, pp. 22-26.
[208] Hatcher, *English Tin*, p. 46.
[209] P. Newman, 'Tinworking and the Landscape of Medieval Devon, c.1150-1700' in S. Turner ed., *Medieval Devon and Cornwall: Shaping an Ancient Countryside* (Oxford, Oxbow Books, Windgather Press, 2006), pp. 123-143.

more congenial and many deserted tin works were recorded until the early sixteenth century. Much of the work was performed by part-time workers including many women and children. They were granted the freedom to dig for tin, cut turf, and divert rivers anywhere. They had no guilds, and new entrants to the trade were welcomed in order to increase output.[210] Not all tinners were individual prospectors, however, as evidence from the late thirteenth century onwards describes the involvement of non-labouring entrepreneurs and the employment of labour with financing of both production and trade from outside sources.[211] Finance could originate from London or from alien merchants, who funded merchant tinners in the South-West who in turn paid labouring tinners. The security for the advances of cash was tin. After the biannual coinage, payment to labourers could be made from merchants in the form of goods such as linen (truck), increasing further the profits made by middle men. Merchants, clerics and landowners all speculated in tin.[212] Despite this, solitary labouring tinners or groups of tinners continued to work small deposits without external financing for many centuries. Shares in such partnerships could be sold, used to settle debts, or even left to the church in a will. In the fourteenth century, merchants and financiers were claiming the right to tinners privileges until Parliament ruled that such privileges were only for actual labouring tinners.[213]

The numbers of names appearing in the many surviving coinage rolls are quite small and clearly do not represent the number of working tinners but those of the merchants paying tax on the metal.[214] Records of tinners paying a special subsidy in 1307,[215] and of stannary courts show that the numbers of labouring tinners was much greater.[216] Between the fourteenth and sixteenth centuries major changes occurred in the amount of tin presented per individual merchant for coinage. The number of individuals presenting large amounts diminished, and the number of smaller presentations grew. A similar phenomenon was noted by Power for the wool trade between the fourteenth and fifteenth century. She wrote

[210] Hatcher, *English Tin*, pp. 47-48.
[211] Hatcher, *English Tin*, pp. 50-51.
[212] Hatcher, *English Tin*, pp. 56-58.
[213] Rot. Parl, ii, 343,344, cited in Hatcher, *English Tin*, p. 63.
[214] Hatcher, *English Tin*, Table 1, pp. 70-71.
[215] For Devon, those who had failed to pay the subsidy are listed in P.R.O, E. 179/95/12.
[216] Hatcher, *English Tin*, p. 67.

> Wealth and power were levelled down, within the upper ranks of the bourgeoisie, to a more modest and widely distributed range of prosperity and influence.[217]

This example is not directly comparable with the tin trade though, as wool exports were declining whilst tin production prospered in the fifteenth century. It is possible that the easier availability of credit in the fifteenth century allowed smaller merchants to take part in the tin trade. Also rising wages after the plague allowed more tinners to act on their own behalf, rather than through middlemen.[218] The labouring tinner earned less than an agricultural worker, and mined tin out of necessity rather than choice.[219] An estimate of the productivity of Devon tinners can be made by using records of a two pence tax ("black rent") imposed on labouring tinners at the beginning of the fourteenth century,[220] and combining these data with the weight of tin presented for coinage at that time.[221] They produced between 145 and 327 pounds per annum, worth between nine and twenty shillings, excluding production costs and coinage. It is as well most tinners had alternative sources of income for at least part of the year. The amounts of money and tin traded attracted the criminal fraternity, and the rolls of the stannary courts contain numerous accounts of theft and dishonest dealing. The stannary prisons were notorious, particularly that at Lydford.[222]

The imposition of customs duties on the export of tin in the fourteenth century resulted in the keeping of records of both alien and denizen trade. Major centres for export in the later middle ages were London, Southampton and the Southern ports of Devon and Cornwall. Trade was with Italian, French and Flemish ports, and expanded greatly by the early sixteenth century.[223] Italian bankers were involved in tin exports which were recorded in the Close, Patent and Fine Rolls of the time.[224] The Venetian and Genoese traders carried English tin to the Eastern Mediterranean and even Asia Minor in the fourteenth and fifteenth centuries.

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[217] Power, *The Wool Trade,* pp. 104-23.
[218] Hatcher, *English Tin*, pp. 75-6.
[219] Hatcher, *English Tin*, pp. 80-82.
[220] Lewis, *The Stannaries*, p. 141.
[221] Finberg, *Tavistock Abbey*, p. 187.
[222] A. H. K. Jenkin, *The Cornish Miner* (London, George, Allen and Unwin, 1962), p. 36.
[223] Hatcher, *English Tin*, Appendix B, pp. 164-193.
[224] Hatcher, *English Tin*, Table IV, p. 95.

The production of tin in Devon and Cornwall, as judged by the amounts presented for coinage, fluctuated, but gradually rose during the fifteenth century, peaking during the first decades of the sixteenth century.[225] During the fifteenth and early sixteenth century the trade in tin from South-Western ports with France fell more into denizen hands, only to be interrupted by the 'Hundred Years War'. Staples for the tin trade from the South-West were established at Calais and elsewhere but were unpopular and briefly transferred to Dartmouth in 1390, only to be returned a year later. The use of the staples was not enforced, and the customs records at this time refer to little export of tin or pewter. Widespread smuggling was likely to have been the reason for this as the coinage records show extensive production, and it was possible that the returns for the Crown from customs were small compared to those from coinage, and were readily evaded.[226] Tin exports from the South-West increased by 120% between 1477 and 1547, compared with a doubling of cloth exports over the same period.[227] Between a half and three quarters of all production was exported, with increasing popularity of pewter, a move to bronze cannon and new uses in building increasing demand.

In the latter part of the reign of Edward IV, the customs appeared to be more efficient, with the result that the improvement in commerce which was occurring at this time can be exaggerated.[228] Peak tin exports were achieved in the first decade of the sixteenth century, and were maintained at a high level until 1547 in Devon and Cornwall ports, while the trade through London and Southampton diminished, probably because of a reduction in trade with Italian ports.[229] At this time, Exeter and Dartmouth were exporting ten percent of England's cloth, at a value of eight times the tin exported, although in Cornwall the reverse was true with tin exports worth three and a half times that of cloth. This resulting

[225] Hatcher, *English Tin*, Appendix A, pp. 152-163.
[226] Lewis, *The Stannaries*, pp. 153-4.
[227] Hatcher, *English Tin*, Appendix B, pp. 164-159; Carus-Wilson and Coleman, *England's Export Trade*, pp. 138-9.
[228] E. M. Carus-Wilson, *Medieval Merchant Venturers: Collected Studies* (London, Methuen, 1954), xxi-xxxii.
[229] P.R.O. E 356/22-27, cited by Hatcher, *English Tin*, p. 127.

prosperity was associated with a movement of exports from alien to denizen shipping.[230]

Devon tin production had a brief renaissance in the late fifteenth century, possibly as the result of the growing popularity of pewter, when it became as much as ten percent of Devon's export values. There was also an internal market for tin from the South-West, which was by coastal shipping to London for further distribution, to major centres of English pewter production, and on a smaller scale to local markets for building, bell-making and pewter. London, apart from being a major tin port, was also the source of much of the finance for the tin industry. In the mid-fifteenth and early sixteenth century large amounts of tin were shipped just as far as Southampton for further transport overland to London.[231] Much of this tin was bought by London pewterers, but they on occasion suffered at the hands of cartels of tin merchants forcing prices up by buying most of the tin from a single coinage.

Cornish tin was traded in blocks of two to three hundred pounds, and Devon tin was traded in 'slabs' of about half that weight. Other forms were exported such in rods, shot-tin, lattice bars, foil and soldering tin. Small blocks were referred to as 'pocket tin' and could be used to evade duties. The main duty payable was coinage, when blocks of tin were presented at a stannary town for examination and approval. A piece of metal was knocked from the corner (Fr. *coin*) of a block for testing by melting. Coinage was charged at forty shillings a thousand-weight (1200 pounds) in Cornwall but at less than half that rate in Devon. Early tin exports from the thirteenth century paid 'ad valorem' duties of five percent for denizen merchants and ten percent for aliens, and were not recorded separately in the exchequer accounts, although this changed later.[232]

Coinage.

Tin was seen from early times as a financial asset to the crown, which resulted in the tin miners receiving a considerable degree of royal protection, including freedom from most ordinary forms of taxation, and their own regulation and

[230] Hatcher, *English Tin*, Appendix B, pp. 164-159; Carus-Wilson and Coleman, *England's Export Trade*, p. 3; L. M. Nicholls, *Trading Communities of Totnes and Dartmouth* (MA thesis, Exeter, 1960), pp.49-50; Carus-Wilson, *The Expansion of Exeter*, p. 16.
[231] Hatcher, *English Tin*, Table XIII, p. 140.
[232] G. R. Lewis, *The Stannaries, A Study of the English Tin Miner* (Cambridge, MA, Harvard University Press, 1924), pp. 33-64.

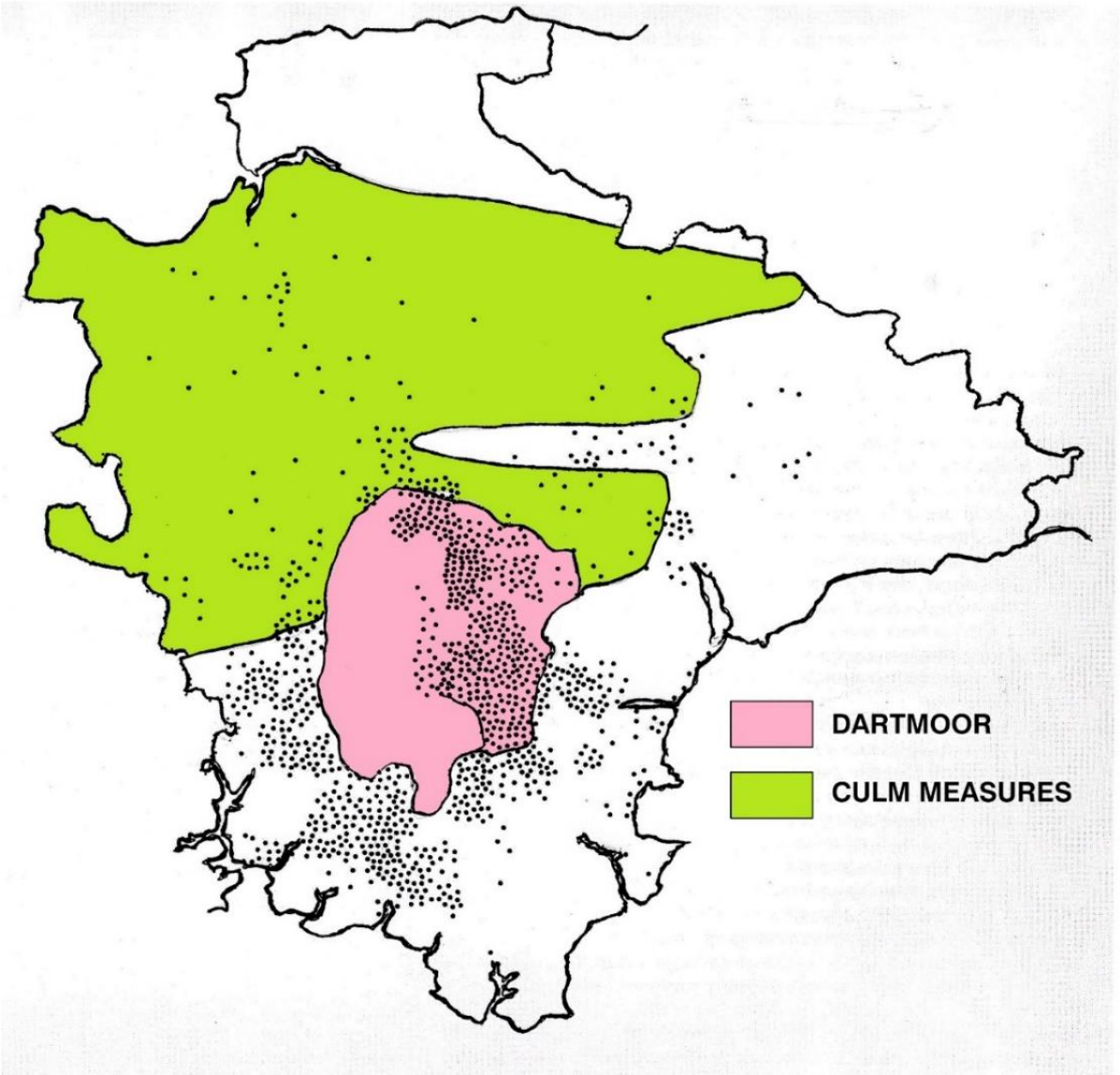
stannary courts. This at times resulted in cases of 'false tinners' claiming tax exemption. This was complicated by the fact that many men worked as miners on a part-time basis, being agricultural workers at other times. The Devon tin industry was far more seasonal than that of Cornwall. Hatcher has argued that

> many occasional tinners did not hold substantial amounts of land, and that others were landless and drifted from fishing, farm labouring, building, and other manual work according to the season and the demand for their services.[233]

Records were kept of the names of tinners because of their tax exemption. Fox mapped the villages of residence of Devon tinners at the end of the fourteenth century using these records, showing clustering around Dartmoor, see Figure 2.11.[234] A few tinners are shown resident away from the mine sites, such as on the Culm measures shown on the map, and these probably represent dealers who did not dig the ore but collected it from smaller producers before taking it for coinage. The main source of revenue for the crown from the tin industry was coinage which was tightly regulated. This was payable on pieces or blocks of tin in designated stannary towns on two occasions a year, usually midsummer and Michaelmas, when it was weighed and stamped. Tin thus marked was required to undergo a second inspection after a second smelting within three months at an approved centre, which in Devon was Exeter, when it was reweighed and stamped, and a further fee paid. In the thirteenth century these taxes tended to be part of a fee farm, that is one merchant would pay a sum to the crown in return for the right to collect the fees, hoping to make a profit. By the fourteenth century the many taxes had been consolidated and gradually increased. Subsequently, the right of pre-emption, that is the right to buy all the tin coined during a certain period, was often sold to merchants or Italian banks by the crown. This was a frequent cause of controversy amongst tinners who felt that they were not receiving the full market price for their tin.

[233] J. Hatcher, 'Myths, Miners and Agricultural Communities,' *Agricultural History Review*, 22 (1974), 54-61.
[234] Fox, 'Medieval Rural Industry', pp. 322-329.

Figure 2.11. Map of Devon showing the distribution of residences of individual tin workers exempted from direct taxation in late fourteenth century.



Sources: Redrawn from H. Fox, 'Medieval Rural Industry', in R. Rain and W. Ravenhills, eds*., Historical Atlas of South-West England* (Exeter University Press, Exeter, 1999), p. 324. Data derived from E179/95/28-32, T.N.A. Black dots indicate individual tin workers residences.

Table 2.10. Tin production in Devon as derived from coinage records.

Year	Thousand weights	Hundredweights	Pounds
1400	128	6	26
1412	107	8	52
1435	73	3	37
1447	202	8	8
1448	35	2	2
1449	34	6	101
1450	124	1	50
1455	112	8	10
1456	111	4	48
1463	130	6	82
1469	189	6	30
1472	242	6	114
1477	205	5	70
1478	211	8	45
1489	243	7	71
1495	252	9	55
1496	218	4	34
1504	272	9	61
1517	468	1	23

Source: Data from Lewis, *The Stannaries*, Appendix J, pp. 252-259. Data originally extracted from various receiver's rolls and exchequer K.R. accounts.

Coinage records give the names of those presenting metal to be stamped. These survive in considerable numbers at TNA classified as E.101.260-270.[235] The numbers are far fewer than the likely number of actual miners, and usually represent capitalist entrepreneurs, often London merchants, who had provided finance for the workers between coinages. Nevertheless, coinage can provide an estimate of the quantities of tin being produced in any year and county. In table 2.10, derived from Lewis, the production in Devon during the fifteenth and early sixteenth century can be seen.[236] This was relatively low in the earlier part

[235] Hatcher, *English Tin*, pp. 70-73.
[236] Lewis, *The Stannaries,* p. 252.

of the century, but rose toward the end, with a peak in 1517, after which it slowly declined, with the bulk of production by then being in Cornwall.

Tin exports.

Apart from coinage, an indication of the tin economy can be derived from export figures recorded the Exeter customs rolls and Southampton port books. These were the main ports exporting tin. Table 2.11 shows figures derived from enrolled customs records for the two ports for the fifteenth century. Block tin and pewter are recorded separately. Denizen and alien trade have been combined. From these figures, Exeter seemed to have the smaller role to play, and Southampton a much larger one. This is likely to be because Italian ships, the major customers for tin, mainly docked at Southampton. The impression is of an export trade in tin and pewter growing in the second half of the century with a peak in the early sixteenth century, a trend that corresponds with the trends in quantities of tin being coined.

Table 2.11. Tin trade in the fifteenth century at Exeter and Southampton.

(a) Exeter/Dartmouth, Enrolled customs records

Denizen and alien combined. Tin *imported* from coastal trade to be later exported.

Year	Tin (Mwt)	Pewter (Mwt)
1471/2	94	
1472/3	26	2
1476/7	34	
1477/8	32	

(b) Southampton. Particular and enrolled customs records. Denizen and alien exports combined.

Year	Tin (Mwt)	Pewter (Mwt)
1403/4	131	0
1432/3	292	7
1437/8	125	20
1438/9	39	12
1443/4	8	9
1447/8	50	6
1463/4	85	0
1464/5	17	0
1465/6	7	0

1466/7	689	4
1467/8	160	0
1469/0	63	2
1470/1	8	0

Sources: Hatcher, *English Tin,* Appendix B, pp. 164-193. Data from (a) E.122.40/10, 40/11, 40/9, 40/30 and E.356/22 and (b) E.122136/27, 138/1, 3, 11, 16, 139/4, 6, 141/21, 23, 29, 140/62, 209/1 and E.356/21, 22. at TNA.

In summary, tin mining, smelting and export was an important contributor to the growing wealth of Devon in the fifteenth and early sixteenth century, stimulated by the demand for pewter. Silver, lead and copper were also mined, but on a smaller scale and mostly at a later date.

2.05 Agriculture

Most of the population of England in the fifteenth century worked on the land and the population of Devon was no exception. Kowaleski argues that:

> Accidents of geography and politics laid the foundation for relative prosperity in late medieval Devon.[237]

This applied to agriculture particularly. Major changes in land tenure and agricultural practice occurred during this period. This section reviews the agricultural changes in Devon during the long fifteenth century in order to emphasise the contribution of agriculture to the increasing value of Devon's diverse economy during the fifteenth century. To understand the comparatively strong performance of Devon's agricultural economy, it is necessary to set it in the context of wider changes in land tenure and agricultural use in late medieval England. There were marked changes in the types of agriculture between the fourteenth and fifteenth centuries nationally, with an increase in pastoral over arable farming related to the fall in population due to the Black Death. Devon's climate, soils, and topography had always favoured pastoral agriculture. Enclosure was an important trend in other parts of England; it also occurred in Devon, adding to the high proportion of land that was already enclosed. To demonstrate these advantages, landscape and land use in Devon is then considered, paying particular attention to geology, enclosure, and the

[237] M. Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1995), p.13-14.

classification of different agricultural regions within Devon. The final part of the section looks in detail at demesne agriculture which provides the most direct evidence of agricultural practice and performance in Devon during this period. This shows that arable agriculture performed well in the county, partly due to less intensive arable systems characterised by convertible husbandry.

Overview of English agriculture and land tenure

The demographic changes which occurred in England after 1350 were associated with a marked reorganisation of farming practices. The drastic fall in the numbers who produced, worked and consumed led to adjustments between tenant and landlord, and to the structure of village and manorial communities.[238] Despite the immediate dislocation to agriculture produced by the plague, most land was soon taken up again and routine restored, suggesting that there may have been reserves of population before 1348 waiting for the opportunity to hold land.[239] After the Black Death and later epidemics, discontent continued throughout the fifteenth century and beyond. This related in part to landlords being reluctant to accept their tenants' new freedoms. Miller wrote:

> The old distinctions of status within villages had largely gone by 1500. Land tenure was by copyhold, leasehold, tenure at will and freehold, and villain tenure had all but vanished.[240]

A fall in land prices, as the result of a diminished population, led to a rearrangement of land holding. Those without land or with very little were able to add to their acres, while more substantial holders could enlarge their farms as landlords leased out their demesne lands, unable to obtain sufficient labour to work them.[241] Poorer land often fell out of cultivation as excess to requirement. Some arable was converted to pasture, probably not as a sign of an agrarian crisis, but rather a move to a more balanced use of land.

Inequalities remained in village life, based more on the area of land and livestock each tenant held and associated rights such as grazing. Landlords became more careful about imposing old conditions, as doing so might result in their tenant moving to another village and landlord. Such mobility became a

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[238] F. R. H. Du Boulay, 'Who Were Farming the English Demesnes at the End of the Middle Ages?', *Economic History Review*, 17 (1965), 444-6.
[239] E. Miller, 'Introduction: Land and People' in Miller, *AHEW, Vol.3*, pp. 1-8.
[240] Miller, 'People and the Land' in Miller, *AHEW, Vol. 3*, p. 16.
[241] Miller, 'People and the Land', pp. 8-19.

flood in the fifteenth century, especially in the eastern counties of England and the West Midlands. Some communities proved non-viable in the face of depopulation, and many villages, especially in the West Midlands and East Anglia were eventually deserted. Some deserted villages after 1450 were converted to pasture to make some return on them, especially when labour was in short supply.[242] As the population grew, up to the early fourteenth century, increased food production was achieved by bringing less fertile land into use and improving the soil where possible. Since arable agriculture produces more calories and protein than pastoral per acre, the pressure was to increase arable farming. With the great population losses of the fourteenth century, these pressures were reversed. The lack of manpower and falling demand for grain allowed an expansion of animal farming. Grazing as well as arable usage of the land could and did lead to soil exhaustion.[243] Farm animals were smaller by the fifteenth century than they had been centuries beforehand, as evidenced by archaeological remains of carcasses, and this was considered to be evidence of a shortage of grazing or overstocking. However, these data are not from Devon, where the situation may have been different with relatively abundant grazing and a lower population density.[244] Table 2.12. shows summaries of changes of land use across England between 1350 and 1500, as described in *The Agrarian History of England and Wales, vol. 3.* The picture varies between regions but shows a general move towards more pastoral agriculture, although arable tended to be preserved in eastern counties, and in some coastal regions.

Table 2.12. Changes in land use by region between 1350 and 1500.

Region	
Northern counties	15C saw reversal of both arable and pastoral expansion. High lands deserted or turned to pasture. Coastal plains retained only arable.
Yorkshire and Lancashire	Yorkshire: Poor recovery from plague etc in 15C. Decay of rents stabilised later in century. Some shift of arable to pasture. Lancashire: Meadow and pasture gained over arable, although arable failures on thin soil. Assarting continued.
East England	Demesne pastures exceeded arable. Village desertions in Lincolnshire, some became

[242] Miller, 'People and the Land', pp. 9-10.
[243] B. M. S. Campbell, *English Seigniorial Agriculture, 1250-1450* (Cambridge, Cambridge University Press, 2000), pp. 10-20.
[244] A. Grant, 'Animal Resources', in G. Astill and A. Grant eds., *The Countryside of Medieval England* (Oxford, Oxford University Press, 1988), pp. 176-7.

	pasture. Large sheep flocks. Arable remained dominant in those counties trading with London. Wheat remained dominant grain but oats more in north. Barley increased.
East Midlands	Continued mixes farming. Increased leasing of desmene lands. 50-70% land as pasture for both sheep and cattle. New settlements in 15C after desertion of nucleated villages. Considerable enclosure especially by religious houses.
West Midlands	25-50% loss of arable with increase in meadow and pasture, which increased from <10-30%. Arable had averaged 70-96% of all counties but fell to 34-58%.
Wales and marches	Mainly pastoral on higher ground, mixed arable/pastoral nearer coast. Meadowland highly valued. Cattle mainly in north, sheep in south until 15C. Open field system involved small arable fields surrounded by pasture. Much conversion of arable to pasture in 15C together with enclosure of abandoned lands. Three field system practised in Shropshire/Herefordshire.
Home counties	Shrinkage of rural settlement in all counties with many deserted villages, but some recovery in late 15C. Predominantly arable, deserted land often enclosed by landlords to create pasture. Woodland remained important asset.
Kent and Sussex	Extensive arable converted to pasture or fell to waste. 30-50% arable lost. Wheat and barley stable, but oats and legumes declined. Sheep rearing lost profitability in mid-15C. Disease and harvest failures at same time. Flooding damaged coastal areas and resulted in further conversion of arable to grazing. East Kent retained extensive arable in 15C, with pasture farming dominant on Weald.
Southern counties	In late 14C 80% demesne acreage arable, but also extensive common pasturage. Decayed rents persisted during 15C.Desmene arable extensively leased out. Sheep farming profitable, but later leased out as well. Arable declined and abandoned land enclosed for sheep farming.
Devon and Cornwall	Devon: arable declined from 71 to 51% on manorial lands, with moorland increase from 8 to 13%. Pasture declined from 16 to 11%. These effects less marked in South Devon. Cornwall: arable remained substantially same at over 50% in coastal areas but decline to 16% on moorland. Pasture declined on coast and moorland increasing put over to rough grazing.

Source: Summarised from Miller, *AHEW, Vol.3,* pp. 34-323. Data from manorial records, feet of fines and *inquisitions post mortem.*

Soon after the Black Death in the mid-fourteenth century there were changes in the way land was held by tenants from their lords. Hereditary villein tenure was converted into copyholds or leases. These were preferred by the tenants as they were framed in less servile language; the tenant usually received a copy of the agreement and money rents became the rule. In western and central England including Devon life tenures were preferred, in contrast to the heritable tenures of eastern England.[245] Across England the market in freehold land was very active in the first half of the fourteenth century with a wide range of properties, many being relatively small at under fifty acres. Although the market itself was vulnerable to disruptions due to farming, demographic and political reasons, these were generally short-lived, and demand recovered quickly. In the later fourteenth and in the fifteenth century the amount of freehold land for sale decreased. This may have been due to several reasons. There had been a tendency to build up larger estates by combining smaller properties, there was a fall in land values until the middle of the fifteenth century, and there was a gradually expanding group of socially aspiring individuals with the finance wishing to build up estates.[246] Thus, while agriculture and landholding might be perceived as traditional economic activities, evidence shows that both farming systems and forms of land tenure were in a state of flux, reacting in particular to falling population levels from 1348 into the fifteenth century.

Landscape and land-use in Devon.

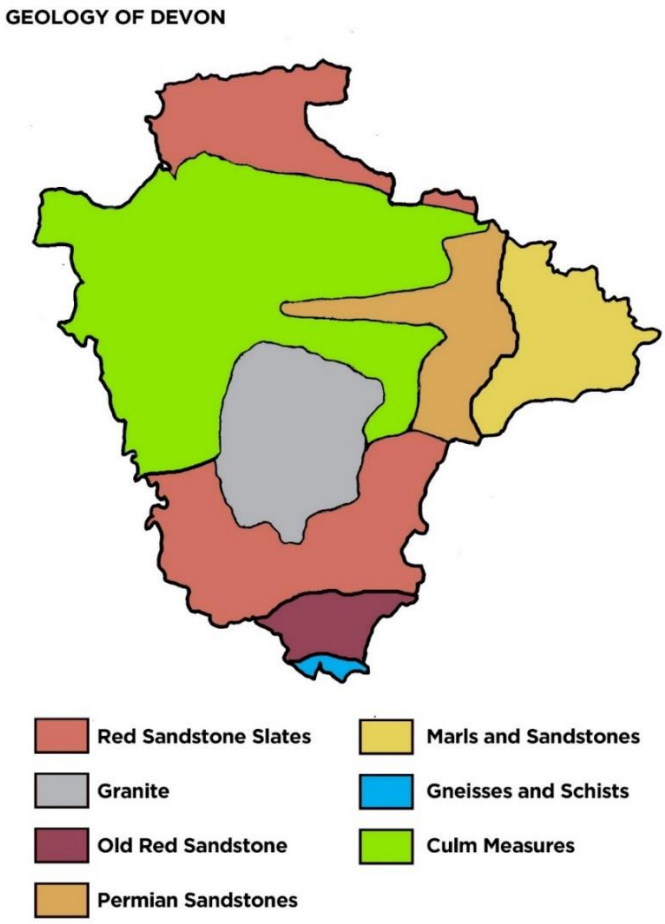
The agriculture of Devon cannot be considered before an examination of the geography and geology of the land in the county. Figure 2.12 shows a simplified geological map of the county. Devon was the largest county in England (Yorkshire and Lincolnshire then being sub-divided) with long seacoasts on two sides. The gigantic pluton of granite which forms Dartmoor and the many rivers flowing from it have contributed much to Devon's geography and history and

[245] M. Bailey, 'The Transformation of Customary Tenures in Southern England, c.1350-c.1500', *Agricultural History Review*, 62 (2014), 210-230.
[246] M. Yates, 'The Market in Freehold Land, 1300-1509: The Evidence of Feet of Fines'*, Economic History Review*, 66, (2013), 579-600.

industry.[247] The other parts of Devon have a sedimentary geology which has variable effects on the surface soil and agricultural fertility. Examples are the Culm measures in mid and north Devon which produce a heavy clay soil, largely unsuitable for arable culture, but producing grassland supporting a pastoral agriculture, which became mainly cattle in the fifteenth century. East Devon had well-watered valleys with rich soils, but also steep Greensand slopes, unsuitable for arable but providing plentiful rough grazing. By the fifteenth century, east Devon had a well-rounded pastoral economy and was valuing arable land at less than pastoral. On the other hand, the South Hams were more fertile, growing wheat, rye and oats and supporting orchards along the river Dart. The decline in arable farming during the fifteenth century was much less here than in other parts of Devon.[248]

[247] W. G. Hoskins, *Devon* (Chichester, Phillimore, 2003*)*, p. 15; M. Kowaleski, *Local markets and regional trade in medieval Exeter* (Cambridge, Cambridge University Press, 1995), p. 10.
[248] Hoskins, *Devon*, pp. 16-21.

Figure 2.12. Simplified geological map of Devon.



Source: Redrawn from Hoskins, *Devon,* p. 17.

Characterising the Devon landscape

In addition to the underlying geology, the landscape of a region has been determined by the agricultural practices of a thousand years and more, and this is especially true when considering Devon. In recent years there has been a growing interest in landscape archaeology, not just in the distribution of ancient monuments but in the wider sense of describing the whole historic landscape. At the end of the twentieth century, English Heritage sponsored historic landscape characterisation (HLC) projects for many English counties, and more recently for Devon.[249] HLC does not map ancient monuments as historical

[249] S. Turner, *Ancient Country: The Historical Character of Rural Devon* (Exeter, Devon Archaeological Society, 2007).

environmental records (HER) do, but aspects of the landscape such as farms, ancient lanes and field boundaries, and maps them in small areas of about a hectare or so. Ordnance Survey (OS) maps and photographs are used to define landscape types in broad categories such as woodland, industrial, ancient enclosures, rough ground and so on. These are then mapped using Geographic Information Systems (GIS) mapping software. This is a form of relational database with a graphical user interface. Many pieces of information may be linked to a single area so that a detailed picture of how and when the landscape changed over time may be built up. Addition information may be included at any time.

The HLC for Devon was concluded in 2005 and used three sources, the current electronic version of OS for Devon, the six inches to a mile first edition of the OS, and vertical colour aerial photography of the region. Most of Devon's landscape consists of fields. These could be dated approximately by the shape of field boundaries, medieval ones being sinuous and later ones straight. Further information on dating came from published historical and archaeological case studies. When all this information was entered into the database, it allowed mapping of modern, post-medieval and earlier land use. Medieval categories of use included strip fields, strip enclosures, other enclosures, and water meadows.[250] The results of this project for Devon are available on the internet.[251]

A particular example of mapping of relevance to this thesis is the mapping of medieval strip fields and later 'barton' fields for the county, shown in Figures 2.13a and b. In the medieval period strip fields were very widespread and were present in much of Devon, as elsewhere, and their traces can be seen today, indicated by certain field boundaries. After the Black Death, the fall in population caused changes in land use. Demesne land was packaged and leased out as barton fields; a term confined to Devon.[252] The term is derived from the Old English for barley (bere) and enclosure (tun).

[250] Turner, *Ancient Country*, pp. 27-79.
[251] http://www.devon.gov.uk/index/environment/historic_environment/landscapes/landscape-characterisation.htm. (accessed 2/10/2020)
[252] H. P. R. Finberg, *Tavistock Abbey*, *A Study of the Social and Economic History of Devon* (Cambridge, Cambridge University Press, 1951), p. 49.

Figure 2.13a. Medieval strip fields in Devon from HLC.

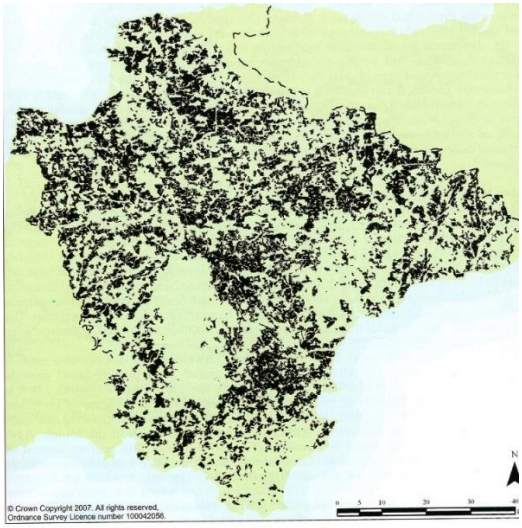
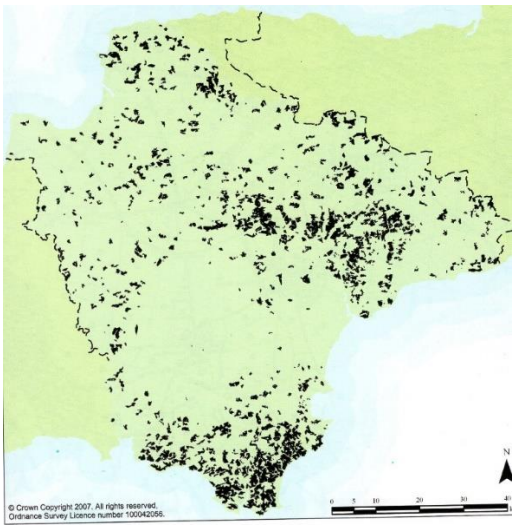


Figure 2.13b. Early modern 'barton' fields in Devon from HLC.



Source: Turner, *Ancient Country,* pp. 55, 65.

Ryder has also used GIS technology, but in a different way, concentrating on three distinct locations or *pays* in Devon. These are the Hartland Moors in north Devon, the Blackdown Hills in east Devon and an area in the South Hams. Her methods made greater use of linguistic and historical records where they were available in order to introduce greater local detail and in particular field morphology, examining evidence for changes over the centuries in each of the *pays* selected.[253] The Blackdown Hills exhibited a pattern of dispersed hamlets, individual farmsteads an irregular open fields, but

[253] L. Ryder, *The Historic Landscape of Devon: A Study in Change and Continuity* (Oxford, Oxbow Books, 2013).

this varied at individual parish level. The Hartland Moors shared some similarities with the Blackdown Hills, but there was more evidence for enclosure during the medieval period. The South Hams differed from the previous two areas in that there were few dispersed farmsteads but many small, nucleated villages. This was attributed largely to the soil and topography of the land.

Dartmoor

Dartmoor's boundaries are indistinct. It has an inner zone, or 'central moor' in the parish of Lydford, known as 'the Forest', as it was for a limited time subject to the royal forest laws, but in 1377 passed to the Duchy of Cornwall, and subsequently was leased to others. For most of its history the area was not subject in the usual way to forest law but was used for open rough grazing.[254] A ring of moor-edge manors with some enclosed arable land also existed, although by the fifteenth century much of this had been turned over to pasture. The grazing on the moor comprised not only grasses but also gorse (furze) and heather. Some areas of the moor were kept free of animals so that hay could be cut in summer and taken back to lowland farmsteads which had little meadowland. Gorse was also deliberately cultivated and cut for winter feed. Winter weather on Dartmoor is very inhospitable, and livestock were driven to lower pastures in the autumn, but back to the moor in May, in a form of transhumance. The herders would usually stay on the moor in the summer, and traces of their huts can still be seen today. The herders would often take other farmers' livestock up to the moor in summer as well as their own.[255] Although often regarded as poor land, because of its ability to hold water, the moor remained green all summer when other grazing had become brown in the summer heat. Dartmoor was a commercialised region in the fifteenth century, where 'strangers', those not living in or around the moor, came to graze cattle, landless men and women looked for work, and itinerant charcoal burners and tinners plied their trades. Turf was cut and dried (turbary) and used as fuel domestically and for tin smelting. All these workers required feeding supporting,

[254] H. Fox, *Dartmoor's Alluring Uplands* (Exeter, Exeter University Press, 2012), p. 27.
[255] Fox, *Dartmoor's Alluring Uplands*, pp. 7-45.

the local farming community, which probably explains the persistence of some arable farming where others in the region had moved to pastoralism.[256]

Changes in the tenure and use of agricultural land.

At the end of the twelfth century Devon contained vast tracts of uncultivated land, classified as forest, and any attempts by local people to clear and cultivate such land were opposed by the king and resulted in fines. This was because it was subject to forest law which had been imposed by the Norman kings in the eleventh century. This was to reserve game animals (*venaison*) and the plants they fed on (*vert*) for hunting, by the king and invited aristocracy. In the thirteenth century, one third of the area of southern England was royal forest. Harsh punishments were imposed on those others who took game or vegetation from the forest. Towns, villages, and even fields surrounded by designated forest were also subject to the law, although common rights, often long held by commoners, were not extinguished, but merely curtailed.[257]

In 1204 however, Devon raised five thousand marks to purchase a charter of deforestation from King John, freeing Devon (apart from some of the moors) from forest law.[258] This led to a period of extensive clearance and enclosure. At around the same time, tinners were allowed to stake out claims to work on and claim freedom from other labour services and taxation.

Between the early fourteenth century and the late fifteenth century, marked changes were seen in land use in Devon, although such changes varied considerably from area to area. Using manorial records, Fox states that in mid- and north Devon, between the early fourteenth and late fifteenth centuries, arable declined from 71 to 51 percent of manorial lands, whilst moorland increased from 8 to 31 percent. Pasture, grassland cultivated for grazing rather than rough grazing, also declined from 16 to 11 percent. The overall picture suggests population loss and land desertion. Similar trends were seen in east and south Devon and on Dartmoor, but to a much lesser degree, the least

[256] H. Fox, 'Devon and Cornwall', section J, in 'Occupation of the Land', in E. Miller ed., *The Agrarian History of England and Wales, Vol.3, 1348-1500* (Cambridge, Cambridge University Press, 1991), pp. 154-159.
[257] H. R. Loyn, *Anglo-Saxon England and the Norman Conquest* (London, Longmans, 1991), pp. 378-82; R. Grant, *The Royal Forests of England* (Wolfeboro Falls, NH, Sutton, 1991); C. R. Young, *The Royal Forests of Medieval England* (Philadelphia, University of Pennsylvania Press, 1979).
[258] Finberg, *Tavistock Abbey,* p. 70.

affected being south Devon.[259] The question of enclosure in Devon has been controversial.[260] Fox has established that much of the county was enclosed by the thirteenth century, other areas later in the fifteenth or even sixteenth century. The extent of enclosure depended very much on the local soil fertility, the best soil being less likely to be enclosed. Figure 2.14 shows the distribution of sub-divided arable land (open field arable) recorded in manorial records. [261]

Figure 2.14. Sites of subdivided field systems according to manorial records in Devon prior to 1500 (red spots).

Source: Redrawn from H. S. A. Fox, 'The Chronology of Enclosure and Economic Development in Medieval Devon', *Economic History Review,* 28 (1975), 184.

In Devon as elsewhere, there was a reduction in direct management of demesne lands with landlords leasing packages of land to tenants, preferring to collect rents rather than employ workers to cultivate the land. More remote estates were made over to livestock rearing, especially cattle. This process

[259] Fox, 'Devon and Cornwall', p. 154.
[260] W. G. Hoskins, 'The Reclamation of the Waste in Devon, 1550-1800', *Economic History Review,* 13 (1943), 81; C. S. Orwin, *The Open Fields* (Oxford, 1938), p. 61; H. P. R. Finberg, 'The Open Field in Devonshire', *Antiquity,* 23 (1949), 180-7.
[261] H. S. A. Fox, 'The Chronology of Enclosure and Economic Development in Medieval Devon', *Economic History Review,* 28 (1975), 181-202.

which began in the late fourteenth century was all but complete by the early decades of the fifteenth. These changes affected mainly the large to medium sized estates, while smaller estates of lesser knights, esquires and gentlemen (of which there were very many), continued as before.[262]

Changes of land use in Devon occurred slowly beginning before the Black Death. Unused arable land appeared in East Devon which represented the effects of previous expansion onto marginal lands. There was no obvious acceleration of land passing out of cultivation after 1350, although by the early fifteenth century, most demesnes were reacting to the fall in demand for grain by increasingly putting their lands after pasture. The best soil was in South Devon, leading to little change in the area out to arable at that time. The South continued produce products for victualling local ports. In North and Mid-Devon land moved from agricultural to moorland with moorland increasing from 8 to 30 percent by the early fifteenth century.[263] Elsewhere, particularly on Dartmoor, large numbers of migrant workers, tinners, charcoal burners, turf diggers, stone cutters and grazers increased the need for food production, keeping food production buoyant.[264]

In Devon, arable was the most important agricultural sector, although the proportion of land given over to it did depend on the local geology, the south being more favourable than the east or north. Nevertheless, by the early sixteenth century, east Devon towns like Axminster had become almost exclusively pastoral and given over to cloth-making, although the changes had begun before the plague. Labour spared from grain production in such localities allowed for this.[265]

Enclosure began in east Devon as early as the thirteenth century and a typical field pattern consisted of small, irregular units adapted to the system of convertible husbandry.[266] In south Devon, enclosure began rather later and continued on into the sixteenth century. Fox argues that ’a pattern of large

[262] Fox. ‘Devon and Cornwall’, pp. 172-174.
[263] H. S. A. Fox, ‘J: Devon and Cornwall, The Occupation of the Land’, Miller, *AHEW, Vol.3,* pp. 152-174.
[264] D. Stone, ‘The Later Middle Ages; 1400-1525’, in D. Stone and R. Sandover eds., *Moor Medieval* (Exeter, Short Run Press, 2019), pp. 122-158.
[265] Fox, ‘Chronology of Enclosure’, 181-202.
[266] Finberg, *Tavistock Abbey*, pp. 104-108.

closes and compact farms' resulted from an excess supply of land over demand which existed while consolidation occurred.[267]

Deserted villages in the English Midlands resulted from pastoral farming and long-term social change involving amalgamation of tenures.[268] Regions such as the western counties of England had more flexible field systems than those in the midlands, allowing earlier enclosure.[269] No true deserted village sites are identified in the South-West, indicating only modest changes in land use. Nucleated villages were not the common form of settlement in Devon, but rather hamlets and isolated farms. By the fifteenth century more villages developed in Devon as centres for hundreds. In North Devon, some areas in Hartland contracted from being substantial settlements to isolated farmsteads by the early fifteenth century, while as described already, continued demand from industrial on moorlands workers for food kept land in use there.[270]

In the fourteenth century, rye and oats were the main grains cultivated in Devon. Wheat was mainly grown for the wealthy and legumes little seen. In the fifteenth century, South Devon moved to growing wheat and barley. Yields were high, up to one to eight for wheat in a good year. Rotational systems were used, but a smaller proportion of land was under crops each year than elsewhere. Convertible husbandry combined with sanding, marling, and manuring kept yields high in the South-West when crops were grown.[271] Convertible husbandry is a method of farming where strips of arable farmland were temporarily converted to grass pasture, known as leys. After a few years they were ploughed up and reverted usually to arable. This was a less intense form of arable agriculture than that found in eastern England. In any year the proportion of potential arable land under crops could be less than half. It had been argued for a long time that convertible husbandry was a more efficient use of the land than the common field system, producing greater yields. This has been challenged more recently by Kitsikopoulos who in a complex study shows that productivity was generally poor using either method. The importance of soil nitrogen in increasing soil productivity was emphasised. Factors such as the low

[267] Fox, '*Chronology of Enclosure'*, 191.
[268] C. C. Dyer, 'E. The West Midlands, The Occupation of the Land', Miller, *AHEW, Vol. 3*, pp. 77-91.
[269] Fox, '*Chronology of Enclosure'*, 200.
[270] Fox, 'The Occupation of the Land', pp. 52-174.
[271] H. S. A. Fox, 'J: Farming Practice and Techniques', in Miller, *AHEW, Vol.3,* pp. 303-323.

nitrogen content of animal manure and elution of nitrogen by rainfall in lighter soils were problems. Only when leguminous crops such as clover were introduced in later centuries did yields rise. These were ploughed in rather than eaten by livestock or man unlike medieval legumes such as peas and beans.[272] East Devon also became a significant dairying area, while cattle in the North were mainly reared for meat.[273]

Demesne agriculture in Devon.

Unlike many other English counties, Devon had few major landowners in the fifteenth century apart from the church and the Courtenays, the Earls of Devon. Most manors were owned by small landowners. As a result, there were a very large number of small estates. In the taxation of 1412, only four landowners in Devon had incomes of over £100, thirty-eight had incomes of over £40 and seventy-two of over £20.[274] Records survive from over five hundred manors in Devon, although many cover only a few years or are in poor condition and incomplete.[275]

Campbell and Overton, when writing about agriculture in England, have described the fifteenth and early sixteenth centuries as 'a murky, ill-documented and under-researched period notable for three main developments'. These were a swing from arable to pasture and a retreat from marginal lands, a structural change in the size and layout of fields and farms, and tenurial changes with the break-up of demesnes and growth of leasehold and copyhold.[276]

Detailed manorial accounts were produced between the mid thirteenth century and the mid fifteenth century for some estates, listing crops produced, staff and rents collected. However, fewer than half of estates at this time were directly managed, the rest being leased to and cultivated by tenants and the manorial records simply listed rents paid. Although manorial accounts survive in considerable numbers, their information cannot be held to be fully representative of agriculture, most of which was in the hands of tenant farmers.

[272] H. Kitsipoulos, 'Convertible Husbandry vs. Regular Common Fields: A Model on the Relative Efficiency of Medieval Field Systems', *Journal of Economic History*, 64 (2004), 462-499.
[273] Fox, *AHEW, Vol. 3*, pp. 303-319.
[274] J. M. W. Bean, 'The Structure of Landed Society', in Miller, AHEW*, Vol.3,* p. 531.
[275] Manorial Documents Register, T.N.A.
[276] B. M. S. Campbell and M. Overton, 'A New Perspective on Medieval and Early Modern Agriculture: Six Centuries of Norfolk Farming c. 1250- c. 1850', *Past and Present*, 141 (1993), 46.

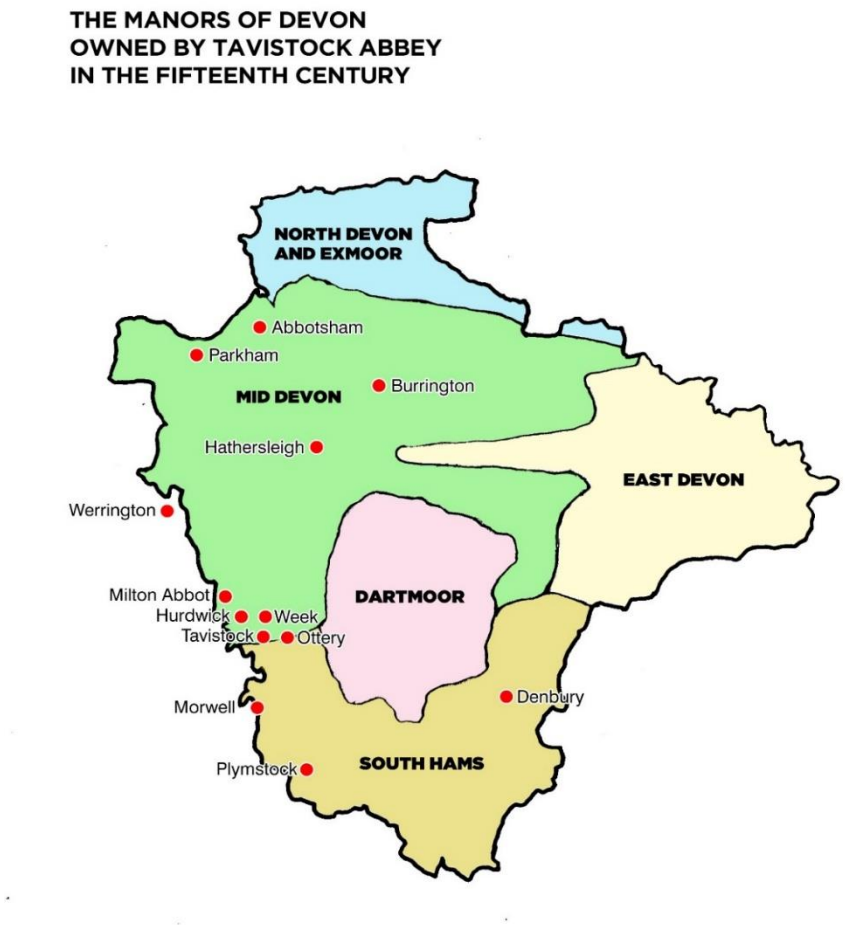
In addition, those accounts that have survived are most often those from ecclesiastical manors or those of wealthier landlords. After 1450, even manors that had been directly managed were mainly rented out and detailed records of cultivation were no longer kept.[277]

The most detailed study of manorial accounts for Devon is that published by Finberg for the manors of Tavistock abbey.[278] Those manors in the possession of the abbey in the fifteenth century are shown in Figure 2.15. Many are clustered around the abbey to the west of Dartmoor, but two are in mid-Devon, and two in the South Hams. An informative example is Hurdwick manor, one and a half miles north of Tavistock and over six hundred and seventy acres in size, for which extensive records survive for the fifteenth century. Records from the mid-fourteenth century describe the efforts made to increase the fertility of the soil by applying animal dung and sea sand, The latter was effective because it contained ground seashells which limed the soil, as well as improving texture by breaking up the clay and thus improving drainage. By the early fifteenth century, sand was being brought up the River Tamar and then transported by packhorse. In most years one or two barges were paid for, each containing about fourteen tons of sand. Another method used to improve the soil was beat burning: this involved cutting back vegetation, allowing it to dry and then burning it. The resulting ash was then ploughed into the ground. This technique was also used to clear weeds or when assarting marginal land. The practice, although removing weeds, could damage the soil if subsequent manuring was not practiced.[279]

The principal grain sown at Hurdwick was oats which were of three varieties, and these were sometimes mixed. They were mainly used to feed animals, or to make ale. Barley was not successful, but rye was grown for bread. Wheat was introduced at Hurdwick in the mid-fifteenth century. It made better bread but was not as easy to grow as oats or rye in west Devon. The actual yield for grain harvests can be calculated, and at Hurdwick for wheat this ranged from around one to four at the beginning of the fifteenth century to over nine at the beginning of the sixteenth.

[277] Campbell, *English Seigniorial Agriculture,* pp. 1-6.
[278] Finberg, *Tavistock Abbey*.
[279] Finberg, Tavistock Abbey, pp. 88-94.

Figure 2.15. The manors of Devon owned by Tavistock Abbey in the fifteenth century.



Source: Data from Finberg, *Tavistock Abbey*, p.11.

Rye had greater yields, often exceeding ten, but oats somewhat smaller, similar to those of wheat. When these results were compared with those of other counties they were impressive, despite the relatively poor soils where they were grown.[280] The grain yields are not dissimilar to those of some manors in Norfolk at this period, a county renowned for its arable farming.[281] This could be explained by more intensive cultivation of the limited areas in Devon of the

[280] Finberg, *Tavistock Abbey*, pp. 95-115.
[281] B. M. S. Campbell, 'Medieval Crop Yields Database', *www.cropyields.ac.uk.*

arable land available, or conversely by the relatively extensive use of land in convertible husbandry, with land put back down to pasture after a few years of grain cultivation.

Stone has argued that grain yields on non-demesne land were up to eleven percent higher as the incentives to produce high yields were higher for small tenants with limited resources.[282] This viewpoint has been challenged by Overton, who with colleagues, was unable to find a relationship between the size of farm and the yield.[283] Records show that the lands at Hurdwick were constantly improved by the use of sea sand and dung, which probably resulted in their high productivity. However, in Devon, most demesnes were small, and the owners probably unable to afford the transport for sand. Sapoznik agrees with Stone. Using data from a case study of a Cambridgeshire manor's tithe and court records, he has shown that:

> Peasants used their land more extensively than did the lord, raising their output per acre above that of the demesne. This was driven by peasant need for fodder crops, and the strain placed on agricultural systems that required peasants to use their land to produce grains and legumes for consumption, fodder, and sale.[284]

Unfortunately, no evidence of yields on peasant farms has so far been identified for Devon. Because of its soils and climate, much of Devon was more suited to the keeping of animals than cultivation of grain. The records of the manors of Tavistock Abbey contain detailed accounts of the numbers of animals kept, their type and prices for their acquisition or disposal. The types of animal had names based on their sex, age and usage: that is, whether they were used for traction, ploughing, wool or meat. Cattle could be oxen, bulls, cows, heifers, bullocks, yearlings or calves. Sheep were wethers, rams, ewes, hoggets or lambs. Pigs, horses and poultry were also listed. These accounts only refer to demesne land under direct management and therefore do not record the total numbers of animals at any one manor, as tenants were not included.

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[282] D. J. Stone, 'The Consumption of Field crops in Medieval England', in C. M. Woolgar, D. Serjeantson, A. Waldron, eds., *Food in Medieval England: Diet and Nutrition* (Oxford, Oxford University Press, 2006), p. 21.

[283] M. Overton, 'The Determinants of Crop Yields in Early Modern England', in B. M. S. Campbell and M. Overton, eds., *Land, Labour and Livestock: Historical Studies in European Agricultural Productivity* (Manchester, Manchester University Press, 1991), pp. 284-322.

[284] A. Sapoznik, 'The Productivity of Peasant Agriculture: Oakington, Cambridgeshire, 1360-99', *Economic History Review*, 66, (2013), 518-544.

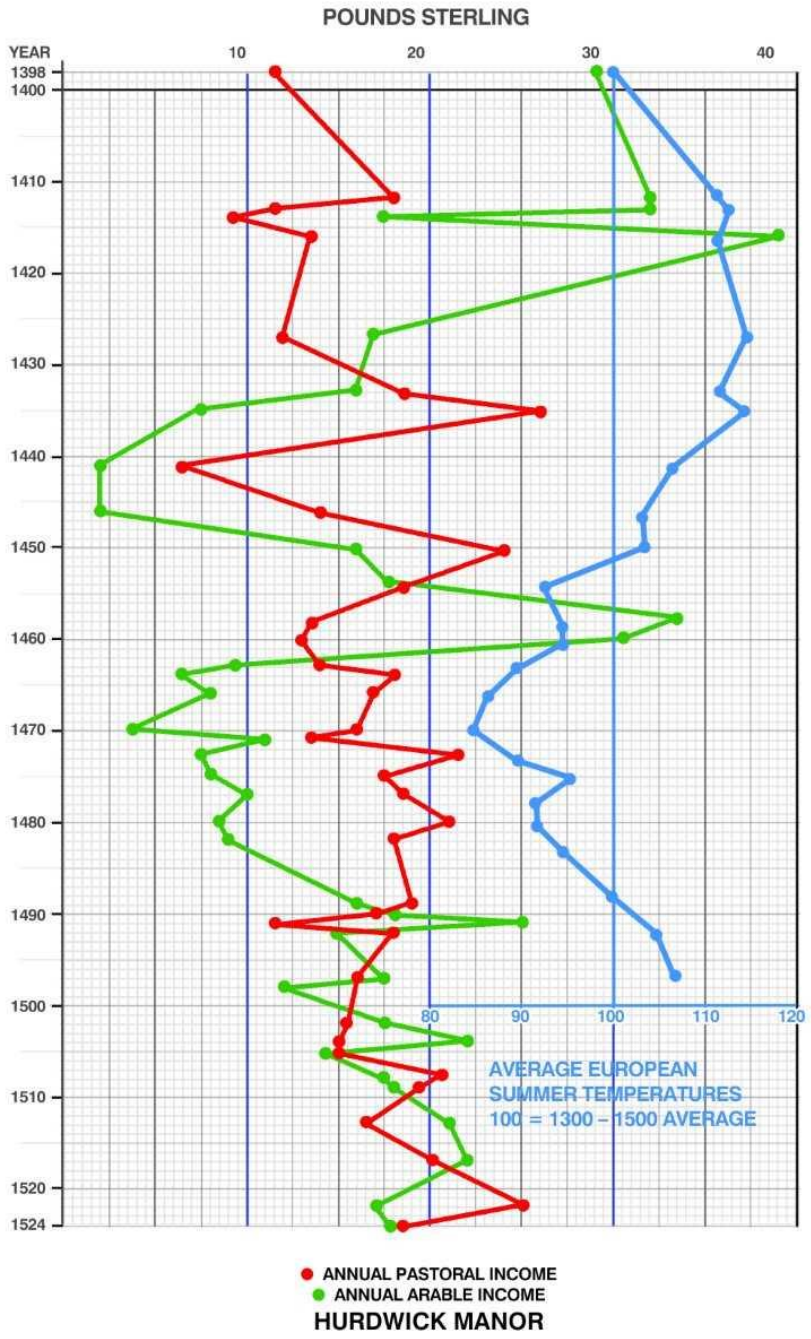
Butter and cheese production were also important. Hurdwick manor was extensively involved in dairying and employed a dairymaid much of the year to make cheese. She was assisted by one or two other maids. Butter was also produced by leaving the milk to stand before heating it to clot the cream. This was then skimmed off and stirred to release butter, thus avoiding churning. Hurdwick made fifty-four stones of cheese in 1398. This was the average during the fifteenth century, although production exceeded one hundred stones in a few good years. Butter production averaged ten stones annually over the same period. Other dairies were recorded on Tavistock manors at Leigh (Hathersleigh) and Werrington.[285]

Sheep farming expanded over the fifteenth century and in 1497 Hurdwick had 415 ewes. Other Tavistock manors with ewes were Ottery, Burrington, Denbury and Morwell. On some estates in Devon sheep were pastured inter- manorially and even shorn together, the clip from all the manors being sold under a single contract. Tavistock manors including Hurdwick, maintained their flocks separately, although the abbey managed wool sales collectively. Hurdwick produced between two and four hundred fleeces a year during the fifteenth century, rising to a peak of over six hundred in 1473. Although sheep were mainly used for milk and meat in the fourteenth century, the growth of cloth-making in the fifteenth century changed the emphasis to wool production. Werrington and Hurdwick were major wool producers during the fifteenth century, both adult and lamb wool as well as wool fells are recorded. Within the Tavistock estate Hurdwick commanded the highest prices for its wool, and Werrington the lowest. The rather coarse cloths made around the abbey were known as ‘Tavistocks’.[286]

In the fourteenth century, Hurdwick earned more from its arable activities than for its pastoral, but by the fifteenth century the situation was reversed in many years, indicating the motivation behind the switch to pastoral farming in this period. Figure 2.16 plots manorial profits for Hurdwick recorded by Finberg graphically and compares them with average summer temperatures taken from Campbell.

[285] Finberg, *Tavistock Abbey*, pp. 135-144.
[286] Finberg, *Tavistock Abbey,* pp. 129-151.

Figure 2.16. A comparison of incomes from arable and pastoral activity on Hurdwick manor during the fifteenth and early sixteenth centuries.



Source. Data from Finberg, *Tavistock Abbey*, pp.156-7, derived from the bailiff's accounts for Hurdwick manor for each year. Climate data from Campbell, *The Great Transition,* pp. 338-9.

The arable income included not only grain sold but rents for fields, and the pastoral income also included rents for grazing. Total income recorded from all

sources exceeded forty pounds a year during the first decade of the fifteenth century but fell below twenty pounds a year in some years mid-century before recovering to an average of just over thirty pounds a year in the last decade of the century, and the early sixteenth century. Historic temperature averages for European summers have been estimated using dendrochronology, that is the study of the pattern of tree rings.[287] There was a historic low between 1348 and 1353 with 1349 the coldest of all. By 1360 average summer temperatures began to rise and remained above the average until around 1440 when they fell again, remaining below average until 1490 when a further warm period began extending well into the sixteenth century. Figure 2.14 shows the summer temperature averages against pastoral and arable incomes for Hurdwick manor with a weak correlation between temperatures and production over the fifteenth century.

Other Tavistock Abbey manors were less well documented. Table 2.13 shows the receipts for manors recorded in the last decade of the fourteenth century and of the fifteenth century. Some names have changed. Werrington manor straddled the Tamar river and has now been absorbed into Cornwall. Leigh is now East Leigh and the manor was Hathersleigh, now a village in mid-Devon. Table 2.13 shows the agrarian predominance in the manors at the end of the fourteenth century, but some change in emphasis towards pastoral over the fifteenth century. It is important to realise that records are more likely to have survived for larger and more successful manors. Werrington shows evidence of falling receipts over the period, but Hathersleigh in mid-Devon maintained its income despite the poor soil. The reasons for the different fortunes of Tavistock Abbey's manors are unclear. Hurdwicks's income fell in mid-century but recovered later, and it may have been that the abbey concentrated its efforts on the most productive manors at the expense of the others at this time. Long established patterns of settlement and agriculture characteristic of Devon allowed the county to adapt more readily than others to the 'late medieval crisis'. The use of convertible husbandry allowed productivity to be maintained with fewer labourers. This method of farm management was a simple form of crop rotation.

[287] B. M. S. Campbell, *The Great Transition: Climate, Disease, Society in the Late-Medieval World* (Cambridge, Cambridge University Press, 2016), pp. 332-394.

Table 2.13. A comparison of pastoral and corn receipts from some Tavistock Abbey manors in the last decade of (a) the fourteenth and (b) the fifteenth centuries

(a)

Manor	**Pastoral receipts**	**Corn receipts**
Denbury	£3 16s 0d	£7 10s 7d
Ottery	£6 15s 8d	£10 1s 1d
Hurdwick	£11 10s 0d	£28 17s 1d
Werrington	£12 3s 11d	£11 2s 4d
Leigh	£4 3s 7d	£9 1s 6d
Milton	£5 3s 2d	£9 12s 2d

(b)

Manor	**Pastoral receipts**	**Corn receipts**
Morwell	£2 8s 10d	£5 7s 6d
Leigh	£9 17s 6d	£11 2s 5d
Hurdwick	£16 4s 11d	£11 19s 4d
Werrington	£3 3s 4d	£2 19s 2d

Source: Finberg, *Tavistock Abbey,* pp. 156-7. Data from the *Exitus manerii, Vendicio stauri and Vendicio bladi* of each of the manors' reeve accounts.

Arable land could become pasture, often for several years, before being ploughed up again for corn. The animals on the pasture would contribute organic matter and nitrogen thus improving soil fertility.[288] Although historians have suggested that this improved productivity, this has been challenged, and that improved outcomes were only as the result of the introduction of clover and other legumes in the early modern period.[289] Nevertheless, Devon appears to have fared well without legumes at this time.

Studying manorial agriculture using cluster analysis.

This section summarises the results of an extensive research project on late medieval agriculture which demonstrates a novel approach to the analysis of

[288] Fox. 'Devon and Cornwall', pp. 152-74, 303-23, 722-43.

[289] H. Kitsikopoulos, 'Convertible Husbandry vs. Regular Common Fields: A Model on the Relative Efficiency of Medieval Field Systems', *Journal of Economic History*, 64 (2004), 462-499.

surviving manorial records. It also discusses the limitations of applying the results to Devon in the fifteenth century.

Campbell has extensively researched the types of husbandries practiced by landlords on their demesne lands between 1250 and 1450. His data on land usage are drawn from manorial records and *inquisitions post mortem,* for about nine thousand manors in predominately in England (but fourteen in Wales and one in Scotland). [290] The dates of his study were chosen as these types of records appeared in the early thirteenth century, but by the middle of the fifteenth century most manors' demesne land was rented out rather than managed directly. This meant that detailed records of husbandry were no longer kept, but only those of the rents collected.

Campbell's studies of seigniorial agriculture involved data from many thousands of manorial records, although for each analysis only a smaller number of manors yielded sufficient data to be included. However, seigniorial agriculture, although well recorded, only formed a minority of all agriculture at the time. Campbell argues that the demesnes would have used waged labour, employing similar techniques to those used elsewhere, thus presenting a representative picture of all agriculture in the local region. The original study was mainly based on data from Norfolk and a few neighbouring counties but was later extended to include most of the rest of England and a few manors in Wales and Scotland. Only eight manors in Devon were included and not all of these in each analysis. As a result, detailed comparisons of the county with others in England are precluded.

The patterns of use of demesne lands varied considerably between one county and another, and even within counties. Land uses were classified by Campbell into twelve components which described aspects of uses such as pastoral/arable mix, area or value, and extent of woodlands.[291] Each variable was weighted by an estimate of its value in classifying land use. Using cluster analysis six basic land use classes or types were identified.

[290] *Inquisitions post mortem* were formal inquiries into lands held at their deaths by tenants-in-chief of the crown, that is, those that held lands directly from the king.
[291] Campbell. *English Seigniorial Agriculture,* pp. 96-101.

Type 1. Poor land, low value. Unit values of meadow, pasture and arable well below national average, with higher values placed on meadow than on arable.

Type 2. Open arable, similar values. There was a scarcity of woodland and parkland. The difference in value of meadow and arable was small. Pasturage was mainly meadow.

Type 3. Arable, with grassland. Widely represented in inland areas. Extensive arable with scarce meadow.

Type 4. Superior arable, pasture and wood. Little common pasture, demesnes well provided for pasture. Woodland and hunting parkland well represented. High value arable.

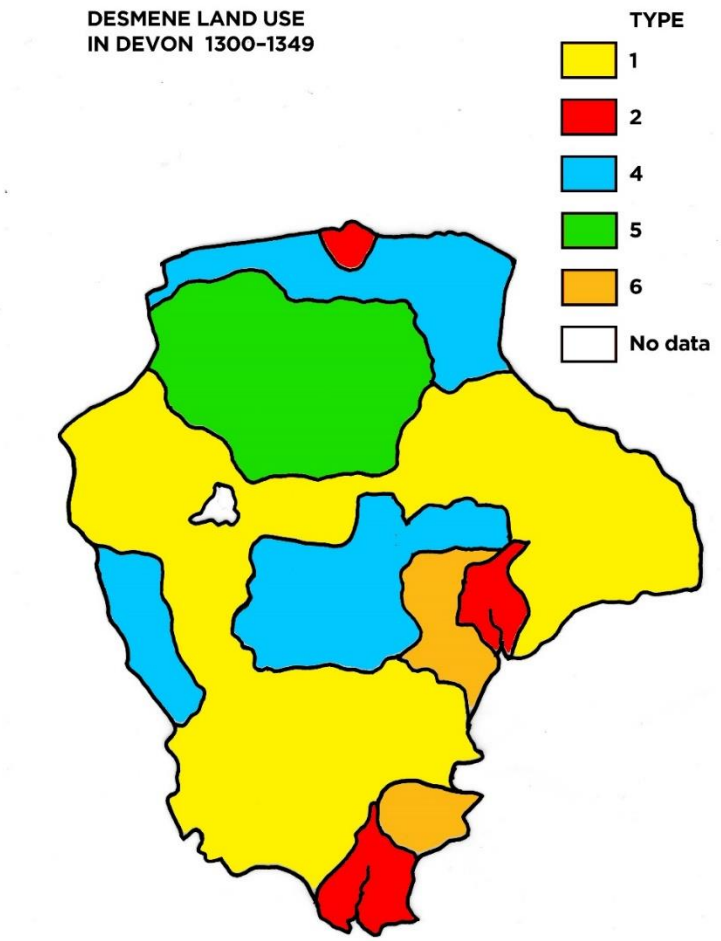
Type 5. Inferior arable, pasture and hunting. Unit values of arable, meadow and pasture below average. Plentiful grassland and enclosed hunting grounds.

Type 6. Open arable with other land uses. Primarily arable with below average grassland and woodland. Greater use of land for warrens, turf-cutting and rushes.

A common feature of these groups was the dominance of arable land. This was a partial picture only, as common pastureland was not included. Seigniorial lands were rarely predominantly pastoral. However, pastoral or arable husbandry were rarely conducted in the total absence of the other. An interesting observation was that there was a greater variation in land use in coastal areas than in the interior land-locked parts of England. In Devon, land use types were Type 1 in parts of south-east and south-west Devon, Type 2 immediately around Exeter, Type 4 in small scattered areas and Type 5 in North Devon. This is shown for the end of the fourteenth century Devon in Figure 2.17. It is notable that Type 3, which was characteristic of much of Midland and eastern England was absent from Devon due to the abundance of pasture.[292]

Figure 2.17. Types of demesne land use in Devon in the late fourteenth century.

[292] Campbell. *English Seigniorial Agriculture,* pp. 98-99.



Source: Redrawn from part of Fig 3.14 in Campbell*, English Seigniorial Agriculture,* p. 98. Data from local manorial records.

Note: See text for key to types of land use.

Campbell performed further analyses on livestock statistics from manorial accounts when they were available. A weighting was applied to animals, estimated on their feed equivalents, that is the amount of fodder and grain they required. Cluster analysis produced six pastoral types, five common to the whole period of study (1250-1450) and one prior to 1350 only (Type 2). The classification largely depended on the proportions of livestock that were 'working animals', and the numbers of cattle, sheep and pigs that were non-working. Higher proportions of 'working animals' indicated a greater emphasis on arable. The pastoral types post 1350 were as follows.

Type 1. Low proportion of working animals as livestock units. Majority of livestock adults. Livestock evenly divided between cattle and sheep, with very few pigs.

Type 3. A third of livestock units are working animals, mainly oxen. Cattle predominate over sheep, few pigs.

Type 4. Most cattle are oxen and most non-working livestock are sheep.

Type 5. Most livestock are working animals, two-thirds of cattle are oxen. Almost no sheep but non-working livestock mainly pigs.

Type 6. Almost all livestock oxen. No sheep and very few pigs.

In Devon six of the eight manors examined had livestock data. Types three and four were seen, which were similar although type four had a higher proportion of sheep. These types showed a reduction in the proportion of 'working animals' and an increase in other livestock between the centuries before and after 1350, demonstrating a rise in pastoralism over arable.[293] Types one and two were not seen in the six manors selected. Neither were types five and six, which were predominantly arable, and were not found in Devon either.

Demesne cropping systems varied extensively by the types of crop grown and by the sort of rotation employed. Before 1350 a large quantity of legumes was grown for human consumption, but after the Black Death, the demand fell as wheat consumption increased. Some crop rotations required legumes although a greater proportion were used as animal feed. Using a similar methodology as for pastoral husbandry (cluster analysis), Campbell identified eight types of cropping pattern, one to seven in use prior to 1350 and one to five and eight after that date. The principal differences were in the proportion of each grain or legume grown. Types of cropping described after 1350 were as follows.

Type 1. Predominantly barley.

Type 2. Equal amounts of rye, barley and oats.

Type 3. Nearly a quarter of grain wheat, but seed mixtures predominate.

Type 4. Wheat and barley most important.

[293] Campbell. *English Seigniorial Agriculture,* pp. 120-121.

Type 5. Almost all grain wheat and barley, few legumes.

Type 8. Wheat, barley and oats predominate but with a third of land given to legumes.

In Devon five out of eight manors were included after 1350, and all but one used type five. This had the highest proportion of wheat and barley, but fewer legumes. These manors were Clyst, Goodrington, Werrington and Yealmpton. The remaining manor was Hurdwick (type 2) with the highest proportion of rye, barley, and oats. Werrington and Hurdwick were Tavistock manors, and as has already been discussed were remarkably productive despite being on clay soil, although both pastoral and arable receipts at Werrington fell dramatically by the last decade of the fifteenth century, possibly because Tavistock Abbey was concentrating its resources on Hurdwick manor. The other three manors were in East Devon and the South Hams whose soils were mostly on sandstones and more suitable for arable.

Again, using the same form of analysis, mixed farming types were derived, seven for the period between 1350 and 1450. These depended on the kinds of livestock combined with the proportion of land given over to arable. Three Devon manors were included in the study. Clyst is in East Devon, just east of Exeter, and Yealmpton and Goodrington are in the South Hams. Clyst and Yealmpton were type six (extensive mixed farming) and Goodrington type three (mixed farming with sheep).

The data from the Devon manors included in Campbell's study is tantalizing, but insufficient to draw conclusions about the situation in Devon as a whole, with which to compare its agricultural performance with the rest of England between 1350 and 1500. Much of the county's agriculture was conducted on small tenant farms or the demesnes of minor manorial lords for which little or no documentation existed or survives. The records from Hurdwick demonstrate that carefully managed demesne agriculture could be consistently productive during this period. Tavistock Abbey's manors described in the previous section showed that in the southern part of the county at least, limited arable and more extensive pastoral farming was successful during the fifteenth century.

Devon's wealth in pastureland over arable placed it in a strong position to capitalise on the changing demand for agricultural products in the fifteenth century, as meat consumption and demand for wool and hides increased.

2.06 Fishing industry in the South-West

The apparent ability of the South-West, and particularly Devon, to grow its wealth in the 'long fifteenth century' is attributed to the region's highly diversified economy at the time, which enabled it to overcome the crises of a post-plague England and the conflicts of the Hundred Years War.[294] As has been already discussed, the growth of the cloth-industry, tin mining, the partial move from arable to pastoral agriculture and the growth of shipping and maritime trade were all likely to have been significant factors. Kowaleski noted that:

> Fishing also grew as an industry in fifteenth century Devon contributing to both local and overseas fish consumption. The expansion of sea fishing and the processing of fish for export has received rather less attention than other industries.[295]

The South-West peninsula is well placed to take advantage of several major fishing areas; it's very long coastal zone, eastwards towards the North Sea, and westwards towards the Atlantic waters of Western Ireland and Iceland. In the thirteenth century fishing was mostly confined to herring, but by the late fourteenth century had expanded to encompass a wide variety of fish species as listed in local customs accounts, the numbers of ships carrying fish at Exeter practically tripling between 1315 and 1465. During the fifteenth century the value of fish exported from Devon and Cornwall exceeded that from any other English region. The records, however, represent only a fraction of the total trade, as customs records did not include fresh fish or fish traded coastally. Fish recorded at Exeter largely originated from boats from Brixham and Dartmouth, a turn-around from a century earlier when most fish originated in Yarmouth.[296]

Fox's exploration of the development of Devon's fishing villages notes that the main evidence for the profits that medieval fishermen made locally are from

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[294] M. Kowaleski, 'The Regional Economy of Medieval Devon', Part 1 in M. Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1995), pp. 9-40. 295. M. Kowaleski, 'The Expansion of the South-Western Fisheries in Late Medieval England', *Economic History Review,* 53 (2000), 429-454.

[294] Kowaleski, 'South-Western Fisheries'

records of tithes paid to their manorial landlords. While each team of fishermen made relatively small profits during the year, the many hundreds of coastal fishing villages in the South-West meant that the total profits amounted to a significant contribution to the local economy, particularly as they remained in local hands rather than going to wealthy merchant entrepreneurs.[297] Landlords invested in fishing by buying boats, lines, barrels, and other equipment. Fishermen usually worked part-time or seasonally as seamen, spending other times on the land, on military campaigns or working for overseas traders. The move from fishing in eastern waters (generally from October to December) to the South-West in January and February, meant that they were also available to take part in the Gascon wine trade in the autumn when the new wine was imported.[298]

A feature of the development of the fishing industry in the South-West was the development of small port towns along the coastline. Characteristics of these towns were safe anchorage, facilities for loading and unloading ships such as quays, and for maintenance and fitting out of ships. They also needed to have houses for merchants and ship owners, but also in greater numbers for the lowlier seamen. Many if not most of such properties lacked adjoining land. Indeed many port towns even had little accessible hinterland, residents being fully occupied with fishing, salting and the trade and export of fish. A small-scale settlement also frequently seen in the South-West was the cellar settlement. A fish cellar was not used for habitation, but as a store and a base for operations for those fishermen who at other times were farm workers living inland, usually on a manor.[299] Other factors which may have been important in causing the flourishing of South-West fishing were the peninsula's position on direct sailing routes to France and Spain, and the availability of low-cost salt from Brittany.

The fishing industry in Devon contributed considerably to the prosperity of Devon in the fifteenth century as evidenced by the following review. Given the county's long coastline and an unusual richness and variety of fish species offshore, it is perhaps unsurprising that fishing was common in Devon over the centuries. What does require explanation, however, the why industry expanded

[297] H. Fox, *The Evolution of the Fishing Village: Landscape and Society Along the South Devon Coast, 1086-1550* (Oxford, Leopard's Head Press, 2001), pp. 8-17.
[298] Kowaleski, 'South-Western Fisheries', 429-454.
[299] Fox, *The Evolution of the Fishing Village,* pp. 8-17.

greatly between the late fourteenth and early sixteenth century. Kowaleski has argued that this expansion was:

> a critical but unappreciated contribution to the rising prosperity of south-western England during the late middle ages.[300]

She suggested five possible reasons for this late expansion of the industry. Firstly, permanent migration of certain species of fish does occur, and may have resulted in the decline of some North Sea fishing ports. Secondly, rising consumer demand resulting from an increased *per capita* income of the 'lower and middling ranks of society', together with a wider variety of fish caught and increasing pressure from the church to abstain from meat during lent and on the many other holy days. Thirdly, the methods of preserving fish had improved, allowing this to be carried out at sea, thus permitting fishermen to venture further abroad to 'reap the rewards of deep-sea fishing'. Fourthly, deterioration of North Sea ports was due to a variety of factors such as port silting, competition from fishermen from the Low Countries, problems with the availability of salt and over-regulation, which did not apply to the south-west.[301] Finally, perhaps the most important reason was the development of the maritime sector of the economy of the south-west. Many more men were experienced sailors and available to crew deep fishing craft, rather than just coastal fishing boats. Contributing factors to this development were royal patronage during the Hundred Years War, natural geographical advantages, diverse fishing grounds, easier access to salt and expanding markets in France and Iberia. Fishing provided an additional source of income when mariners were not involved in the wine trade, or at war, or for agricultural workers at slack times on land. Development of the industry was also hastened by merchants providing capital to buy ships and equipment, in return for a share of, or all of the catch.[302]

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[300] M. Kowaleski, 'The Expansion of the South-Western Fisheries in Late Medieval England', *Economic History Review,* 53 (2000), 429-454

[301] W. Childs, 'Fishing and Fisheries in the Middle Ages: The Eastern Fisheries', in D. J. Starkey, C. Reid and N. Ashcroft eds*., England's Sea Fisheries: The Commercial Fisheries of England and Wales since 1300* (Chatham, London, 2000), p. 22; J. Galloway, 'Coastal Flooding and Socio-economic Change in Eastern England in the Later Middle Ages', *Environment and History* 19 (2013), 173-207.

[302] Kowaleski, 'South-Western Fisheries', 429-454; J. A. Galloway, 'Fishing in Medieval England', in M. Balard and C. Buchet, eds*., The Sea in History – The Medieval World* (Woodbridge, Boydell and Brewer, 2017), pp. 629-641.

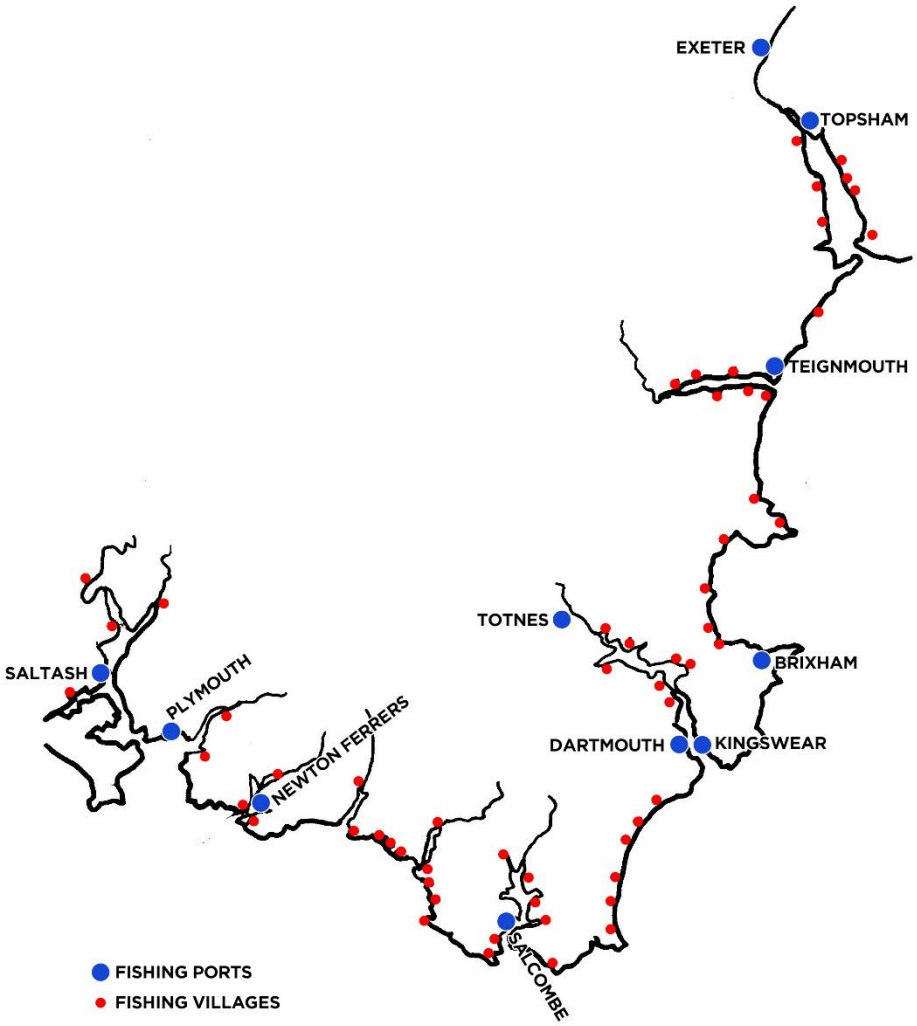
Fox, when describing the development of fishing on the south coast of Devon, names four types of coastal settlement involved in the industry.[303]

1. Port towns that had a quay, a market and a sheltered harbour, usually with easy access to the hinterland. Dartmouth was an important example in south Devon in the fifteenth century, with the exception that access inland was difficult. Records suggest that fishermen had a residential area in the town, separate from the wealthy merchants. The majority of fishing was being conducted from many smaller centres along the south coast.
2. Cellar settlements were a solution for farming tenants who were part-time fishermen. The farms were usually sited back from the sea to avoid strong winds and for security. Fish cellars were situated near the shore, not usually underground, and were storage places for fishing gear, but not initially used for habitation.
3. Fishing villages, although probably quite abundant, rarely made the records, but evidence for their existence comes from archaeology. The main marker of such an establishment was evidence of cottages near the shore, but without associated land or gardens. The majority of inhabitants were totally involved in fishing, the men at sea and the women gutting, salting and packing the fish.
4. The presence or evidence for quays, often indicated the fishing industry. Riverine quays were the first to be established, parallel to riverbanks, such as in Lympstone, Exmouth and Topsham in the late fourteenth century. Maritime quays were developed later, consisting stone jetties projecting out to sea, such as at Tor Bay. Such quays were often built by local lords for profit, as fees for their use were charged.

The sites of Devon and some Cornish fishing ports and fishing villages on the south coast during the sixteenth century, as identified by Fox, are shown in Figure 2.18. Of note is the estuarine siting of the majority (62%) of the fishing villages, where the sheltered position allowed for beaching of small boats. The larger fishing ports usually had quays and harbours.

[303] H. Fox, *The Evolution of the Fishing Village: Landscape and Society Along the South Devon Coast, 1086-1550* (Oxford, Leopard's Head Press, 2001), pp. 7-45.

Figure 2.18. The sites of fishing ports and villages on the south coast of Devon during the sixteenth century.



Source: Redrawn from Figures 2.2-2.4 in Fox, *The Evolution of the Fishing Village,* pp. 19-31.

The landlords profited from the activities of fishermen by charging them for access to their lands in order to fish. Fishermen could be taxed in kind, that is by giving a proportion of their catch to the lord, or by giving a proportion of the sale price, or by paying a fee for each boat involved. Later evidence from manorial court rolls suggested that the system of payment was simplified by the fishermen making a single annual payment for the right to fish from the lord's land.[304]

The evidence for the expansion of the fishing industry in the south-west at the end of the fourteenth and in the fifteenth century comes from the development of the infrastructure listed above, increased exploitation of waters off Ireland (for herring and hake) and Iceland (for cod) and the growth of the export trade in fish as shown by the volumes of fish customed at Exeter and distributed to the city's extensive hinterland.[305] Fishing had occurred on a small scale for centuries, with the infrastructure developing from fishing cellars used by inland labourers, to fishing villages used by more or less full time fishermen and fish quays and harbours built by landlords wishing to further increase their income and the industry.

The fishing industry in the fourteenth century had concentrated on herring, mostly from North Sea ports such as Yarmouth, but in the late fourteenth and fifteenth century expanded to a much wider selection of fish species, found mainly around the Devon and Cornish coasts.[306] This is indicated by the numbers and home ports of fishing boats customed at Exeter. Examination of the Exeter customs rolls from the fifteenth century enabled the types of fish traded to be determined. The records only include imports Table 2.14 lists the numbers of ships customed at Exeter ports during the fifteenth century and the proportion of these carrying fish. Some fish was recorded, simply as *sarde, pisces* or as *fyshhe*. Most of the catch over the century, however, was recorded in some detail. Herring (*allecium, haryng, bukhorne*) had been the most popular fish for centuries, described as 'green'

[304] Fox, *The Evolution of the Fishing Village*, pp. 51-59.
[305] M. Kowaleski, 'Fishing and Fisheries in the Middle Ages: The Western Fisheries', in D. J. Starkey, C. Reid and N. Ashcroft eds., *England's Sea Fisheries: The Commercial Sea Fisheries of England and Wales Since 1300* (Chatham, London, 2000), p. 6; J. H. Barrett, 'Medieval Sea fishing, AD 500-1550: Chronology. Causes and Consequences', in J. H. Barrett and D. C. Orton eds., *The Archaeology and History of Medieval Sea Fishing* (Oxford, Oxbow Books, 2016), p. 263.
[306] Kowaleski, 'South-Western Fisheries', 429-454.

when fresh, ‘white’ when salted and dried and ‘red’ when smoked, often for several days.

Table 2.14. Numbers of ships customed at Exeter and involved in trading fish during the fifteenth century.

Year ending	Ships customed	Ships with fish	Percentage
1400	91	2	2
1409	67	11	16
1410	78	18	23
1421	82	23	28
1433	61	23	38
1440	19	2	11
1454	26	3	12
1459	123	25	20
1463	104	11	11
1465	159	24	15
1471	180	35	19
1485	48	5	10
1489	111	22	20
1490	110	23	21
1506	123	16	16
1509	127	11	9

Source: Devon Record Office, (uncatalogued manuscripts), Boxes labelled Exeter City Archives, Customs Rolls, 1-2 Henry IV, 10-11 Henry IV, 9-10 Henry V, 11-12 Henry VI, 18-19 Henry VI, 32-33 Henry VI, 36-37 Henry VI, 1-2 Edward IV, 3-4 Edward IV, 10-11 Edward IV, 1-2 Richard III, 4-5 Henry VII, 5-6 Henry VII, 20-21 Henry VII, 23-24 Henry VII

As the century proceeded, a greater variety of fish were traded. Conger eel was brought from the Channel Islands, and sturgeon, salmon, and lamprey from further afield or from South-West rivers. Stokfish was an unspecified fish, but probably mainly cod (*mylwell*). It was salted and air dried and later beaten flat with ‘*stoks*’. Hake, pollack, dogfish (*dentro*), mackerel, mullet, haddock, pilchard, sprats and whiting were also listed. Puffin seems a strange inclusion, but the birds were believed to come from the sea, but when they returned to their clifftop nesting sites, were hunted as fish. Barrels of puffins were customed in Exeter, being mainly shipped from Loo in

Cornwall.[307] They were eaten on meat free days.[308] '*Brode fysshe*' were flat fish but of an unspecified species, but probably including plaice, megrim and sole. Many of the fish types were also described as being '*salio*' or salted which was the main method of preservation, and much of which was sold abroad in France and Iberia.[309]

Before the Black Death fish had been a comparative luxury but by the early fifteenth century with rising wages and falling prices it would be expected that eating fish had increased. In fact, in the great houses the amount of fish eaten declined as did the proportion of fresh to preserved fish. This may have been because the prestige attached to eating fish was declining as it was more widely available, and the wealthy needed to find other ways in which to emphasise their difference.[310]

While the evidence suggests a considerable increase in fish consumption in Devon during the fifteenth century, especially in towns and particularly of cod, much of this was almost certainly eaten by the less well-off and was not always mirrored in the rest of England. The emphasis on eating a greater variety of fish and fresh rather than salted and dried fish, is seen in the records of the great houses. Some houses maintained horses specifically for the carriage of fresh fish.[311] In the West Country carriers of fish called jowters brought fish by pack horse from ports and cellar settlements inland and to redistribution centres such as Exeter.[312]

Kowaleski argues that Exeter became a major centre for the marketing of fish by the early fifteenth century. A new fair held on Ash Wednesday began in 1374 which largely traded in fish for Lent. The fish custom levied on non-resident traders, and which was farmed annually, increased from £11 during the fourteenth century, to £15 by 1410 and £18 by 1500. Local court

[307] Exeter custom rolls, Devon Record Office (also see Fig. 7.07).
[308] B. A. Henisch, *Fast and Feast: Food in Medieval Society* (Philadelphia, PA, Pennsylvania State University Press, 1976).
[309] Kowaleski, 'South-Western Fisheries', 429-454.
[310] C. Woolgar, 'Take This Penance Now, and Afterwards the Fare Will Improve: Seafood and the Late Medieval Diet', in D. J. Starkey, C. Reid and N. Ashcroft eds*., England's Sea Fisheries: The Commercial Fisheries of England and Wales Since 1300* (London, Chatham, 2000), p. 38.
[311] D. Serjeantson and C. M. Woolgar, 'Fish Consumption in Medieval England', in C. M. Woolgar, D. Serjeantson, T. Waldron eds., *Food in Medieval England: Diet and Nutrition* (Oxford, Oxford University Press, 2009), pp. 102-121.
[312] Fox, *The Evolution of the Fishing Village,* pp. 95-102, 145-150.

records, however, show a great increase in forestalling and regrating in the trade. The former referred to traders buying fish from fishermen while they were on their way to the fishmarket in Exeter and selling it later at a higher rate, while regrating involved buying fish in the market and later selling elsewere in the same market at a profit. Although much of the trade in fish with the hinterland of Exeter probably involved salted and dried fish, fresh fish if kept wet in baskets would survive long enough to be carried inland for a short while on horseback.[313]

While coastal fishing in Devon had almost certainly been practised since ancient times, there is clear evidence of its considerable development as an economically important industry in the late fourteenth and fifteenth century. Factors driving this change were rising living standards leading to an increased demand for fish both at home and abroad, better methods of preservation allowing increased exports especially to Iberia, an available maritime workforce, and a favourable local coastline.

2.07 Conclusion

Agriculture in Devon, in so far as it is documented, showed consistent productivity during the fifteenth century, with some signs of increase in pastoral as against arable farming. Where arable was intensively practised, such as at Hurdwick manor, yield doubled over the century. Pastoral agriculture was stimulated by both labour shortage and the burgeoning cloth industry with its need for wool and increasing general prosperity and a demand for meat. Indications from Tavistock abbey manorial accounts suggest that agricultural income was mostly maintained throughout the period, although this may not have been reflected elsewhere in Devon. Farming contracted in a few regions, but this was mainly in areas with poor soil fertility such as in the north of the county. The geography of the county and relatively low population density at the beginning of the century facilitated the change to increased pastoralism.

Both the cloth making, and tin industry grew in importance in Devon during the fifteenth century, peaking during the last two decades and in the first two decades of the sixteenth century. The two industries both contributed to a

[313] Kowaleski, *Local Markets,* pp. 307-320.

growing export trade both to Northern Europe and the Mediterranean. Both industries had already been significant in the county in earlier centuries but took time to recover after the Black Death in the mid fourteenth century. At the beginning of the fifteenth century, industries employed many workers who were also agricultural workers, and individually produced on a small scale. Later, entrepreneurs in the form of clothiers and merchant tinners began to involve themselves in these industries, providing both capital and access to distant markets.

Additional resilience was provided by the diversified nature of the rest of the economy. Dartmoor allowed the creation of an open rural economy through common grazing rights and associated industries. There is evidence that the population of Devon increased considerably during the fifteenth century, unlike in much of the rest of England, and it is likely that at least some of this increase was due to immigration, encouraged by the economic opportunities the county offered. The long coastlines, particularly in the south of the county, and the abundant marine life facilitated the development and later expansion of a thriving fishing industry. This was due to rising consumer demand, improved methods for preserving fish, a deterioration of North Sea fisheries and the overall development of the maritime sector in the South-West. Salted and dried fish was increasingly traded overseas. Exeter became a major centre for the fish trade, but although fish customed there gives an idea of the extent of trade, much of the domestic market was probably unrecorded.[314]

This chapter has reviewed writing by historians concerning England's economy during the fifteenth century. Some, such as Hoskins, Hatcher, Kowaleski and Fox wrote more specifically about Devon's economy during this period. Individually, they concentrated on particular areas of economic activity, Hatcher on tin, Kowaleski on maritime trade and fishing, Fox and Finberg on agriculture, and Carus-Wilson on the textile industry. While each of these authors suggested that the growth of these industries was important for the county's economy, they only alluded to the contribution that these activities in conjunction made to the overall economic success of Devon at this time but took it no further. This thesis shows in the following chapters

[314] Kowaleski, 'South-Western fisheries', 429-454.

how all these factors came together to produce the resulting wealth, population growth and extensive maritime trade.

Chapter 3. Taxable wealth, credit and debt, and the expression of wealth.

3.01 Introduction

This chapter examines the wealth of Devon and its change over the 'long fifteenth century' when compared to other counties in England, and at the sub-county levels of the hundred, borough, and parish. It begins by examining taxable wealth and then other indicators of economic prosperity such as the extent of credit allowed are then explored, together with evidence for conspicuous civic spending such as church building.

To investigate the evidence for the exceptional economic development of Devon during this period, it is necessary to examine sources which may give an indication of wealth, both increasing and decreasing, and to compare such data with other English counties during the same period. Economically, England faced mixed fortunes in the fifteenth century, whilst undergoing international conflict and societal upheavals. English counties in the north and east experienced a stagnation in their previously successful economies, whilst the south and south- west, and Devon in particular, appeared to have fared better.

The changing distribution of wealth in England between the fourteenth and sixteenth centuries is first investigated using records of the parliamentary lay subsidies, and rebates allowed to certain areas during the fifteenth century. The changes in the geographical distribution of wealth within Devon hundreds and parishes during the same period are examined using the same sources. Also records of the Court of Common Pleas for the fifteenth century are used to explore the debts sued for by Devon residents as a proxy for credit they had allowed to tenants, merchants, and artisans during this period and thus indicating levels of wealth. The records also allow the occupations of the defendants to be determined, giving an insight into who was making the important commercial transactions at that time. Comparison is made with Common Pleas data for the county of Derbyshire, which lay a similar distance from London as Devon. This was because of the possibility that distance from London may have influenced the likelihood that a creditor would resort to the court to recover a debt. To assess church building as an indicator of surplus

civic and personal wealth in Devon at the period, records of all churches with built or having major alterations during the fifteenth century were extracted from an English Heritage website for all English counties (PastScape). For Devon only, data on church building dates from Hoskins' gazetteer for the county were drawn as an alternative data source.

Section 3.02 describes the tax-related sources used, section 3.03 reconstructs the national distribution of wealth by county recorded in the lay subsidies, and also examines the distribution of wealth within Devon, and the significance of rebates to the lay subsidy allowed in Devon, and section 3.04 analyses debts and occupations recorded at the Court of Common Pleas, while section 3.05 considers church building as sign of civic wealth.

3.02 Sources of tax data

Up to and including 1332, lay subsidies, taxes on the moveable property of a householder, had been imposed at regular intervals since the late twelfth century. Moveable goods were livestock, grain, household goods and other possessions, property that could be transferred from place to place. A house a man or woman owned, and land was not taxed, neither was everyday clothing and tools of trade. The tax demanded was a fraction of the value of the taxpayer's moveables but was higher usually for towns, boroughs, and ancient demesnes than for rural areas at a tenth rather than a fifteenth.[315] These taxes were collected by locally appointed tax collectors who assessed the value of each taxpayer's moveable property. The tax returns listed taxpayers each by name and value before 1334 and later in the sixteenth century. The clergy and the mendicant were not included. Ormrod argued that because the amounts collected between 1290 and 1334 declined, taxpayers were becoming more adept at the art of under-valuation or evasion.[316]

Initially raised for specific purposes such as crusade or other warfare, and treated separately from other royal income, lay subsidies later became absorbed into the general exchequer. Where records survive, they provide

[315] J. F. Willard, *Parliamentary Taxes on Personal Property, 1290 to 1334* (Cambridge, MA, The Medieval Academy of America, 1934), p.3.
[316] W. M. Ormrod, 'The Crown and the English Economy', in B. M. S. Campbell, ed., *Before the Black Death: Studies in the 'Crisis' of the Early Fourteenth Century* (Manchester, Manchester University Press, 1991), pp. 149-83.

interesting insights into the wealth of the communities and individuals assessed in the returns. Nightingale has commented that 'the interpretation of the lay subsidies is one of the most important and yet perplexing problems which confront the economic historian of medieval England'.[317] Perplexing because, since the writings of Willard, many historians have raised doubts about their reliability and comprehensiveness. To investigate the value of lay subsidies as a source for economic, social, and financial history, Hadwin compared exchequer returns from English counties in eighteen lay subsidies between 1275 and 1332 giving the valuations as a percentage of the 1334 valuation (set at 100). He finds that for some counties the values of the assessment of moveables was relatively stable, yet the tax yields varied wildly. Secondly there were counties which showed a steady tax yield but a variable assessment of the value of moveables (tax collectors were adjusting their assessments to ensure a stable tax yield), and thirdly wild variations in urban assessments are interpreted as cheating. Hadwin concludes from his further analysis that:

> The lay subsidy rolls are not especially accurate reflections of medieval wealth, but they are far from useless and, treated with care, may constructively supplement information from other sources.[318]

In contrast, however, Jenks has recently provided a statistical treatment of these data and draws very different conclusions. He notes that when examining the 1334 map of England showing tax yields per 1000 acres for each county, there appears to be a line roughly from Somerset to Lincolnshire below which yields are higher, as shown in Figure 3.01. This has been attributed to higher soil fertility, as the wealth was at that time largely from agricultural profits. Jenks hypothesises that there should be no correlation between the county tax assessments and those for London (non-agricultural) for the years 1275 to 1334. Thirty-seven counties with a full set of data points were used. Significant correlations are, however, found for twenty-seven counties ($p<0.05$, Two-tailed Student's t-test). Because 1332 was supposed to be a year of extensive corruption (the reason for introducing the new tax of 1334) he repeated the analysis excluding values for that year.

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[317] P. Nightingale, 'The Lay Subsidies and the Distribution of Wealth in England, 1275-1334', *Economic History Review,* 57 (2004), 1-32.

[318] J. F. Hadwin, 'The Medieval Lay Subsidies and Economic History', *Economic History Review,* 36 (1983), 200-217.

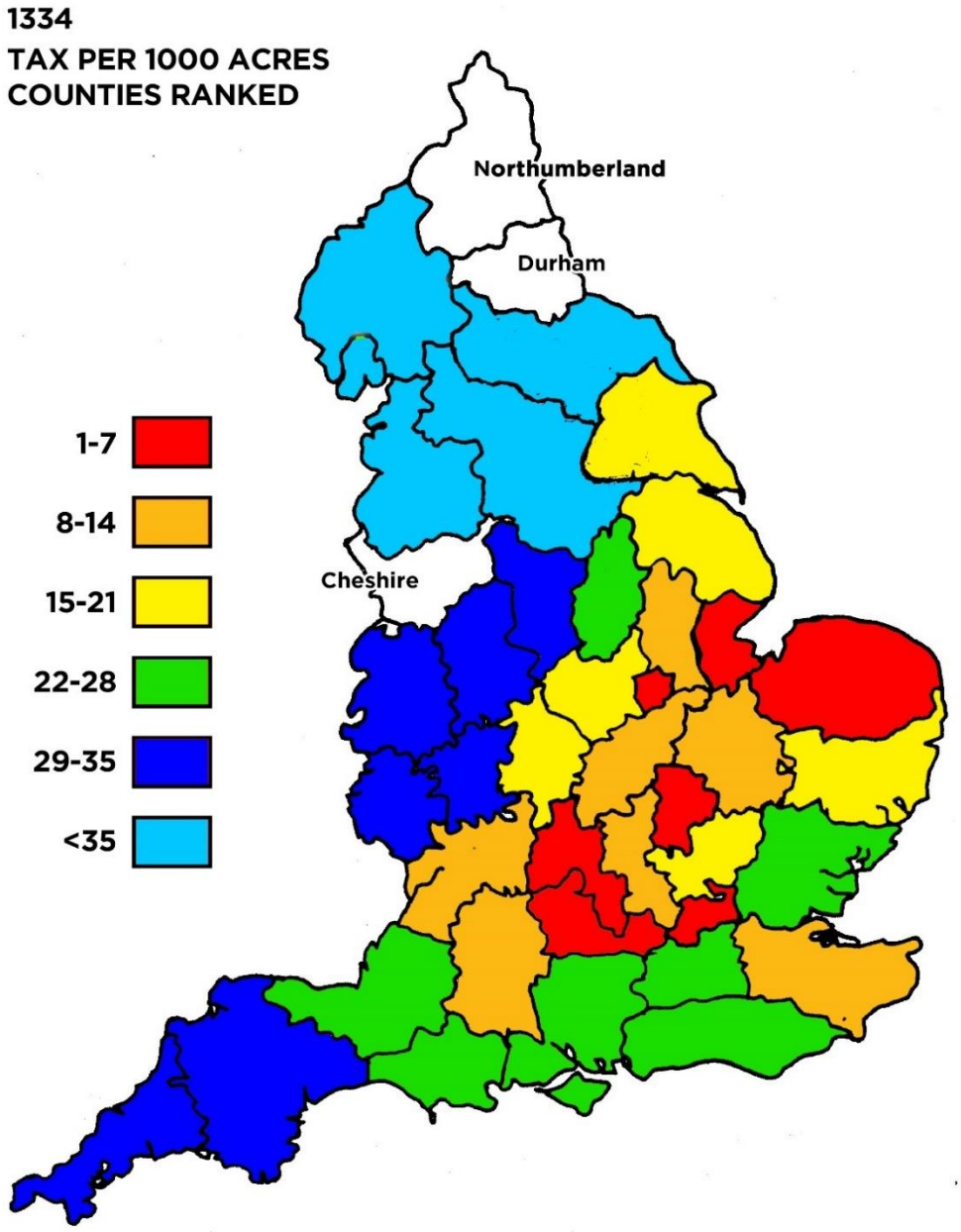
Twenty-four counties remained significantly correlated with London. In 1301, 1306 and 1334, London offered the Crown a lump sum rather than be individually assessed. Removing the values for these years instead, meant that thirty-two out of the English counties were significantly correlated with London, Figure 3.02. Those counties in the north were amongst those with the strongest correlations. Attempts to further correlate variability with indicators of foreign and domestic trade yielded no values of statistical significance, apart from alien wool exports. Jenks concludes that:

> what the lay subsidy taxed was the surplus available and destined for local, inter-regional and foreign trade. In short, the lay subsidy figures provide us with a yardstick with which to measure the performance of the English economy in a period where there are precious few indicators available.[319]

Nightingale challenges Jenks' findings on several details including the repeated changes in taxation type (largely in the form of exemptions) over the period studied, the assessor's inclination to reduce valuations when taxes became more frequent and the apparent exclusion of coin and wool. She offers another method for analysing the lay subsidies validity by comparing them with Statute Merchant's certificates of debt, not directly but by examining the links between them as indicative of available cash surpluses. Nightingale finds that the tax valuations chosen between 1283 and 1390 rose in the same manner as the values of debt certificates for the same period. A fall in the next five years also was reflected in debt values. Other examples are given for later years. In the earlier years Statute Merchant certificates showed the values of credit and coin in line with lay subsidy returns, but after 1295 the county valuations did not move in line with valuations for London, wool exports, currency, or debt certificates. Her observations support those previously expressed of Willard, Hadwin and others, that the lay subsidies became increasingly defective as a guide to the economy of late medieval England. She concludes that the lay subsidies reflect the fortunes of the agrarian but not the commercial economy of that period.[320]

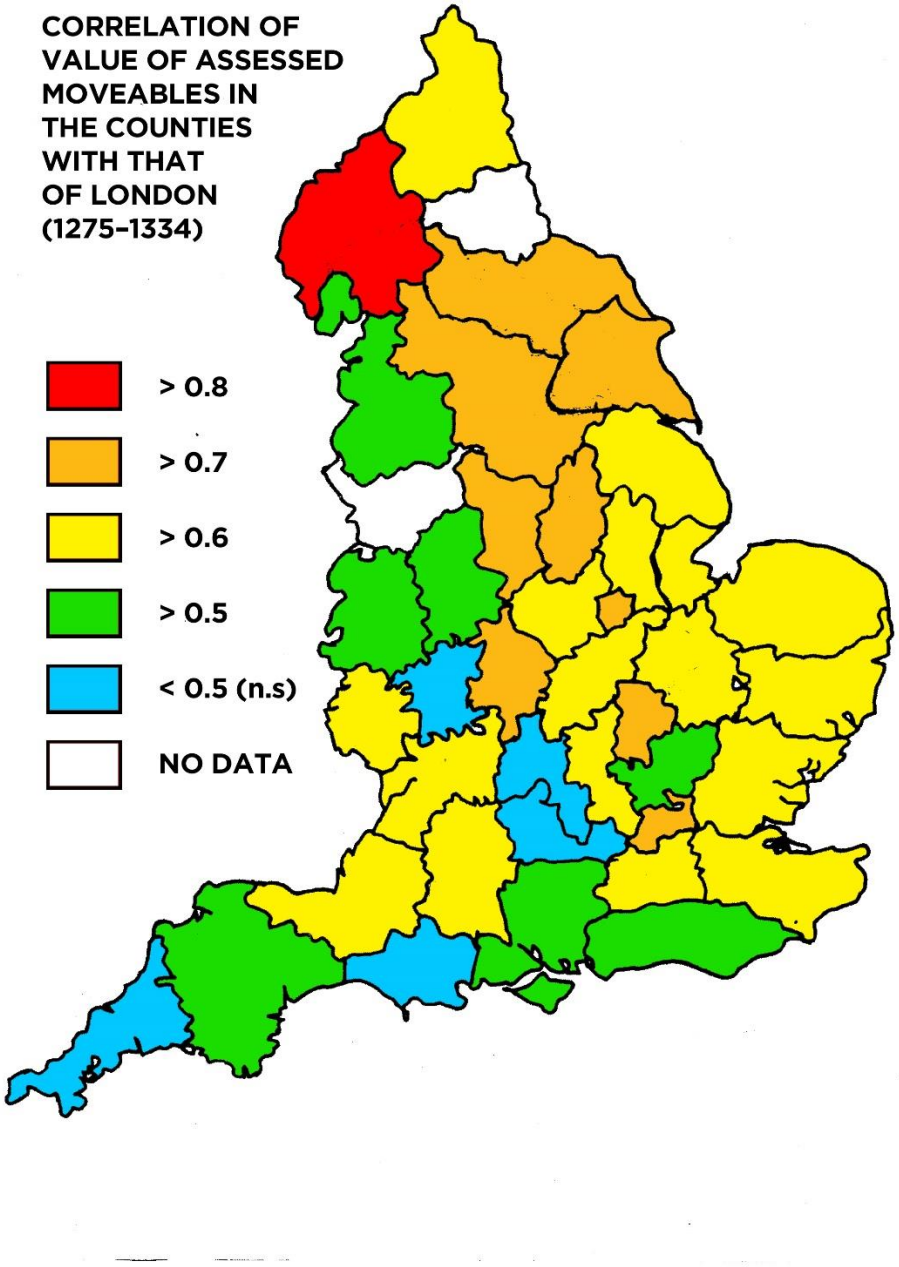
[319] S. Jenks, 'The Lay Subsidies and the State of the English Economy (1275-1334)', *Vierteljahrschrift fur Sozial und Wirtschaftsgeschichte,* 85 (1998), 1-39.
[320] Nightingale, 'The Lay Subsidies and the Distribution of Wealth', 1-32.

Figure 3.01 Lay subsidy payments in 1334 by county in England, corrected for area.



Source: Data from Glascock, *The Lay Subsidy of 1334*

Figure 3.02 The correlation coefficients of lay subsidy payments for English counties between 1275 and 1334 with those of London (1301, 1306, 1334 not included)



Source: Data from S. Jenks, 'The Lay Subsidies, and the State of the English Economy, 1275-1334', *Vierteljahrschrift fur Sozial- und Wirtschaftsgeschichte*, 85, (1998), 16.

This discussion demonstrates the difficulties in relying on data from tax records whilst also indicating their potential. Tax records in the form of the lay subsidies and poll taxes have been used extensively by historians, despite these limitations. Sheail used data from the 1524/5 subsidy to produce distribution maps of taxpayers and of tax generated for English counties using mapping units consisting of several modern civil parishes. Although he expresses concern over the limitations of his work, that is, loss of evidence and the fact that in the period in question the recorders were not interested in the statistics today's historian wishes to utilise, he concludes that 'it is probably safe to assume that the returns reflect some of the major elements in the distribution of population and wealth.'[321]

It is problematic using data obtained from tax returns in a longitudinal fashion, as the method of collection of tax and the population liable for taxation varied considerably over time. Early subsidies were based on moveables, possessions not part of one's occupational or daily domestic needs.[322] In the early sixteenth century land rents and wages were also taxed. The poor were largely excluded from tax assessments. The clergy were taxed separately and are excluded from this discussion.

Manuscript tax returns survive amongst the exchequer records held at The National Archives, Kew (E179 series). While the documentation of the lay subsidies is incomplete, it is sufficiently complete at certain dates for comparative study. The lay subsidy of 1332 was the last to name individual taxpayers before 1524. The 1334 returns, whilst based on the 1332 returns in terms of the amount of subsidy paid, do not name taxpayers but refer only to village and town totals when summarising tax paid; these have been transcribed and published by Glasscock.[323]

In 1332, the last year of the old method of assessment, there was a great deal of dissatisfaction because of corruption and extortion, and as a result a new method was introduced in 1334, later to become the standard for most of the following three centuries. Instead of individuals being assessed, whole

[321] J. Sheail, 'The Distribution of Taxable Population and Wealth in England During the Early Sixteenth Century,' *Transactions of the Institute of British Geographers*, 55 (1972), 111-126.
[322] A. M. Erskine, *The Devonshire Lay Subsidy of 1332,* Vol.14 (Exeter, Devon and Cornwall Record Society, 1969), p. viii.
[323] R. E. Glasscock, *The Lay Subsidy of 1334* (Oxford, Oxford University Press, 1975).

communities were required to raise a certain sum required by the crown, and it was up to them, or the local tax collectors to decide how they would apportion the burden amongst themselves. The valuations of the towns and parishes remained largely unchanged after 1334, except for some reductions in years of hardship. This presents a problem for the historian looking to use these records to reflect economic growth, as the further one gets from 1334, the less they indicate actual local wealth at that time.

This was particularly true in the earlier decades of the fourteenth century when the English counties bordering Scotland, Cumberland, Westmorland, and Northumberland suffered almost annual raids from the Scots. They were not taxed between 1313 and 1327 but paid at a similar rate as other English counties in 1332 but not again in 1334. In 1336 the tax paid in 1332 was used as the basis for future taxation instead of 1334. This was the same for the other border counties. There is some evidence that these counties exaggerated their misfortunes partly to avoid taxation and partly because of a sense of alienation of border society from central government.[324]

In 1522 Wolsey, the then chancellor of the exchequer, ordered a military muster of England which, by subterfuge, was effectively a revaluation of the whole kingdom, and the basis for, in the following year, a new subsidy. This was requested of parliament in 1523, although, as it was so large it was eventually collected in several tranches over the next four years, commencing in 1524. The new tax was based not only on moveable property, but also on income from land rents or from wages and included non-householders and aliens. It is not directly comparable with earlier lay subsidies. These have been extensively studied by Sheail, Schofield and Cornwall.[325] As in 1332 taxpayers are named, and numbers of taxpayers and tax paid are listed for each parish or town. The 1524 and 1525 records are not identical but very similar, allowing substitution for gaps, to produce a nearly complete record for this subsidy for each county in England.

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[324] C. Briggs, 'Taxation, Warfare, and Early Fourteenth Century 'Crisis' in the North: Cumberland Lay Subsidies, 1332-1348', *Economic History Review*, 58 (2005), 639-672.

[325] J. Sheail, *The Regional Distribution of Wealth in England as Indicated in the Lay Subsidy Returns of 1524/5*, *2 vols*, (unpublished PhD thesis, University of London, 1968); R. Schofield, *Taxation Under the Early Tudors, 1485-1547,* (Oxford, Blackwell, 2004); J. Cornwall, 'English Population in the Early Sixteenth Century'*, Economic History* Review, 23 (1970), 32-44; J. Cornwall, 'English Country Towns in the 1520s', *Economic History Review,* 15 (1962), 57-61.

3.03 Distribution of wealth

There have been several attempts to estimate the distribution of wealth in England during the 'long fifteenth century'. Buckatzsch in 1950 assessed the geographical distribution of wealth between English counties at thirty different time-points between 1086 and 1843, using a variety of different tax records over the study period.[326] He treated the data in two ways, by simple ranking and by using Pearson's product-moment correlation. In either case county data was corrected for area in acres by dividing area by pounds sterling. The first method has the advantage of simplicity, while the second requiring the data to be more 'accurate', is easier to test more precisely using statistical analysis. Ultimately, both methods gave 'mutually consistent' results. Of the counties, Yorkshire and Lincolnshire were considered as a whole rather than divided into ridings or wapentakes. Border counties were sometimes excluded for lack of data. Durham and Cheshire were usually excluded, also for lack of data, as they were palatine counties and had their own taxation systems.

For the purposes of this thesis the rankings of counties, area/pound sterling, have been extracted from Buckatzch's data for 1334, 1453 and 1503, as they span the fifteenth century. The wealth data for these years was based on lay subsidy, imposed to meet the cost of a force of archers for Talbot's expedition and Henry VII's claim for feudal aid for the cost of knighting his son respectively. The rankings are shown in Table 3.01. As can be seen from the table, the rankings remain remarkably stable over the period from 1334 to 1503, with northern counties and much of the north and south-west being the least wealthy and eastern and home counties the most prosperous. The rather unusual sources of wealth data for 1453 and 1503 may account for differences in the conclusions reached when compared with later authors, as observed by Schofield.

[326] E. J. Buckatzsch, 'The Geographical Distribution of Wealth in England, 1086-1843', *Economic History Review,* 3 (1950), 180-202.

Table 3. 01. Buckatzsch's county rankings of wealth as area/pound.

County	1334	1453	1503
Bedfordshire	4	5	5
Berkshire	7	4	4
Buckinghamshire	18	19	19
Cambridge	11	9	8
Cheshire	-	-	-
Cornwall	33	33	34
Cumberland	37	37	37
Derby	30	31	31
Devon	32	32	33
Dorset	19	21	20
Durham	-	-	-
Essex	23	25	23
Gloucestershire	8	14	12
Hampshire	22	22	25
Herefordshire	27	27	28
Hertfordshire	12	16	14
Huntingdonshire	10	8	9
Kent	9	11	13
Lancashire	35	35	35
Leicestershire	16	18	18
Lincolnshire	6	13	11
Middlesex	2	1	1
Norfolk	3	3	21
Northamptonshire	14	12	3
Northumberland	36	36	37
Nottinghamshire	20	20	10
Oxford	1	2	2
Rutland	5	6	6
Shropshire	29	29	30
Somerset	21	15	16
Staffordshire	28	29	29
Suffolk	15	17	15
Surrey	24	23	22
Sussex	25	24	24
Warwickshire	17	10	17
Westmorland	34	34	27
Wiltshire	13	7	7
Worcestershire	26	26	26
Yorkshire	31	30	32

Source: Data from Buckatzsch , 'Geographical Distribution of Wealth'.

Schofield also pointed out that the differing ways in which taxes were collected at different times could produce regional distortion. He argued that historical comparisons should be confined to one type of taxation alone. He also pointed out the deficiencies of all the available tax assessments in the fifteenth century, but suggested that the Tudor subsidy introduced in the early sixteenth century could provide a valid assessment of overall wealth, including land rents, 'moveables' and wages. However, the subsidies of 1514, 1515, and 1516 are the best comparators to 1334, with a smaller proportion of tax due to rents and wages. 1514 also included an element of a poll tax, rendering it less suitable as a comparator than the others. He produced tables and maps illustrating the wealth per thousand acres and ranking for counties in 1334 and 1515, and growth ratio and its ranking between the two dates, Table 3.02. He also added in an estimate of taxes paid by the clergy in 1334, using *Taxatio Ecclesiastica* for 1291 and for 1514 the *Valor Ecclesiasticus* of 1535. The rankings of the counties' growth ratios do not alter much when the clergy taxation is added in.

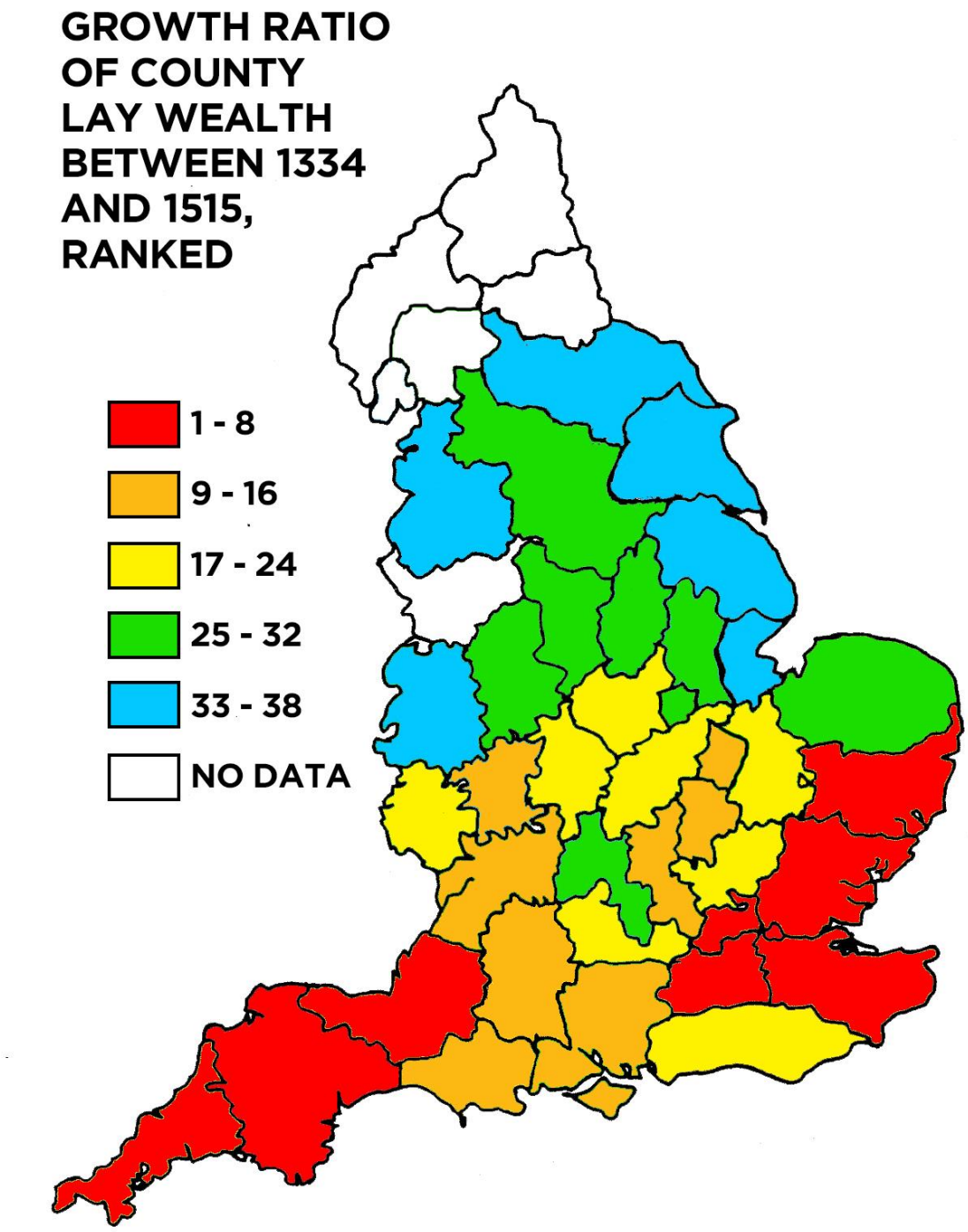
Summarising the main findings from Table 3.02. and Figure 3.03; in 1334 there was a tenfold variation in wealth between counties. The wealthiest lay in a band stretching from Gloucestershire to Lincolnshire, with poorer counties lying in the north-west and south-west. It appears that wealthier counties were those producing the most wheat. By 1515, the variation in wealth was even greater with a tripling of the county average. The north-west still contained the poorest counties but the south-west and counties close to London were now the wealthiest. This wealth appeared to be associated with the wool and cloth trade. Between 1334 and 1515 there was a marked increase in lay wealth with London, a clear outlier being fifteen times wealthier. Excluding London, Devon, and Middlesex (associated with London) were outstanding, although other south-west counties and counties nearest to London being four to five times wealthier in 1515 than 1334.

Table 3.02. County estimates of tax in £/1000 acres for 1334 and 1515, and growth ratio between those dates, with rankings.

County	1334 tax in £/1000 acres	Rank	1515 tax in £/1000 acres	Rank	Growth ratio 1334-1515	Rank
Bedfordshire	33.6	4	80.4	13	2.39	24
Berkshire	31.4	5	88.0	10	2.80	21
Buckinghamshire	21.3	19	70.8	17	3.32	14
Cambridge	26.9	11	65.7	21	2.44	23
Cornwall	7.7	35	50.8	27	6.60	3
Derbyshire	10.2	33	18.7	34	1.83	29
Devon	**7.9**	**34**	**67.4**	**18**	**8.53**	**1**
Dorset	19.4	22	72.0	16	3.71	10
Essex	18.5	25	102.0	3	5.51	4
Gloucestershire	28.0	8	93.3	6	3.33	13
Hampshire	18.2	26	67.1	20	3.69	11
Herefordshire	14.4	30	38.4	30	2.67	22
Hertfordshire	22.2	17	90.0	8	4.05	9
Huntingdonshire	27.6	10	89.8	9	3.25	16
Kent	24.5	14	100.5	4	4.10	8
Lancashire	4.6	38	3.8	38	0.83	38
Leicestershire	20.8	21	61.2	23	2.94	18
Lincolnshire Holland	46.4	1	67.3	19	1.45	34
Lincolnshire Kesteven	27.8	9	42.5	29	1.53	26
Lincolnshire Lindsey	22.6	15	45.6	28	2.02	33
Middlesex	29.0	7	238.1	1	8.21	2
Norfolk	38.9	3	86.0	12	2.21	25
Northamptonshire	26.3	12	73.8	15	2.81	20
Nottinghamshire	18.7	24	32.2	31	1.72	32
Oxford	42.2	2	73.8	14	1.75	30
Rutland	31.4	6	61.7	22	1.96	28
Shropshire	11.9	31	15.5	35	1.30	35
Somerset	19.3	23	104.5	2	5.41	6
Staffordshire	10.9	32	21.7	33	1.99	27
Suffolk	22.0	18	90.4	7	4.11	7
Surrey	17.3	28	94.1	5	5.44	5
Sussex	17.4	27	55.9	25	3.21	17
Warwickshire	21.2	20	59.8	24	2.82	19
Wiltshire	26.2	13	86.4	11	3.30	15
Worcestershire	15.5	29	54.1	26	3.49	12
Yorkshire E	22.2	16	25.0	32	1.13	37
Yorkshire N	7.0	36	8.1	37	1.16	36
Yorkshire W	6.5	37	11.3	36	1.74	31
Average	21.5		66.0		3.14	
London	16,290		239,200		14.68	
London with Middlesex	89.3	1	1,123	1	12.57	1

Source: R.S.Schofield, ‘The Geographical ‘Distribution of Wealth in England, 1334-1649’, *Economic History Review*, 18 (1965), 504.

Figure 3.03

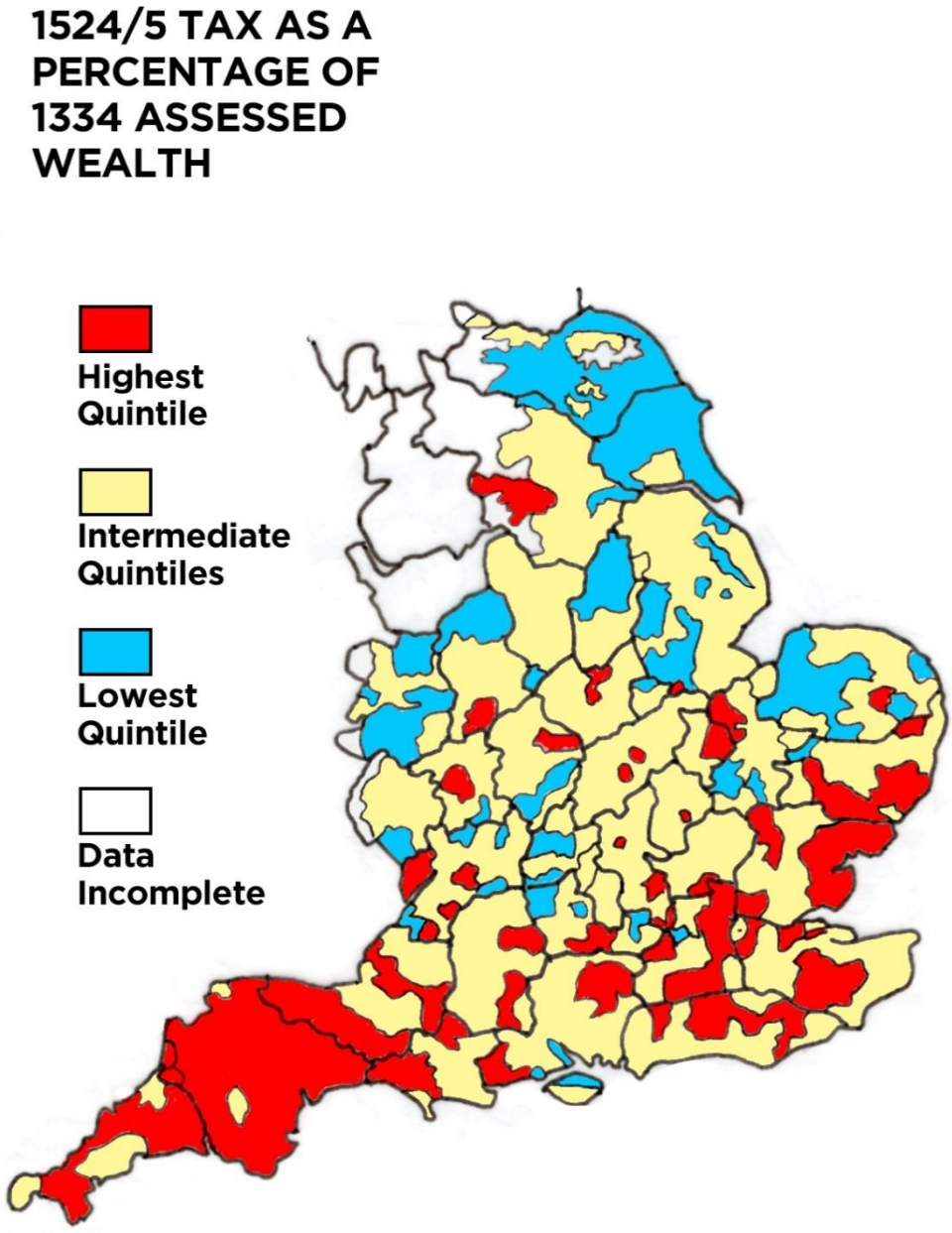


Source: Data from R. S. Schofield, 'The Geographical Distribution of Wealth in England, 1334-1649', *Economic History Review*, 18 (1965), 504.

Darby et al. in 1979 also described the changing geographical distribution of wealth in England between 1086 and 1334, and 1334 and 1525. During the first period growth was mainly seen in the fenlands of the east coast, in northern counties recovering from the devastation after the conquest, and in scattered areas of marsh, wood and forest elsewhere. After 1334 the changes were mainly in the south-west peninsula, Essex, and Suffolk, and in areas close to London. By using lay subsidy records of 1334 and 1524/5, details of the tax collected could be extracted below county level to individual vills. Church taxation was not included, neither were the Cinque ports and several northern counties where data were unavailable. The results are shown in Figure 3.04, where red areas represent vills whose relative wealth had increased the most (highest quintile) and blue the least (lowest quintile). It demonstrates the localisation of prosperity often to areas much smaller than a county, and frequently around principal towns, the south-east around London, Essex and Suffolk. Areas of East Anglia and the Midlands showed fewer signs of development, probably because they were already highly developed by the fourteenth century. The remarkable development of the south-west has been attributed to the great diversity of employment opportunities with a sustained demand for foodstuffs, textile and tin industries, overseas trade, fishing, and ship building.[327] Hoskins and Finberg noted, however, that in the fourteenth century, Devon was still underdeveloped as compared with the greater part of England.[328]

[327] M. Kowaleski, 'Agriculture, Industry and Trade', in M. Kowaleski, *Local Markets and Regional Trade in Medieval Exeter* (Cambridge, Cambridge University Press, 1996), pp.9-40.
[328] W. G. Hoskins and H. P. R. Finberg, 'The Wealth of Medieval Devon', in W. G. Hoskins and H. P. R. Finberg, *Devonshire Studies* (London, Jonathan Cape, 1952), pp. 212-249.

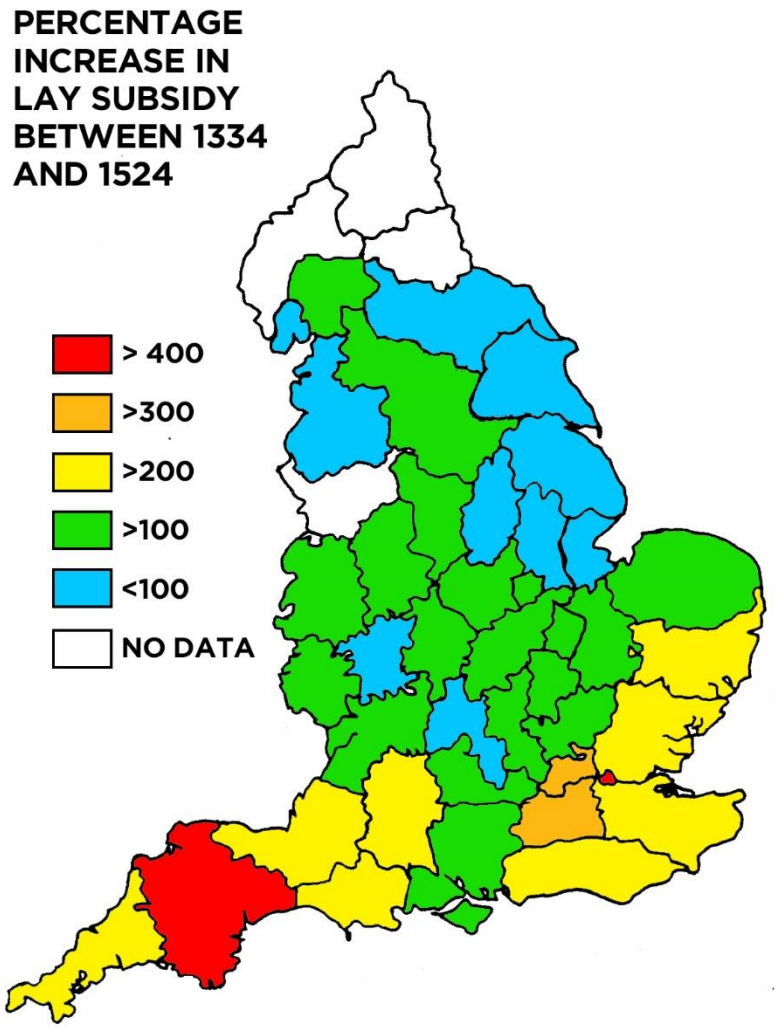
Figure 3.04. 1524/5 tax as a percentage of 1334 assessed wealth.



Source: Re-drawn from Darby, Glasscock, Sheail and Versey, *Journal of Historical Geography*, 5 (1979) 247-262.

Bridbury has argued that using lay subsidy taxation returns of 1334 and 1524 provides evidence that England was making 'a more energetic use of its urban network than it had done'.[329] By making a comparison of lay subsidy data for English counties and expressing the percentage change in tax between the two dates, he shows a very large increase in wealth for Devon and London, and large increases for other south-west and south-east counties, Figure 3.05.

Figure 3.05. Simple comparison of lay subsidy returns for 1334 and 1524.



Source: Data from Bridbury, 'English Provincial Towns'.

[329] A. R. Bridbury, 'English Provincial Towns in the Later Middle Ages', *Economic History Review,* 34 (1981), 22.

Rigby considers such comparisons meaningless, because the mode of taxation differs between the two dates, movables at the first and moveables, land rents and wages at the second, both in towns and the countryside.[330] Another difficulty with this methodology is that inflation in the monetary value could have occurred between these two dates, although this would apply to all counties or towns, and still allow comparisons between them. Bridbury has compared the ratios of taxes paid by large towns at the two dates, arguing that this shows their economic progress or otherwise. A ratio of less than 1:3 indicates probable decline or stagnation and greater than that, prosperity.[331] Rigby, however, argues that urban economies cannot be examined separately from rural economies for the same period, and also that without agreed yardsticks or criteria of growth and decline from other sources, Bridbury's ratios cannot be interpreted.[332] Bridbury, however, takes issue with Rigby in a robust defence of his methods, although conceding that 'they were not infallible', but 'tax records handled with care and imagination, may be able to tell us about these and other cross-currents'.[333]

While acknowledging their limitations as described by historians and reviewed above, this section uses data from the lay subsidy returns of 1334 and 1524/5 to estimate wealth in English counties at both dates. Changes in ranking between counties rather than apparent absolute change are used. Correcting the tax returned or the estimate of wealth on which it was based for the area which generated it may go some way to allow for differences in county or other regional size. This has been done here for the counties of England and the hundreds of Devon for 1334 and 1524/5, a period of 191 years, in a similar manner to Schofield, that is correcting the tax paid by the area of the land in thousands of acres. [334]

Figure 3.01, and 3.06 show the tax income per county corrected for area for the period 1334 to 1524/5 indicating the areas of economic growth and those of

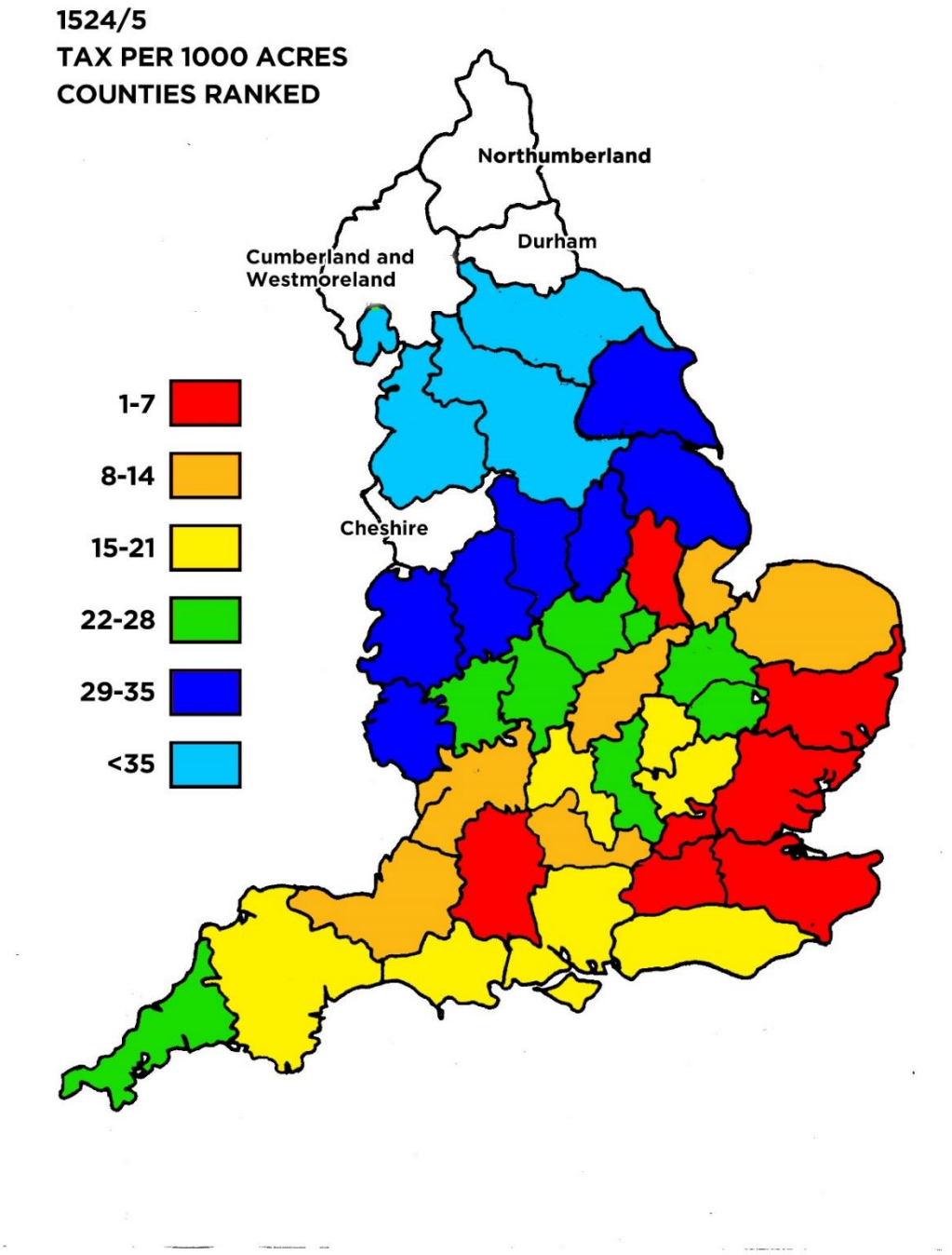
[330] S. H. Rigby, 'Late Medieval Urban Prosperity: The Evidence of the Lay Subsidies', *Economic History Review*, 39 (1986), 411-416; S. H. Rigby, 'Urban Decline in the Late Middle Ages: Some Problems in Interpreting the Statistical Data', *Urban History Yearbook*, 6 (1979), 46-59.
[331] A. R. Bridbury, *Economic Growth: England in the Later Middle Ages* (Hassocks, 1975), pp. 80-2, 112-13.
[332] Rigby, 'Urban Prosperity'.
[333] A. R. Bridbury, 'Dr. Rigby's Comment: A Reply', *Economic History Review*, 39 (1986), 417-422.
[334] Schofield, 'The Geographical Distribution of Wealth', 438-510.

stagnation or retreat over the period. Table 3.03 and Figure 3.07 show the changes in ranking for tax revenues per 1000 acres for English counties between 1334 and 1524/5. Those on the east and south coast had been particularly prosperous in the thirteenth and fourteenth centuries, benefitting from extensive arable production and flourishing wool production and later cloth industry, and active North Sea ports. York, Lincoln and Norwich and their surrounding counties are good examples. Examination of the corrected tax figures per acre shows that some counties such as Cambridge, Bedford, and Warwickshire were yielding higher amounts per acre in 1524/5 than in 1334 despite a lower ranking. Others such as Nottingham, Oxford, and Yorkshire (East Riding) were yielding significantly less and could be interpreted to be in some degree of decline economically.

There are likely to be several reasons contributing to their change in rank, such as a fall in the demand for grain, and a change in trading direction from the Hanseatic ports to those of France and Iberia. The counties around London continued to thrive, probably as the result of the extensive trading complex London had become, and the need to supply the burgeoning population with food and other materials.[335] Most new growth, however, is evident in the south-west counties, with Cornwall, Somerset, Dorset and especially Devon showing substantial increases in ranked wealth, which in the case of Devon produced a change in ranking from 34th to 16th, a change second only in degree to that of Essex and Surrey amongst English counties.

[335] G. D. Ramsay, *English Overseas Trade During the centuries of Emergence* (London, Macmillan, 1957); E. M. Carus-Wilson, *Medieval Merchant Adventurers* (London, Methuen, 1954), pp. xi-xxx; C. Barron, *London in the middle ages: government and people, 1200-1500* (Oxford, Oxford University Press, 2004).

Figure 3.06 Lay subsidy payments in 1524/5 by county in England, corrected for area



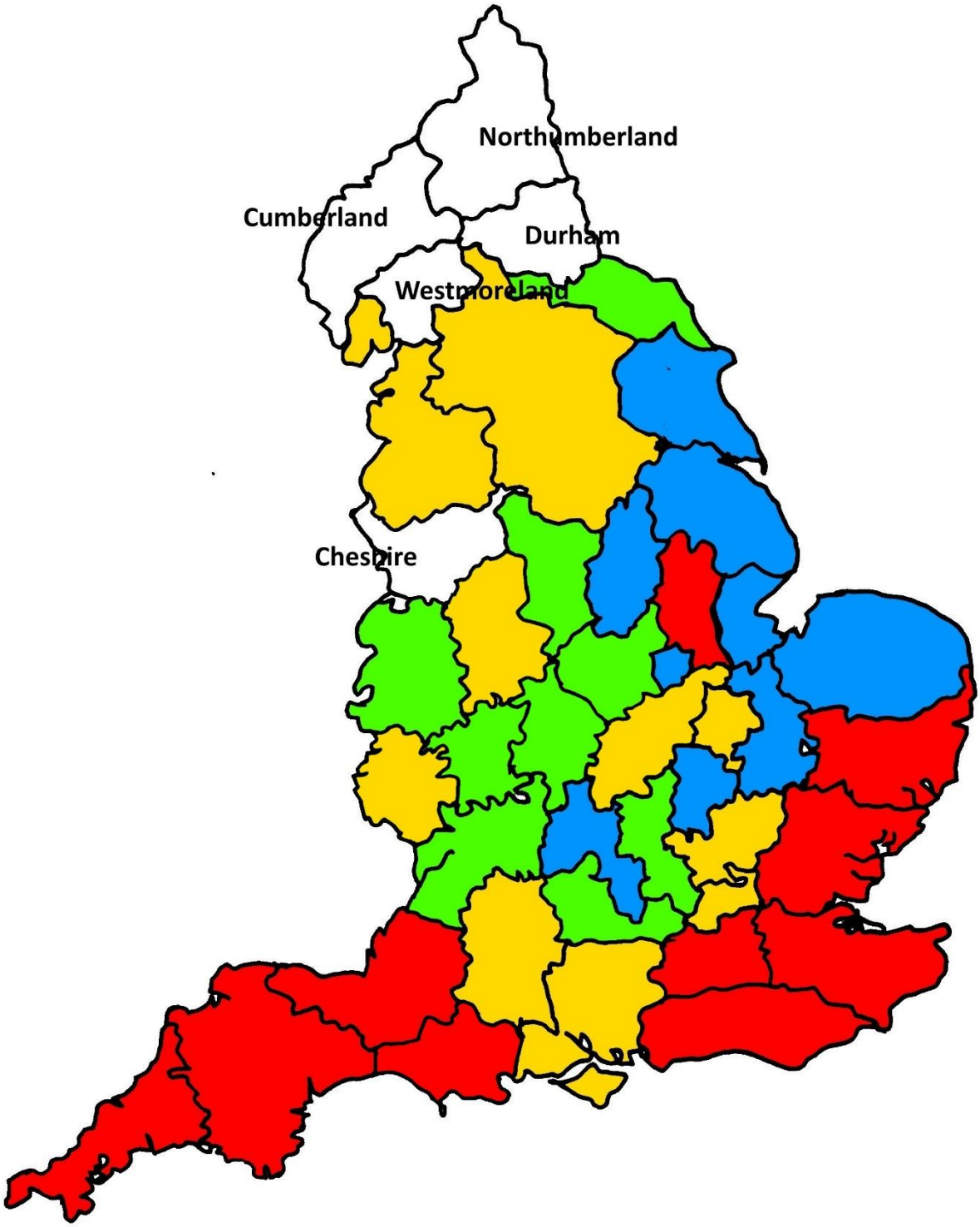
Source: Data from J. Sheail, 'The Distribution of Taxable Population and Wealth in Medieval England, 1275-1334', *Transactions of the Institute of British Geographers*, 55 (1972), 111-126

Table 3.03. Tax revenues corrected for acreage in English counties in 1334 and 1524/5 and ranked.

County	Area, 1000s acres	Tax paid £ per 1000 acres in 1334	Tax paid per 1000 acres in 1524/5	Rank in 1334	Rank in 1524/5	Rank difference 1334-1524/5
Bedford	298	2.27	2.69	4	18	-14
Berkshire	468	2.22	3.53	6	9	-3
Buckingham	473	1.45	2.23	20	23	-3
Cambridge	550	1.84	2.03	11	26	-7
Cornwall	868	0.55	1.63	35	28	+7
Cumberland	969	0.57	No data	No data	No data	No data
Derbyshire	662	0.71	0.85	33	34	-1
Devon	1658	0.58	2.82	34	16	+18
Dorset	631	1.35	2.98	22	15	+7
Essex	988	1.25	3.70	26	7	+19
Gloucester	737	1.93	3.47	8	10	-2
Hampshire	1040	1.29	2.29	25	21	+4
Hereford	427	1.02	1.28	30	30	0
Hertford	409	1.50	2.77	18	17	+1
Huntingdon	232	1.91	3.53	9	8	+1
Kent	1135	1.70	4.01	14	3	11
Lancashire	1215	0.31	0.25	38	38	0
Leicestershire	528	1.44	2.16	21	25	-4
Linc. Holland	210	3.18	3.21	1	11	-10
Linc. Kesteven	504	1.90	6.14	10	2	+8
Linc. Lindsey	989	1.55	1.62	15	29	-14
Middlesex	181	1.94	6.26	7	1	+6
Norfolk	1307	2.67	3.05	3	14	-11
Northampton	643	1.81	3.09	13	13	0
Nottingham	540	1.31	1.01	24	31	-7
Oxford	477	2.94	2.65	2	19	-17
Rutland	97	2.22	2.27	5	22	-17
Shropshire	759	0.85	0.56	31	35	-4
Somerset	1019	1.33	3.11	23	12	+11
Staffordshire	754	0.77	0.88	32	32	0
Suffolk	951	1.51	4.01	17	4	+13
Surrey	484	1.21	3.77	27	5	+22
Sussex	930	1.19	2.55	28	20	+8
Warwickshire	578	1.46	2.19	19	24	-5
Westmorland	486	0.39	No data	No data	No data	No data
Wiltshire	880	1.81	3.72	12	6	+6
Worcestershire	465	1.08	1.77	29	27	+2
York. East R	664	1.52	0.87	16	33	-17
York. North R	1287	0.48	0.30	36	37	-1
York. West R	1933	0.47	0.51	37	36	+1

Sources: Schofield, 'Geographical Distribution of Wealth'; Glasscock, *The Lay Subsidy of 1334*; Sheail, *The Regional Distribution of Wealth in England as Indicated in the 1524/5 Lay Subsidy Returns,* Special Series, 28-29, (London, List and Index Society, 1998).

Figure 3.07. Change in tax returns by county between 1334 and 1524/5, adjusted for area and ranked.



Sources: Data from lay subsidy returns for 1334 and 1524/5 (Glasscock and Sheail). Note: The counties' ranks are presented as quartiles, blue (lowest), green, yellow, and red (highest).

Changes in taxable wealth can also be observed at a sub-county level. Table 3.04 and Figure 3.08, show the differences in rank for tax returns per 1000 acres for Devon hundreds between 1334 and 1524/5.The east Devon hundreds of Axminster, Tiverton and South Molton stand out, most likely as the result of their development as towns serving the rural cloth industry.

In south Devon, the hundreds of Roborough, Stanborough, Haytor, Teignbridge, Exminster, Wonford and Crediton show the highest increase in taxed wealth, attributable mainly to the development of seaports and overseas trade. Teignbridge and Exminster contain Ashburton and Exeter, both engaged in revived tin production as centres for coinage. Many small coastal ports also contributed to the growing fishing industry, not only for local use but also for export after salting and packing.[336] All such ports required provisioning, and the hinterlands flourished providing the food and materials for this. The unevenness of wealth shown in hundreds within Devon serve as a reminder of local variations in industry, agriculture, and trade, demonstrating the mosaic of different influences within the county.

[336] M. Kowaleski,'The Expansion of the South-Western Fisheries in Late Medieval England', *Economic History Review*, 53 (2000), 429-454.

Table 3.04. Tax revenues per 1000 acres for Devon hundreds in 1334 and 1524/5, ranked.

Hundred	Area, 1000s acres[337]	Tax paid £ per 1000 acres in 1334[338]	Tax paid £ per 1000 acres in 1524/5[339]	Rank in 1334	Rank in 1524/5	Rank difference 1334-1524/5
Axminster	51	0.28	2.31	29	19	+10
Bampton	29	0.49	2.11	15	20	-5
Black Torrington	144	0.33	1.13	26	31	-5
Braunton	73	0.5	2.37	14	17	-3
Cliston	16	0.77	1.80	5	25	-20
Colridge	53	0.77	4.79	6	4	+2
Crediton	29	0.58	5.30	9	3	+6
Culliton	24	0.90	4.54	4	5	-1
East Budleigh	53	0.69	3.72	7	7	0
Ermington	50	0.91	4.48	3	6	-3
Exminster	48	0.46	2.68	19	13	+6
Fromington	35	0.46	1.82	18	24	-6
Halberton	9	0.91	2.52	2	15	-13
Hartland	31	0.39	1.79	22	26	-4
Hayridge	47	0.51	3.72	12	10	+2
Haytor	60	0.63	5.40	8	2	+6
Hemyock	24	0.54	1.95	10	21	-11
Lifton	132	0.12	0.74	33	32	+1
North Tawton	48	0.50	1.88	13	23	-10
Plympton	34	0.53	3.26	11	11	0
Roborough	51	0.47	3.32	17	9	+8
Shebbear	68	0.44	1.70	20	27	-7
Shirwell	48	0.25	0.58	30	33	-3
South Molton	70	0.24	2.21	31	18	+13
St Mary Ottery	10	2.01	7.95	1	1	0
Stanborough	64	0.47	3.71	16	8	+8
Tavistock	37	0.16	1.62	32	28	+4
Teignbridge	58	0.32	2.38	27	16	+11
Tiverton	24	0.34	2.57	25	14	+11
West Budleigh	32	0.35	1.90	23	22	+1
Winkley	9	0.44	1.32	21	29	-8
Witheridge	78	0.28	1.26	28	30	-2
Wonford	87	0.34.	3.11	24	12	+12

Sources: Data from J. R. Pearson, ‘Six Assessments of Devon, 1291-1883’, *Transactions of the Devonshire Association*, 22 (1890), 143-165; Glasscock, *The Lay Subsidy of 1334*; T. L. Stoate, *Devon Lay Subsidy Rolls*, 1524-7 (Bristol, 1979).

Figure 3.08. Devon hundreds showing changes in ranked tax revenues per 1000 acres between 1334 and 1524/5.

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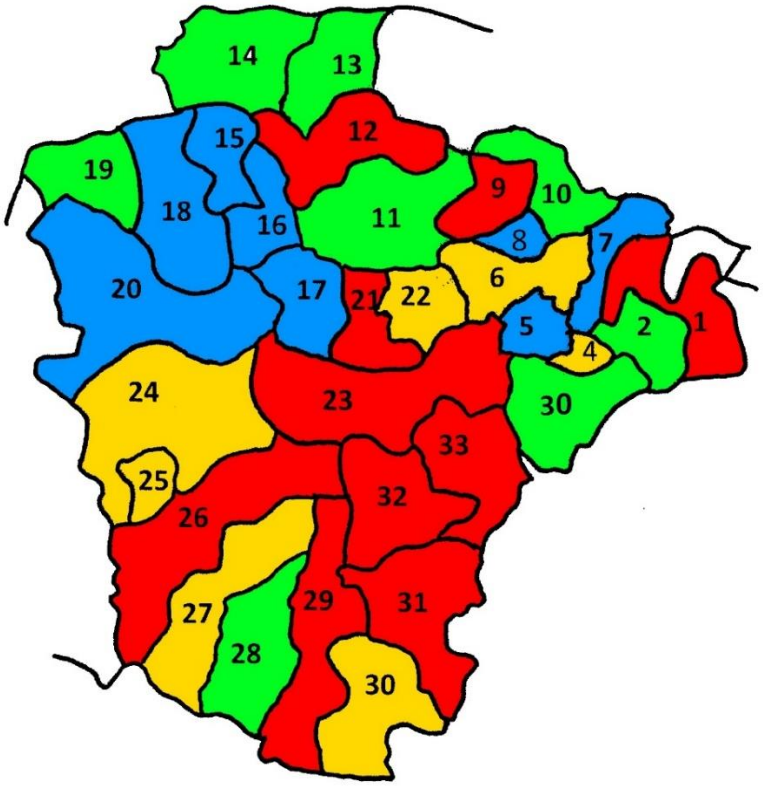


340

Key to Devon Hundreds.

1. Axminster
2. Colyton
3. East Budleigh
4. St. Mary Ottery
5. Cliston
6. Hayridge
7. Hemyock
8. Halberton
9. Tiverton
10. Bampton
11. Witheridge
12. South Molton
13. Shirwell
14. Braunton
15. Fromington
16. North Tawnton
17. Winkley
18. Shebbear
19. Hartland
20. Black Torrington
21. Crediton
22. West Budleigh
23. Wonford
24. Lifton
25. Tavistock
26. Roborough
27. Plympton
28. Ermington
29. Stanborough
30. Coleridge
31. Haytor
32. Teignbridge
33. Exminster

Sources: Data from Table 3.04. Map redrawn from Richard Blome in *Britannia* (1673)[341]. Note: Results presented as quartiles, blue (lowest), green, yellow, and red (highest).

[341] www.Ancestry.com

Comparing wealth in towns and their relation to rural wealth in Devon using Bridbury's method results in Table 3.05. As defining a town can be problematic, boroughs as defined in the 1334 lay subsidies have been used. As can be seen the wealth of towns such as Crediton, Tiverton had apparently burgeoned, almost certainly due to their extensive involvement on the cloth industry. Major market towns such as Totnes, Modbury, Kingsbridge and Exeter had also prospered as had Ashburton with its tin industry. Bideford and Great Torrington in North Devon appeared to be in decline. Devon towns' contribution to the county's wealth increased from 16 to 23 percent over the period suggesting urban growth. The findings using this methodology to some extent confirm what is already known about these boroughs' prosperity at that period.

Table 3.05. Wealth in Devon boroughs in 1334 and 1524, with ratios. Sources: Glascock, *1334 Lay Subsidy*, Sheail, *Distribution of Wealth*.

Borough	**1334**	**1524/5**	**Ratio**
Exeter	£36-12 -4	£327-6-4	8.94
Totnes	£8-7-8	£143-17-11	16.52
Dartmouth	£11-0-0	£40-1-2	3.64
Dodbrooke	£2-3-4	£3-8-2	1.58
Kingsbridge	£3-10-0	£34-19-8	10.00
Ashburton	£3-6-11	£30-0-5	9.10
Plympton Erle	£4-6-8	£16-3-8	3.75
Plymouth	£24-0-0	£77-4-10	3.22
Tavistock	£9-0-0	£32-7-8	3.59
Lydford	£1-3-4	£6-9-11	5.65
Okehampton	£1-12-8	£7-11-9	4.75
Bideford	£6-0-0	£9-13-6	1.6
Gt. Torrington	£7-17-2	£4-2-10	0.53
Barnstaple	£18-14-0	£38-6-2	2.62
South Molton	£6-5-5	£14-2-10	2.25
Crediton	£4-1-1	£155-14-0	37.95
Tiverton	£2-0-0	£61-5-11	30.63
Bradninch	£2-16-8	£11-17-3	4.54
Honiton	£2-16-8	£18-17-2	7.23
Modbury	£3-10-0	£50-7-6	14.4
Total	£159	£1,083	6.81
All Devon	£954	£4,680	4.91
Devon minus boroughs	£795	£3,597	4.52

Using the same methodology, such a calculation may be taken to parish level. As examples of this, three Devon hundreds are selected representing the North, South and East of the county; Black Torrington, Teignbridge and Hemyock, and shown in Table 3.06 a,b,c.

Table 3.06 a. Black Torrington hundred parishes, lay subsidies.

Parish	**1334**	**1524**	**Ratio**
Abbots Bickington	4-0	6-4	1.58
Ashbury	9-0	£1-3-0	2.56
Ashwater	£3-3-4	£8-0-2	2.53
Beaworthy	14-0	£2-3-2	3.08
Black Torrington	£2-3-0	£6-2-4	2.85
Bradford	£1-1-0	£6-16-6	6.50
Bradworthy and Panorasweek	£4-19-0	£7-0-0	1.41
Bridgerule	19-0	£1-15-0	1.84
Broadwood Kelly and Honeychurch	18-0	£4-16-6	5.36
Clawton	£2-3-4	£3-16-4	1.76
Exbourne	12-0	£3-13-10	6.15
Hallwill	18-0	£1-16-4	2.02
Hatherleigh	£3-3-4	£14-1-6	4.44
Highampton	18-0	£2-9-2	2.73
Hollacombe	5-8	10-10	1.92
Holsworthy	£2-3-4	£17-1-4	7.88
Inwardleigh		£4-7-2	
Jacobstowe	15-0	£1-10-0	2.00
Kigbeare	12-0	£1-17-4	3.11
Luffincote	5-0	£1-11-6	6.30
Milton Damerell	£2-3-4	£2-2-10	0.99
Monkokehampton	13-4	£1-5-6	1.91
Northlew	£1-18-0	£7-8-2	3.90
Petherwin, North		£8-15-6	
Putford, West	£1-6-8	£1-13-2	1.24
Pyworthy	£2-0-0	£5-9-8	2.74
St. Giles, parish		£2-0-8	
St. Giles, hamlet		19-11	
Sampford Courtney and Belstone	£1-5-6	£17-8-4	13.66
Sticklepath		£1-6-4	
Sutcombe	£1-12-4	£9-14-10	6.02
Tackbear		12-8	
Tetcott	13-0	£1-17-6	2.88
Thornbury	19-0	£2-10-8	2.66
Werrington	£7-5-0	£11-0-4	1.52
Total	£47-14-6	£163-4-2	3.42

Table 3.06 b. Teignbridge hundred parishes, lay subsidies.

Parish	1334	1524	Ratio
Ashburton with Bickington	£1-6-8	£44-14-11	13.31
Bovey, North	£1-0-0	£6-16-4	6.82
Bovey Tracy	£2-0-0	£24-9-2	12.23
Canonleigh	£1-3-0	£1-1-8	0.94
Hennock	8-0	£3-3-10	7.98
Highweek	£2-0-4	£13-5-6	6.58
Ideford	£1-11-8	£6-5-8	3.97
Ilsington	£2-1-4	£8-6-2	4.02
Kingsteignton	£1-12-0	£3-13-2	2.29
Lustleigh	£1-0-0	£4-5-2	4.26
Maneton	£1-1-6	£8-13-4	8.07
Moretonhampstead	£1-18-6	£10-16-4	5.62
Teigngrace	14-4	£1-5-10	1.80
Total	£19-4-4	£138-17-3	7.22

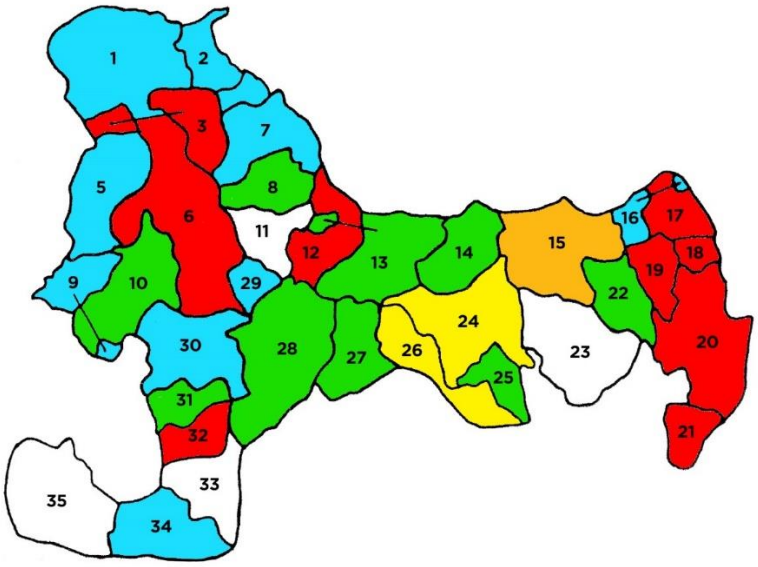
Table 3.06 c. Hemyock hundred parishes, lay subsidies.

Parish	**1334**	**1524**	**Ratio**
Churchstanton	£2-10-0	£9-7-6	3.75
Clayhidon	£2-0-0	£3-17-0	1.96
Hemyock	£2-10-0	£8-3-4	3.27
Culmstock	£3-0-0	£10-7-6	3.46
Awliscombe	13-4	£7-15-4	15.02
Buckerell with Waringstone	10-4	£6-7-0	12.28
Culm Davy	16-8		
Dunkeswell	£1-0-0	£1-0-8	1.03
Total	£13.04	£46-18-4	3.60

Sources: Glasscock, *1334 Lay Subsidy*, Sheail, *PhD thesis, London*

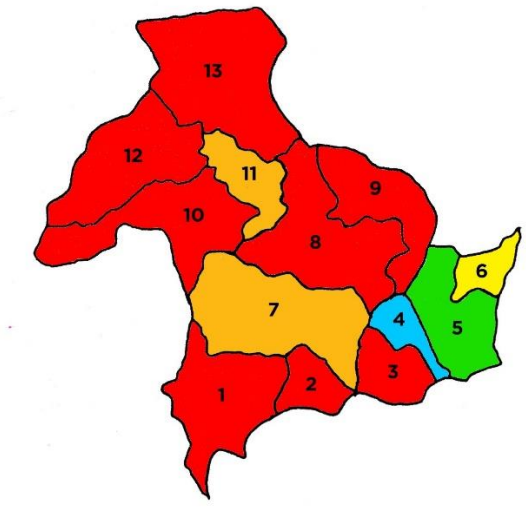
These ratios for each hundred are shown graphically in the following three figures, 3.09 a,b,c.

Figure 3.09 a. Black Torrington hundred parishes.



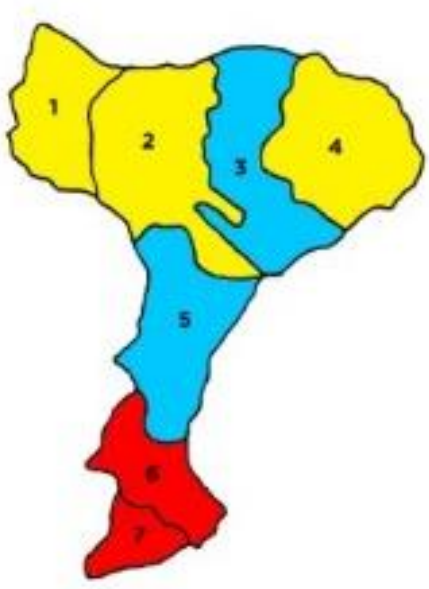
1. Bradworthy
2. West Putford
3. Sutcombe
4. Abbots Bickington
5. Pancrasweek
6. Holsworthy
7. Milton Demerell
8. Thornbury
9. Bridgerule
10. Pyworthy
11. Cookbury
12. Bradford
13. Black Torrington
14. High Hempston
15. Hatherleigh
16. Monkoakhampton
17. Broadwood Kelly
18. Honeychurch
19. Exbourne
20. Samford Courtenay
21. Belstone
22. Jacobstowe
23. Inwardleigh
24. Northlew
25. Ashbury
26. Beaworthy
27. Halwill
28. Ashwater
29. Hollacombe
30. Clawton
31. Tetcott
32. Luffincott
33. St. Giles
34. Werrington
35. North Petherwin

Figure 3.09 b. Teignbridge hundred parishes.



1. Ashburton
2. Bickington
3. Highweek
4. Teigngrace
5. Kingsteignton
6. Ideford
7. Ilsington
8. Bovey Tracy
9. Hennock
10. Manaton
11. Lustleigh
12. North Bovey
13. Moreton Hampstead

Figure 3.09 c. Hemyock hundred parishes.



1. Culmstock
2. Hemyock
3. Clayhidon
4. Churchstanton
5. Dunkerswell
6. Awliscombe
7. Buckerell and Waringstone

Sources: As for Table 3.06.

Note: Key for ratios, Red >5.00, Orange 4.01-5.00, Yellow 3.01-4.00, Green 2.01-3.00, Blue <2.00, White no data.

From these tables and figures it can be seen that any apparent increase in prosperity occurred mainly around towns and in the south of Devon.

Of interest is a paper by Fox on taxation in thirteenth and early fourteenth centuries in Devon.[342] He notes that the tax collected by area in English counties shows a very low amount of tax collected in Devon, and a high proportion of taxpayers paying the lowest amount. He examines several localities including Black Torrington hundred and argues that the low amount of tax collected was probably due to under-taxation and tax avoidance, explaining Devon's apparent poverty then. This is at odds with other historians who argue that the apparent poverty of the county was due to its late economic development. The county's rapid increase in tax wealth in the fifteenth century would seem to support their opinion rather than that of Fox.

Fifteenth-century income tax

Although taxation from early fourteenth to the sixteenth century was based on the 1334 lay subsidy assessment, on several occasions during the fifteenth century a direct income tax was imposed on wealthier citizens. In 1404 this was restricted to those with an income of over three hundred marks per annum, but records are incomplete. In 1412 a further income tax was imposed aimed at those with an income of twenty pounds. Again, records are incomplete, but less so. Table 3.07 shows the tax income produced per county and Figure 3.10 the same data graphically. It is notable that Norfolk and Essex, Somerset and Dorset yielded the most with Devon being nearly the poorest. This is in striking contrast to the findings of an apparent marked increase in Devon's wealth between 1334 and 1524/5 shown in Table 3.03 and Figure 3.07 and would suggest that this increase was confined to the later fifteenth and early sixteenth centuries.

[342] H. Fox, 'Taxation and Settlement in Medieval Devon' in M. Prestwich, R. Britnell and R. Frame eds., *Thirteenth Century England, X* (Suffolk, UK, Boydell and Brewer, 2003), pp. 167-185.

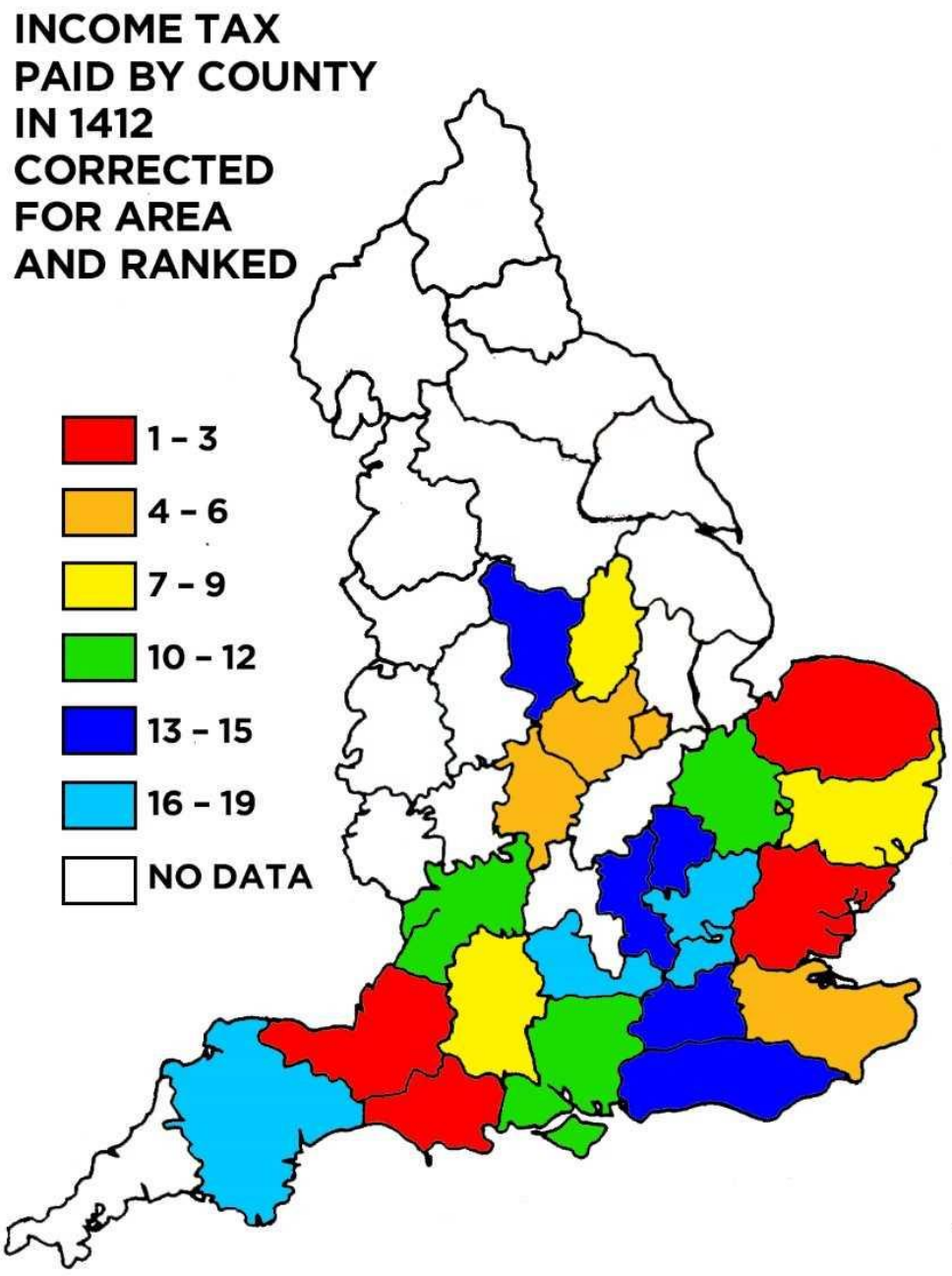
Table 3.07. Tax corrected for area (1000s acres), by county in England, 1412.

County	Area	Tax	Tax/area
Bedford/Buckingham	771	3120	4.0
Berkshire	468	1208	2.6
Cambridge/Huntingdon	782	3560	4.7
Derbyshire	662	2660	4.0
Devon	1658	3920	2.4
Dorset/Somerset	1650	11000	6.7
Essex	988	6840	6.9
Gloucestershire	737	3320	4.5
Hampshire	1040	4740	4.6
Hertfordshire	409	1260	3.1
Kent	1135	6280	5.5
Leicester/Warwick	1106	6100	5.5
Middlesex	181	720	4.0
Norfolk	1307	9640	7.4
Nottinghamshire	540	2580	4.8
Rutland	97	540	5.6
Suffolk	951	4600	4.8
Surrey/Sussex	1414	6100	4.3
Wiltshire	880	4240	4.8

Source: J. M. W. Bean, ‘Landlords’ in Miller, *AHEW, Vol.3*, pp. 528-9.

Note: Data not available for most northern counties.

Figure 3.10. Tax corrected for area (per 1000 acres), by county in England, 1412, ranked.



Source: J. M. W. Bean, 'Landlords' in Miller, *AHEW, Vol.3*, pp. 528-9.

Fifteenth-century rebates

The fifteenth century is recognised as being a time of economic recession in most parts of England, at least until about 1480. As a result, many areas found themselves unable to meet the tax demands of the Crown and appeals were made for reductions in the subsidy demanded. The lay subsidy of 1334 had provided the yardstick for the assessment of taxation of towns and rural parishes during the second half of the fourteenth century and through the fifteenth century, only being superseded by the tax reforms of the sixteenth century under Henry VIII. However, the dramatic changes in population following the outbreaks of plague during the fourteenth century and its failure to recover, together with falling productivity in the early fifteenth century, led to appeals for a reduction in taxation, which were assessed by the government and to some extent granted between 1435 and 1489. The exact basis on which the reductions were estimated and allowed is not recorded but was made by local officers who presumably had some knowledge of population loss and local economic hardship. Records of these are patchy, but Forrest has transcribed and analysed many of these for the south-west counties, some of which he has also published.[343]

The degree to which the extent and distribution of these reductions can be used as indicators of local economic difficulty has been challenged. In his studies on 'lost villages', Beresford found some with very high reductions due to depopulation, but elsewhere the reductions were more haphazard, making the overall interpretation unreliable. In Devon, Hoskins noted that boroughs and ancient demesnes were given the larger rebates when compared with many rural areas. He attributed this to the possibility that they had been taxed at much higher rates in earlier years.[344]

Tables 3.08 and 3.09 show the reductions that were allowed in Devon's boroughs and ancient demesnes between 1435 and 1489. [345] Similar tables may be derived from the same documents to illustrate the reductions granted to the

[343] M. Forrest, 'Patterns of Economic Change in the South-West During the Fifteenth Century: Evidence from the Reductions to the Fifteenths and Tenths', *Economic History Review*, 70 (2017), 423-451; and personal communication.
[344] W. G. Hoskins and H. P. R. Finberg, eds., *Devonshire Studies* (London, Johnathan Cape,1952), p. 249.
[345] Based on Glasscock, *Lay Subsidy of 1334*; TNA, E179/95/95 (1435); E179/95/84 (1440); E179/95/124 (1449) and E179/95/127 (1489), transcription with the help of M. Forrest, personal communication.

largely rural hundreds, shown in Table 3.10 and Figure 3.11 and at parish level, illustrated by Teignbridge and Black Torrington hundreds, in Tables 3.11 and 3.12, and Figures 3.12 and 3.13. Marked differences between neighbouring areas existed. Most of the county rebates clearly went to the towns and ancient demesnes, leaving relatively little for smaller, less populated rural areas, although it is possible that these areas had been relatively undertaxed in earlier years. Totnes is an interesting example of a prominent town which received a large rebate in 1435 and 1440, although rather less in 1449 and 1489, probably reflecting the town's recovery and burgeoning cloth industry. In Totnes a new church was built in the mid-fifteenth century, largely with donations from the wealthy cloth merchants of the town, suggesting that the town did not lack wealth in this period. The rural hundreds of Teignbridge and Black Torrington show the opposite trend with an overall increase in parish rebates during the century, reflecting the changes seen generally in the rural hundreds but not the towns over the same period.

Forrest argues that tax rebates were based on the collectors' local knowledge of changes in wealth within the county rather than direct assessment of goods or land.[346] As has been seen, they tended to favour the larger ancient demesne manors and boroughs, possibly as smaller towns and villages were unable to use the same degree of patronage or political clout to achieve favour. It is suggested that when specifically named places within hundreds were used in the records, it meant that assistance had been targeted to where it was required. North Devon received lower rebates than the East or the South, despite showing other evidence of a more weakened economy.

[346] Forrest, 'Patterns of Economic Change', 448-9.

Table 3.08. Percentage reductions in lay subsidy for Devon boroughs between 1435 and 1489, as compared with 1334.

Borough	**Lay subsidy in 1334**	**Rebate in 1435**	**Rebate in 1440**	**Rebate in 1449**	**Rebate in 1489**
Exeter	£36 12 s 4d	18%	22%	14%	22%
Plymouth	£24 0s 0d	50%	50%	11%	50%
Barnstaple	£18 14s 0d	21%	21%	9%	27%
Dartmouth	£11 0s 5d	12%	73%	17%	0
Tavistock	£9 0s 0d	18%	0	7%	11%
Totnes	£8 7s 8d	31%	40%	12%	16%
Gt. Torrington	£7 17s 2d	0	0	0	17%
Sth.Molton	£6 5s 5d	10%	0	0	21%
Bideford	£6 0s 0d	17%	22%	11%	20%
Plympton	£4 6s 8d	31%	31%	0	23%
Crediton	£4 1s 1d	49%	66%	37%	62%
Modbury	£3 10s 0d	11%	0	19%	19%
Kingsbridge	£3 10s 0d	19%	0	21%	38%
Ashburton	£3 6s 9d	20%	0	0	15%
Bradninch	£2 16s 8d	28%	0	14%	35%
Honiton	£2 16s 8d	33%	0	12%	12%
Dodebrooke	£2 3s 4d	28%	0	0	35%
Tiverton	£2 0s 0d	20%	0	25%	50%
Okehampton	£1 12s 8d	24%	0	31%	61%
Lydford	£1 3s 4d	0%	0	0	0%

Source: Data from Forrest, ’Patterns of Economic Change’, 423-451.

Table 3.09. Lay subsidy in 1334 and rebates allowed between 1435 and 1489 for ancient demesnes in Devon.

Ancient Demesnes	**1334 lay subsidy**	**1435 rebate**	**1440 rebate**	**1449 Rebate**	**1489 rebate**
South Tawton	£8-18-0	44.94%	29.96%	7.49%	16.85%
Shebbear	£5-16-0	45.98%	31.03%	14.37%	22.99%
Kenton	£9-3-0	41.27%	43.64%	14.55%	28.91%
Ottery St.Mary	£20-0-0	33.33%	50.00%	16.67%	25.00%
Teigncombe	£2-0-0	20.00%	0	10.00%	0
E. Budleigh	£11-7-8	32.21%	40.92%	21.96%	26.35%
Axminster	£5-0-0	25.33%	0	6.67%	13.33%
Lifton	£2-0-0	33.33%	0	12.50%	8.33%
Exe Island	£4-0-0	25.00%	0	16.67%	16.67%
Braunton	£8-13-4	0	30.77%	7.69%	0
Northam	£5-0-1	0	26.64%	19.98%	26.64%

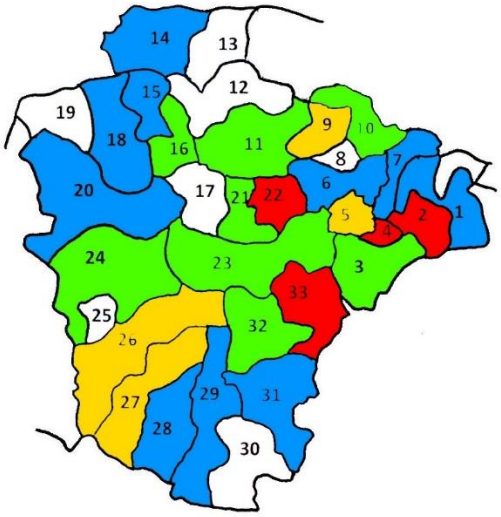
Sources: Data from Forrest, ‘Patterns of Economic Change’, TNA, E 179/95/95, TNA, E 179/95/84, TNA, E 179/95/124, TNA, E 179/95/127; Glasscock, *The Lay Subsidy of 1334*.

Table 3.10. Percentage reductions in lay subsidies in Devon hundreds between 1435 and 1489 compared with 1334.

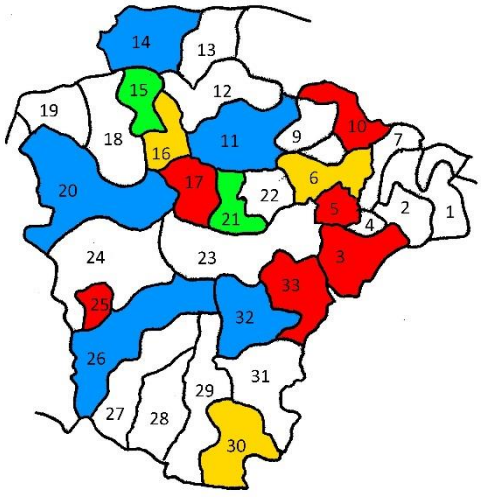
Hundred	Lay subsidy in 1334	Rebate in 1435	Rebate in 1440	Rebate in 1449	Rebate in 1489
Haytor	£37 16s 0d	1%	0	2%	5%
Stanborough	£30 5s 8d	1%	0	5%	8%
Plympton	£18 0s 0d	10%	0	7%	19%
Roborough	£23 11s 8d	11%	3%	7%	17%
Sheftbere	£29 12s 4d	2%	0	1%	12%
Fremyngton	£16 8s 8d	3%	6%	0	6%
Shirwell	£12 8s 3d	0	0	1%	0
Sth. Molton	£17 4s 10d	0	0	3%	0
Wytherigg	£22 2s 0d	7%	5%	7%	15%
Crediton	£17 1s 0d	6%	7%	8%	30%
W. Buddleigh	£10 17s 10d	20%	0	17%	21%
Tiverton	£8 2s 3d	13%	0	18%	8%
Hemyock	£13 0s 4d	4%	0	8%	8%
Halberton	£7 16s 0d	0	0	0	0
Cliston	£11 17 2d	11%	22%	8%	22%
Colyton	£21 14s 9d	15%	0	11%	18%
Axminster	£13 17s 6d	3%	0	3%	11%
Axmouth	£4 14s 8d	4%	0	0	19%
Wonford	£30 0s 11d	7%	0	5%	8%
Exminster	£22 3s 0d	21%	15%	14%	25%
Teignbridge	£19 4s 4d	7%	5%	3%	13%
Lifton	£16 0s 1d	8%	0	6%	11%
Bk Torrington	£47 14s 6d	4%	1%	3%	10%
Hartland	£12 7s 4d	0	0	5%	0
Winkleigh	£4 4s 11d	0	16%	16%	0
Molland	£4 0s 0d	8%	0	17%	0
Tavistock	£5 15s 4d	0	23%	0	0
Nth. Tawton	£27 4s 8d	10%	12%	8%	21%
Braunton	£35 12s 11d	1%	3%	1%	6%
Bampton	£13 15s 1d	8%	8%	2%	5%
Hayridge	£23 18s 2d	3%	6%	10%	7%
Coleridge	£40 10s 2d	0	10%	11%	12%
Ermington	£46 1s 8d	1%	0	8%	17%
East Budleigh	£36 16s 4d	7%	19%	9%	18%
Uffculme	£6 2s 4d	20%	19%	5%	0
Nth. Molton	£4 10s 0d	0	0	0	15%

Source: Data from Forrest, ‘Patterns of Economic Change’.

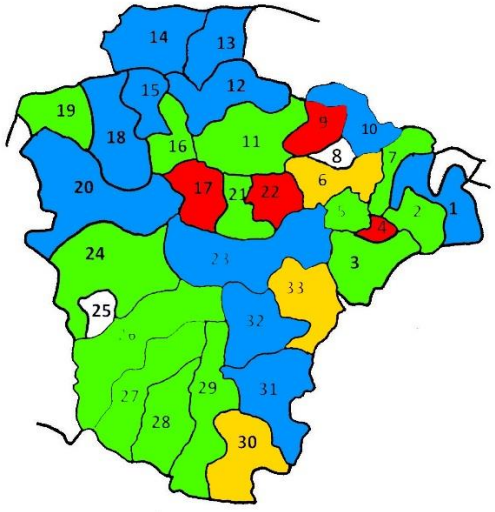
Figure 3.11. Reductions in lay subsidy for Devon hundreds between 1435 and 1489 compared to 1334.



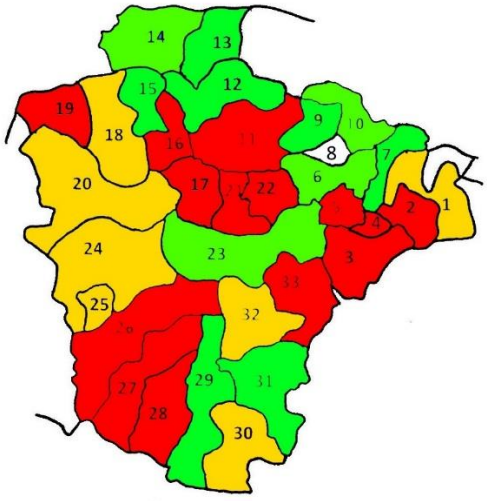
1435



1440



1449



1489

Source: Data from Forrest, ‘Patterns of Economic Change’.

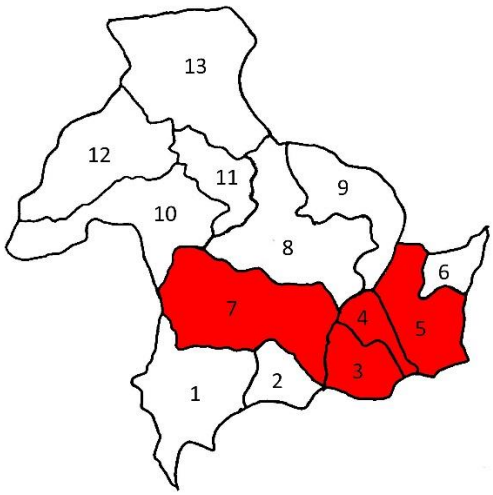
Key: White, nil; Blue, 0-5%; Green, 5-10%; Yellow, 10-15%; Red, >15%. Numbering of hundreds as in Figure 3.08.

Table 3.11. Percentage reductions in lay subsidy for parishes in Teignbridge hundred between 1435 and 1489 compared with 1334.

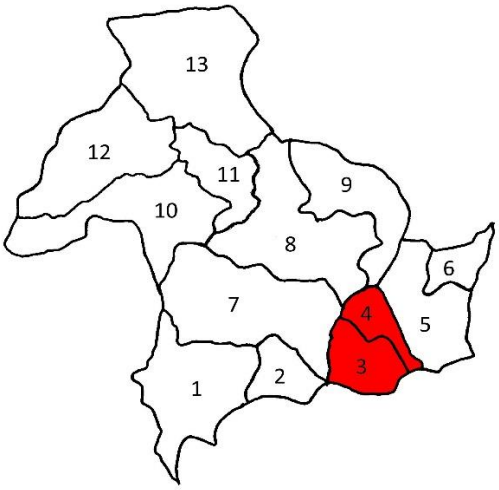
Parish	Subsidy in 1334	Rebate in 1435	Rebate in 1440	Rebate in 1449	Rebate in 1489
Highweek	£2 0s 4d	20%	21%	5%	10%
Lustleigh	£1 0s 0d	0	0	0	0
North Bovey	£1 0s 0d	0	0	0	15
Ashburton	£1 6s 8d	0	0	0	13%
Teigngrace	£0 14s 4d	56%	60%	14%	47%
Bovey Tracey	£2 0s 0d	0	0	0	0
Ideford	£1 11s 8d	0	0	0	22%
Kingsteignton	£1 12s 0d	17%	0	8%	10%
Ilsington	£2 1s 4d	16%	0	8%	32%
Moretonhampstead	£1 18s 6d	0	0	0	14%
Manaton	£1 1s 6d	0	0	0	0
Howton	£0 13s 0d	0	0	0	100%
Hennock	£0 8s 0d	0	0	0	0
Canonteign	£1 3s 0d	0	0	0	0
Wray Barton	£0 12s 6d	0	0	0	0
Luscombe	£0 1s 6d	0	0	0	0

Source: Data from Forrest, ‘Patterns of Economic Change’.

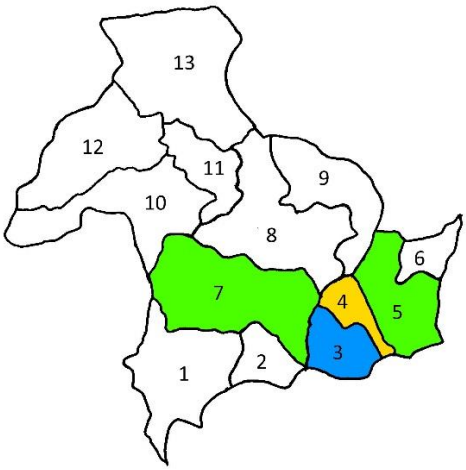
Figure 3.12. Teignbridge parishes showing percentage reductions in subsidy between 1435 and 1489 compared with 1334.



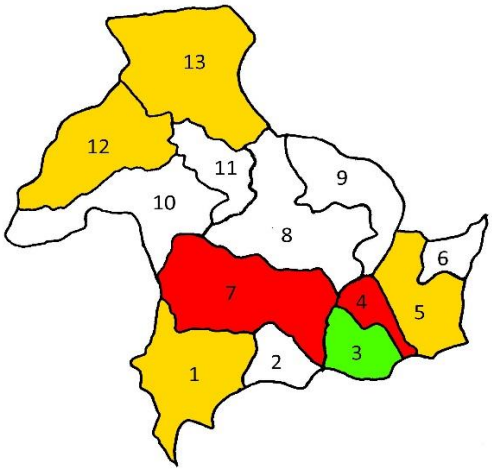
1435



1440



1449



1489

Source: Data from Forrest, ‘Patterns of Economic Change’.

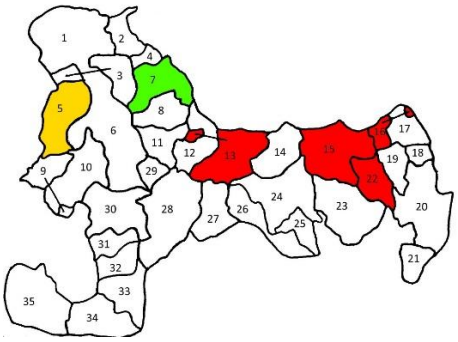
(colour key as in 3.11, parish key as Figure 3.09 b).

Table 3.12. Percentage reductions in lay subsidy for parishes in Black Torrington hundred between 1435 and 1489 compared with 1334.

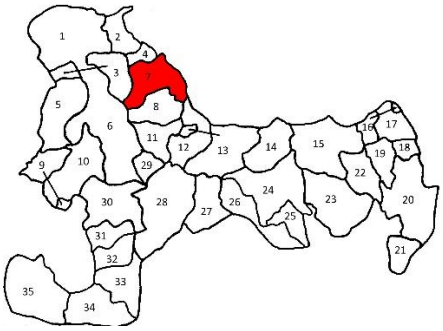
Parish	Subsidy in 1334	Rebate in 1435	Rebate in 1440	Rebate in 1449	Rebate in 1489
Black Torrington	£2 3s 0d	16%	0	4%	9%
Highhampton	£0 18s 0d	0	0	0	0
Hatherleigh	£3 3s 4d	15%	0	5%	0
Jacobstowe	£0 15s 0d	18%	0	13%	22%
Exbourne	£0 12s 0d	0	0	0	0
Broadwood	£0 18s 0d	0	0	0	0
Kigbeare	£0 12 0d	0	0	0	22%
Inwardleigh	£1 5s 0d	0	0	0	20%
Ashbury	£0 9s 0d	0	0	0	30%
Northlew	£1 18s 0d	0	0	0	18%
Beaworthy	£0 14s 0d	0	0	12%	29%
Halwill	£0 18s 0d	0	0	0	0
Ashwater	£3 3s 4d	0	0	3%	6%
Luffincot	£0 5s 0d	0	0	0	40%
Werrington	£7 5s 0d	0	0	0	11%
Tetcott	£0 13s 0d	0	0	0	0
Clawton	£2 3s 4d	0	0	0	15%
Hollacombe	£0 5s 8d	0	0	0	0
Holsworthy	£2 3s 4d	0	0	0	9%
Chilsworthy	£0 4s 0d	0	0	0	0
Pyworthy	£2 0s 0d	0	0	0	0
Bridgerule	£0 19s 0d	0	0	0	18%
Bradworthy and Pancrasweek	£4 19s 0d	12%	0	3%	17%
Sutcomb	£1 12s 4d	0	0	0	12%
West Putford	£1 6s 8d	0	0	0	23%
Abbots Bickington	£0 4s 0d	0	0	0	0
Milton Damerell and Cookbury	£2 3s 4d	9%	23%	7%	0
Thornbury	£0 19s 0d	0	0	0	0
Sampford Courtney	£1 5s 6d	0	0	26%	0
Bradford	£1 1s 0d	32%	0	8%	12%
Northcote	£0 3s 4d	0	0	0	0
Monkokehampton	£0 13s 4d	30%	0	23%	0

Source: Data from Forrest, ‘Patterns of Economic Change’.

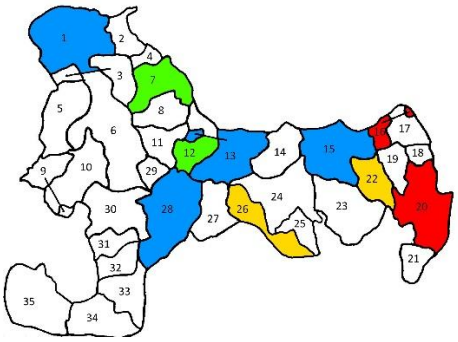
Fig.3.13. Black Torrington parishes showing percentage reductions in subsidy between 1435 and 1489 compared with 1334.



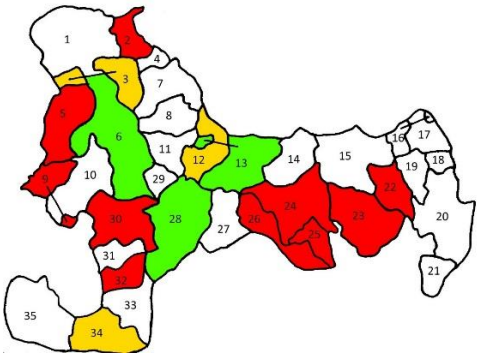
1435



1440



1449



1489

Source: Data from Forrest, ‘Patterns of economic change’. (colour key as in 3.11, parish key as Figure 3.09 a).

Dyer believes that the agreements achieved by the collectors when determining rebates, replicated the co-operation that had been achieved between the collectors and local communities previously when agreeing the distribution of tax amongst the inhabitants of a hundred or town.[347] When the change in rank in tax paid per 1000 acres between 1334 and 1524/5 for Devon hundreds was compared with the size of rebates allowed in 1489, no statistically significant relationship is found (Pearson, r=0.009). This does not support Dyer's argument. While the overall distribution of the fifteenth and tenths probably no longer accurately reflected the distribution of the wealth within England by the late fifteenth century, this imprecise method of granting rebates may have been given a longer life. Taken together with other evidence, the rebates may sometimes reveal changes in the economic conditions prevailing locally during the fifteenth century, but in practice they appear to be too random and at times too paradoxical to be reliable as systematic indicators of local wealth or the lack of it.

3.04 Credit and debt

A source of data relating to wealth which is quite different from tax receipts, are the accounts of debt to be found the records of the Court of Common Pleas, which are used here as an indirect indicator of the amount of credit being extended by merchants and others in the fifteenth century.

Credit is an essential aspect of a capitalist economic system and allows businesses to flourish and grow by providing money on a temporary basis to facilitate the purchase of materials and equipment immediately. Today, as in the recent past, the sources of capital (credit) are banks and shareholders who both seek a share of the business's profits either through interest or dividends. Credit and its opposite, debt, were an essential part of the late medieval economy, used by merchants for trade and the aristocracy to buy land and luxuries or to finance warfare. However, from the thirteenth century onwards knights also became more involved in mercantile activities. Only then by certifying themselves as merchants could they register their debts with the Statute Staple. This tendency was particularly common in the West Country in the late fourteenth and early fifteenth centuries although the number of knights involved

[347] C. C. Dyer, 'Costs and Benefits of English Direct Taxation 1275-1525', in S. Cavaciocchi, ed., *La Fiscalita Nell'economia Europea Secc. XIII-XVIII* (Florence, Firenze University Press, 2008), pp. 909-23.

in trade declined thereafter with the mid-century economic recession.[348] Briggs shows that credit was also used by rural tenants at village level in the fourteenth century, with loans being made between individuals of similar status.[349]

In England, in the late medieval period, much of the source of credit was from wealthy merchants and sometimes the aristocracy. The former lent to other merchants and the aristocracy mainly to their fellows. The credit given could be registered, and reclaimed in case of default, in one of several places, locally at a Statute Staple, borough or merchant court present in many provincial towns, or at the Court of Common Pleas at Westminster in London.[350] Records from these sources can give considerable insight into the economy of the period. The records that survive are mainly concerning debt, as if the credit agreement had been fulfilled as originally agreed, no record remains.

Whilst increasing numbers of cases involving debt may be seen as a sign of economic failure, it really indicates that lenders were prepared to extend credit at that time, believing that they were likely to get repaid. When the economy was in difficulties, lenders would be unwilling to extend credit knowing that they were less likely to recover the debt, and to cover their own debts to other lenders. As an example, a cloth merchant may make a sale on credit to another clothier, with terms requiring repayment within a fixed period. During this period the purchaser would hope to resell the goods at a profit and repay the debt. If he failed to repay on time, the lender could take him to court when an order for possession of the debtor's goods or lands could be made, only to be restored when the debt was made good. Examples from the account book of a fifteenth century country merchant are described by Chris Dyer.[351]

When merchants were involved in international trade, shipping bullion or specie (coined money) over long distances was hazardous and bills of exchange were used. These were issued at a banking facility in one city and could be redeemed at a similar banking facility in another country. They were often used

[348] P. Nightingale, 'Knights and Merchants: Trade, Politics and the Gentry in Late Medieval England', *Past and Present*, 169 (2004), 36-62.
[349] C. Briggs, *Credit, and Village Society in Fourteenth Century England* (Oxford, Oxford University Press, 2009).
[350] R. Goddard, *Credit, and Trade in Later Medieval England, 1353-1532* (London, Palgrave Macmillan, 2016), pp.7-16.
[351] C. Dyer, *A Country Merchant, 1495-1520: Trading and Farming at the End of the Middle Ages* (Oxford, Oxford University Press, 2012).

to conceal usury. They did not eliminate risk entirely and not being a bond or a notarised contract the bill had no standing in medieval law. Such bills were often assigned in payment to third parties which was even riskier as they were not a negotiable means of payment.[352]

Debts due could also be satisfied by assigning a debt or debts owed to the debtor by another merchant, using certificates of debt as a form of paper money. It is unlikely that the courts recognised assignment, and it had to be conducted on trust. The bond obligatory was a short statement of the debtor's name, the amount owed and the time at which it was to be repaid. The amount written on the bond was often likely to have been in excess of the actual sum borrowed, as a means of disguising usury.[353] Although church courts usually prosecuted usury, cases recorded at the Court of Common Pleas in London in 1421, showed that secular courts also prosecuted usury indicating that commercial jurisdiction was becoming more sophisticated.[354] Bolton argued that:

> Sale credits were vital to the workings of late medieval trade. If merchants had to pay cash down for all the goods they bought, it would have severely limited the scale of their operations. Credit enabled the merchant to engage in several ventures at once, for not all his capital was tied up in any one of them, thus credit freed trade from the limitations of money supply.[355]

However, there is disagreement as to how major a problem the money supply was in controlling the economy then. The volume of English currency from the thirteenth to the fifteenth century can be estimated by examining mint records, coin hoards and die numbers used to make the coins (gold and silver). It exceeded two million pounds in value in the early fourteenth century but had declined to under one million pounds by 1470.[356] Nightingale has argued 'that monetary contraction was the most significant cause of the fifteenth century depression, adversely affecting trade, agriculture, and the availability of

[352] J. H. Munro, 'The Medieval Origins of the Financial Revolution: Usury, *Rentes* and Negotiability, *International History Review*, 25 (2003), 505-562.
[353] J. L. Bolton*, Money in the Medieval English economy: 973-1489* (Manchester, Manchester University Press, 1988), pp. 279-81.
[354] G. Seabourne, 'Controlling Commercial Morality in Late Medieval London: The Usury Trials of 1421', *Journal of Legal History*, 19 (1998), 116-142.
[355] J. L. Bolton, *The Medieval English Economy, 1150-1500* (London, Dent, 1980), pp. 302-3.
[356] M. Allen, 'The Volume of the English Currency, 1158-1470', *Economic History Review,* 54 (2001), 595-611.

credit'.[357] Hatcher has proposed a more complex explanation involving both monetary and non-monetary factors.[358] There is some disagreement as to whether the issuing of bonds really helped compensate for a lack of money supply. Bonds were not the equivalent of modern paper money as they were not freely negotiable.[359] The use of financial instruments in the fifteenth century was probably more extensive than surviving records. While it may have compensated for a lack of specie or coinage, it was more likely to have been a method of lubricating mercantile business.

The Court of Common Pleas had developed from other courts that had existed from the time of Magna Carta and concerned itself with cases that did not involve the sovereign. It was gradually superseded by the eighteenth century by the King's Bench in all but matters of debt.[360] Cases in the fifteenth century largely concerned debt, but included trespass, replevin (recovery of property), damage to land, woodland, or livestock, and even abduction and rape of wards of court. In the fifteenth century usually four justices were available to sit, and plaintiffs could use a legal representative or plead their own case. Cases often involved more than one defendant. Debts were recorded in pounds or marks[361] in the proceedings, and it was noted whether the debt was in cash or goods to a certain value. In the great majority of entries in the court records data on the amount of debt is recorded. The outcome of the cases was not clearly recorded, but often a later date was agreed by which time the debt would have to be paid.

In the analysis undertaken here, the records of the Court of Common Pleas have been used to measure the debts recorded during the fifteenth and early sixteenth centuries for two counties, Derbyshire, and Devon. Derbyshire was chosen for comparison with Devon due to being at a similar distance from London where the court was held. Because of the different sizes of the counties, correction has been made for county area in thousands of acres. Correction for population is problematical as estimated populations from

[357] P. Nightingale, 'Monetary Contraction and Mercantile Credit in Later Medieval England', *Economic History Review*, 43 (1990), 560-75.
[358] Hatcher, 'The Great Slump', pp. 237-72.
[359] T. Moore, 'According to the Law of Merchants and the City of London: Burton vs. Davy (1436) and the Negotiability of Credit Instruments in Medieval England', Ch. 16 in M. Martin and M. Davies eds., *Medieval Merchants and Money* (London, Institute of Historical Research, University of London, 2016), pp. 305-321.
[360] J. H. Baker, *An Introduction to English Legal History* (Oxford, Oxford University Press, 2002).
[361] 1 mark = 13s 8d, not a coin in England but a unit of accounting.

taxation records are only available for 1377 and 1524/5. These indicate that Devon's population increased between 1377 and 1524, whilst Derbyshire's decreased.[362]

Although the occupations of the plaintiffs at the Court of Common Pleas were only occasionally recorded, the occupations of the defendants were always recorded, and this gives an interesting insight into those that were extended credit. The records of the Court of Common Pleas, like many other late medieval legal documents held at The National Archives, have been digitised and partly catalogued by historians at the O'Quinn Law Library of the University of Houston Law Center and University of Houston Department of History. They are freely available online at AALT (Anglo American Law Tradition).[363] The Court of Common Pleas data is listed under its National Archive reference CP40.

The entries concerning debt are somewhat formulaic and are written in a mixture of Latin and English. Each entry has a marginal word indicating the county of the plaintiff's residence or the place where the credit was agreed. Plaintiffs either represented themselves or had a legal assistant who was named in the record first. This is followed by the writ where the plaintiff, or plaintiffs, defendant or defendants and the amount of debt are listed. The narration gives further details of the writ, the place the debt was contracted, the date, place and date of repayment and allegation of non-payment. The defendant's plea was then entered which either accepted the accusation or not, or accepted a condition which will have sufficed instead, or a rescheduled debt, or 'forbearance'. A replication and rejoinder followed if the plaintiff was not satisfied with that offered, and he had the opportunity to take the case to a jury convened in the place where the debt was incurred.

The great majority of records gave details of the actual sums involved in the debt, for example: '*reddat di quadraginta solidus quod de debent'* (to pay the forty shillings that is owed), but some gave the debt as '*catalla ad valentiam'* (goods to the value of) and a few listed animals 'to the value of'. The sums of money involved ranged from forty shillings to several hundred pounds, the commonest sum being forty shillings, the smallest debt the court would deal

[362] See population estimates made in chapter 4.
[363] http;//aalt.law.uh.edu (accessed 6 May 2020).

with. Some claims for goods however were as low as twelve pence but were in addition to larger sums of money also claimed at the same time. A few cases are duplicated suggesting the original agreement failed to clear the debt, and few others do not mention a sum but speak about a debt, presumably remaining unpaid.

Volunteers at AALT have indexed by county approximately a year of the Court of Common Pleas records for each decade, and these are the years that have been used for this analysis, ranging from 1418 to 1510. The data concerning numbers of plaintiffs, total debts brought to court and the debts corrected for county area have been extracted and are presented in Table 3.13 and graphically in Figure 3.14. When corrected for area, the debts per 1000 acres are similar for both Derbyshire and Devon at the beginning and end of the fifteenth century. Both appear to have been affected by the mid-century recession, Derbyshire was the most severely involved, Devon less so.[364]

Using Staple court and Chancery records, Goddard has made very similar observations. He analysed patterns of certificates of defaulted debt transactions from thirteen Staple Courts between 1353 and 1532 sent to Chancery. These defaults act as a barometer of the volume of credit being extended within the economy at that time, and when charted show the evidence for a mid-century recession.[365] While Staple Courts lost much of their business during the fifteenth century, the Staple Court at Exeter did not, 'indicating mercantile confidence in the resilience of the local economy'.[366] The nadir of 1470 that can be observed in the Common Pleas debt cases coincided with serious political disturbances such as the battles of the Wars of the Roses and the deposition of Edward IV. At this time the country was 'in a deep slump, with falling commodity prices and rising wages and agricultural retrenchment'.[367] Hatcher attributes this decline to epidemics and population decline. The data presented certainly indicates a much higher economic activity in Devon during most of the fifteenth

[364] Hatcher, 'The Great Slump'.
[365] Goddard, *Credit and Trade*, 99-100.
[366] Goddard, *Credit and Trade,* 177-179.
[367] J. Hatcher, 'Unreal Wages: Long-run Living Standards and "The Golden Age" of the Fifteenth Century', Ch. 9 in J. Hatcher and J. Z. Stephenson eds., *Seven Centuries of Unreal Wages* (London, Palgrave Macmillan, 2018), pp. 237-8.

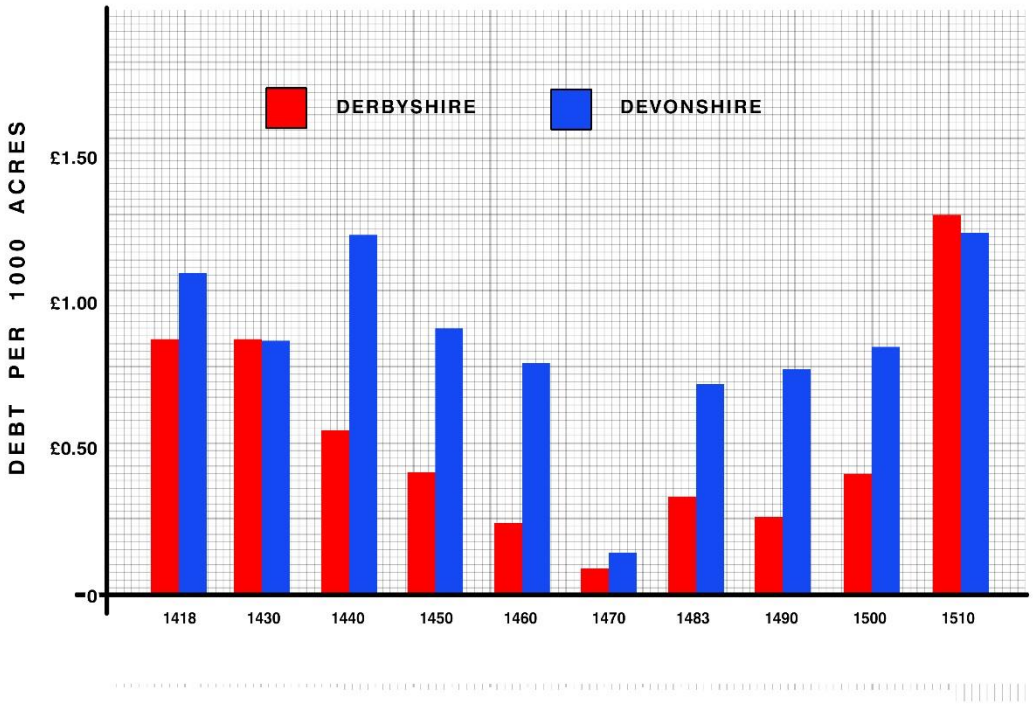
century, while Derbyshire experienced a more severe downturn in its fortunes, although recovering by the early sixteenth century.

Table 3.13. Numbers of plaintiffs, total debt claimed, and debt per 1000 acres for Derbyshire and Devon for sample years between 1418 and 1510.

Year	No. plaintiffs		Total debt claimed (£)		Debt / 1000 acres (£)	
	Derbyshire	Devon	Derbyshire	Devon	Derbyshire	Devon
1418	80	155	580	1873	0.88	1.13
1430	62	130	584	1447	0.88	0.87
1440	41	165	372	2057	0.56	1.24
1450	14	129	277	1512	0.42	0.91
1460	22	116	159	1304	0.24	0.79
1470	3	29	63	242	0.095	0.15
1483	27	115	225	1210	0.34	0.73
1490	12	99	174	1282	0.26	0.77
1500	36	109	277	1420	0.42	0.86
1510	56	137	865	2066	1.31	1.25
Total	353	1184	3576	14413	5.40	8.69

Source: Data from http;//aalt.uh.edu.

Figure 3.14. Debts recorded at the Court of Common Pleas between 1418 and 1510 for Derbyshire and Devon.



Source: Data from http;//aalt.uh.edu.

While the records only occasionally give the occupation of plaintiffs, the occupations of defendants are always stated as well as their place of residence and parish. Using the same years as in Table 3.13, the named occupations of defendants are listed in Table A3.14 (appendix) and summarised in Table 3.14 and figures 3.14 and 3.15. They show the great diversity of those who had obtained credit but not managed to repay it. The occupations of the defendants also give an insight into the sources of wealth in the counties. The dominance of agriculture is seen in both counties, but less so in Devon. The proportions of artisanal, food and retail occupations are similar, but with Devon showing an excess of the gentry and the clergy. Exeter was a major centre for the church at that time, while Derbyshire lacked a cathedral. Wool and cloth occupations were more frequently seen in Devon, but well represented in Derbyshire also. Amor used the same source of data to compare the numbers of clothworkers in English counties and indicate which were most active in cloth production.[368] Of thirty-nine counties he considered, Suffolk had the highest number of clothworkers, with Devon being sixth and Derby thirty-first. These figures do not take any account of the area of the counties.

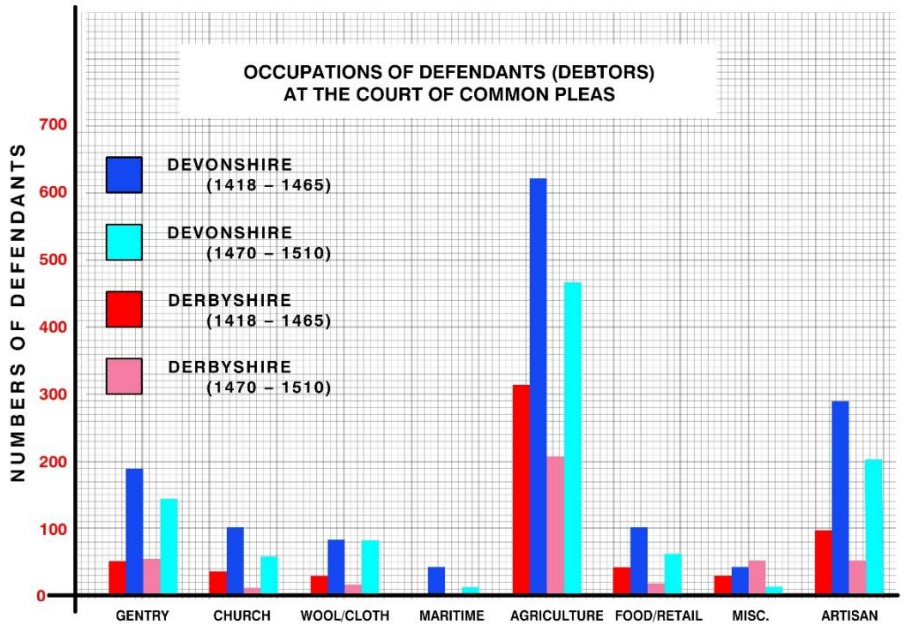
Table 3.14. Occupation groups of defendants at the Court of Common Pleas as percentages of total occupations for Derbyshire and Devon, 1418-1510.[369]

Occupation group	**Derbyshire**	**Devon**
Agriculture	52	44
Artisans	12.6	9.5
Gentry	10.3	13.3
Church	4.2	6.3
Wool / cloth	4.4	6.3
Food / retail	5.7	6.6
Miscellaneous	8.4	2.0
Maritime	0.1	1.9
Merchants	2.4	10.2

Source: Data from http;//aalt.uh.edu.

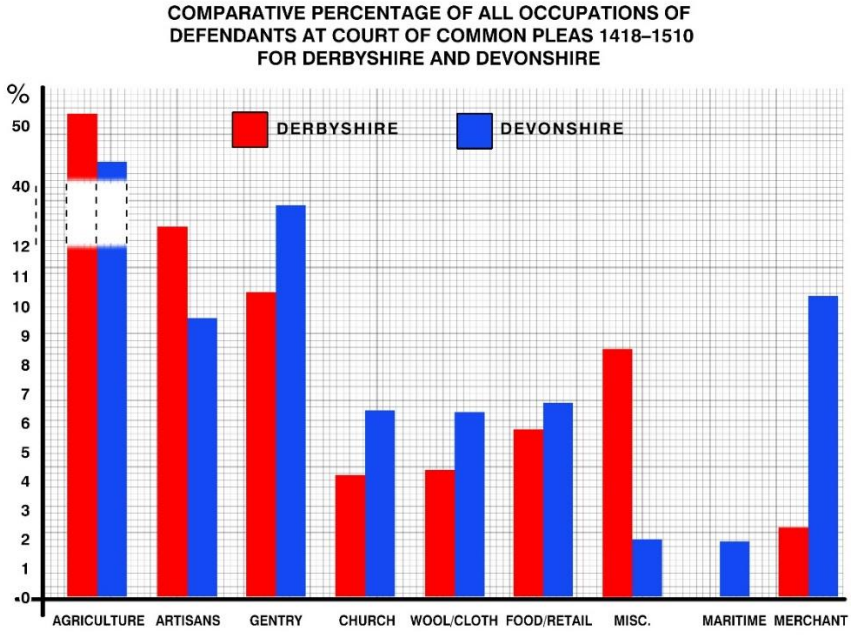
[368] N. R. Amor, *From Wool to Cloth* (Bungay, Suffolk, RefineCatch, 2016), pp. 222-39.
[369] Occupations and their categories are explained in the appendix to this chapter.

Figure 3.15. Occupations of defendants at Court of Common Pleas, for Derbyshire and Devon, 1418-1510.



Source: Data from http;//aalt.uh.edu.

Figure 3.16.



Source: Data from http;//aalt.uh.edu.

The miscellaneous group is much larger for Derbyshire, but this is explained by the large number of chapmen, usually itinerant salesmen, a term also used for clothiers and the large number recorded may emphasise the importance economically of cloth manufacture and trade. Miners, for coal and lead, were more often recorded in Derbyshire. The apparent lack of miners in Devon is almost certainly because the tinners had their own courts and would have had no need of a London court. Maritime occupations are almost only seen in Devon, unsurprisingly as Derbyshire does not have a coastline. The largest difference in frequency was recorded for merchants. Over ten percent of Devon's occupations were in this category. This would seem to indicate that Devon had a more diverse economy, with an emphasis on mercantile, cloth and maritime industry which may have enhanced its ability to survive the worst stresses of the fifteenth century.

Although the number of debts per 1000 acres were similar in Devon and Derbyshire at the beginning and end of the period, a larger number of debts during the fifteenth century indicate that Devon showed more economic vitality throughout the period surveyed. A comparison of the occupations of debtors emphasise the importance of the mercantile, cloth and maritime in Devon's economy in comparison to that of Derbyshire.

3.05 Church building and wealth

Another useful indicator of local wealth in the fifteenth century is the degree to which communities and wealthy individuals invested in public buildings, particularly churches.[370] This section investigates church building in the fifteenth century as another measure of wealth. After examining ways in which historians have previously used data on church building to indicate economic prosperity, and introducing the sources of data, the evidence for Devon is explored. Rates of church building in Devon are placed within the national context and compared with taxation records.

Johnson suggested in 1967 that cathedral building in England could be seen as an indicator of economic success, because of the cost entailed. This theme was taken up by Owen over twenty years later when she examined the

[370] W. G. Hoskins, 'The Wealth of Medieval Devon', in W. G. Hoskins and H. P. R. Finberg eds., *Devonshire Studies* (London, Jonathan Cape, 1952), pp. 212-249; G. Byng, *Church Building and Society in the Later Middle Ages* (Cambridge, Cambridge University Press, 2017), pp. 1-50.

stimulating economic effect on a community of building a cathedral.[371] Her study showed differences between Northern France and England mainly in the thirteenth century. Both authors tried to estimate the labour input based on the cathedral size, and thus the economic input. Owen concluded that this was much greater in France, largely because of the sizes of the cathedrals. Morris has also commented, speaking of medieval England, that:

> The fruits of progress [in trade] were invested…in ever grander and more elaborate church buildings. Tracking church construction can therefore shed further valuable light upon when and where the economic upturn began….and for how long the momentum of progress was sustained.'[372]

Although the financial investment by medieval communities might appear huge against their sometimes-limited resources, it has been estimated that in the late fourteenth century in England, church building only involved five percent of the total labour force, and at the time wage costs were low.[373] Construction work often continued over a period of many decades or even centuries showing a confidence that further income would be forthcoming to enable such large projects to reach completion. Following the plague of 1348-50 in England there was a change in emphasis in ecclesiastical construction from major churches to smaller parish churches, the reason for which is not entirely clear. A possible explanation might be the redistribution of wealth from landlords to their tenants which had resulted after the dramatic fall in population.

C. Dyer commented that during the fifteenth century, a high proportion of a parish's resources were used in collective building projects such as in providing church fabric. Parishes after the plague in the mid fourteenth century entered a 'golden age', when the establishment of churchwardens gave them an increasing role. They became more adept at raising funds, increasing both income and expenditure. Surviving churches are a testimony to their efforts. Many were rebuilt entirely or were subject to major extensions or additions. The development of the church house made possible the brewing of church ales and

[371] H. T. Johnson, 'Cathedral Building and the Medieval Economy: Explorations in Maps of the Countries Involved Using Satellite Data'*, Entrepreneurial History,* 5 (1967), 108-10; V. L. Owen, 'The Economic Legacy of Gothic Cathedral Building: France and England Compared', *Journal of Cultural Economics*, 13 (1989), 89-100.

[372] R. Morris, *Cathedrals and Abbeys of England and Wales: The Building Church, 600-1540* (London, Dent, 1979).

[373] S. Broadberry, B. M. S. Campbell, A. Klein, M. Overton, Bas van Leeuwen, *British Economic Growth, 1270-1870* (Cambridge, Cambridge University Press, 2015), pp. 153-4.

other money-making activities. Fraternities, usually of fellow parishioners in rural areas, or in towns of merchants, and artisans, developed and aided in finance.[374] Church houses have survived in many parishes in Devon, although they were supressed in the time of Cromwell.[375]

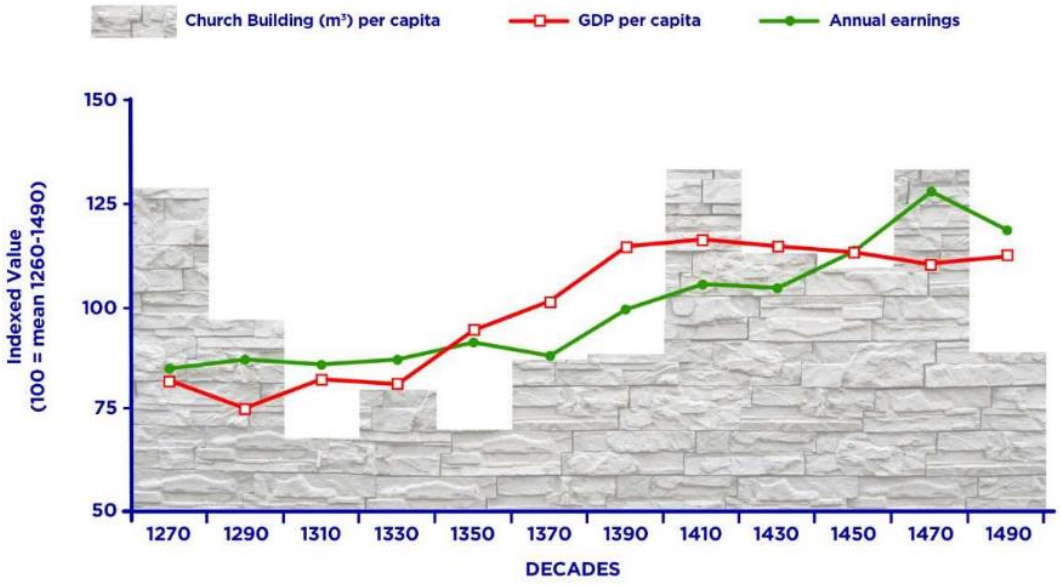
Most recently a European research group have published preliminary findings of an ambitious project charting church building involving larger churches and cathedrals in a number of European countries including Switzerland, Germany, France, the Netherlands, Belgium and England between 700 and 1500.Their initial premise is that:

> Church building can be seen as a proxy index of economic activity... prosperity and confidence in the future were good for church building… construction activity was most vigorous at locations enjoying commercial and especially maritime advantages.[376]

To date the group have produced maps of the countries studied using satellite data, and by applying an algorithm, have identified all churches with an area of over one thousand square metres. Smaller churches and chapels were not included to allow the project to be manageable and to concentrate on those buildings most likely to have represented a significant economic challenge to the community. Details of the building histories of the identified churches were checked against previous national publications describing heritage buildings and, in the case of England, the National Heritage list for England. A database of churches with their position, size (ground area and estimated volume), and dates and costs of construction was created. This database was checked against earlier, but less complete examples. Where there was overlap, substantial agreement was seen. In charts explaining the findings, each country is treated separately. England showed a jump in construction following the Norman conquest of 1066 and continuing until the thirteenth century when a downturn occurs only to be reversed in the middle decades of the fifteenth century, which is illustrated in Figure 3.17.

[374] C. C. Dyer, *An Age of Transition?* (Oxford, Oxford University Press, 2005), pp. 56-8, 76-8.
[375] G. W. Copeland, 'The Devonshire Church House'*, Trans. Devonshire Association*, 92 (1960), 116-141; 93 (1961), 250-265; 94 (1962), 427-439; 96 (1964), 202-7; 98 (1966), 157-67; 99 (1967), 263-6.
[376] E. Buringh, B. Campbell, A. Rijpma, J. Luiten van Zanden ,'Church Building and the Economy During Europe's 'Age of the Cathedrals', 700-1500 CE'*, Explorations in Economic History*, 76 (2020), 101316.

Figure 3.17. English church building (cubic metres) per capita, GDP per capita and annual earnings between 1270 and 1490.



Source: Redrawn from Burlingh et al. 'Church Building and the Economy'.

These changes become more marked when expressed as building by gross domestic product per head. Finally, the data is presented in the form of 'heat maps' showing peak areas of building in Europe by centuries with the 'hot-spots' moving across Northern Europe. In England, the early burst of construction in the thirteenth century, mentioned above, is argued to have been related to religious and political forces rather than to economic ones, but the fifteenth century recovery was more likely to be associated with increased trade and prosperity at this time following the cessation of the 'Hundred Years War'.[377] In England 'ecclesiastical construction activity switched from major churches to parish churches.' A supporting point here is that church building was greatest in cities and towns bordering the sea and major rivers, suggesting a link with commercial activity, or a ready access to building materials by water.

[377] Buringh et al., 'Church building and the economy'.

Church building in Devon in the fifteenth century.

The building of churches in England, as has been seen, occurred in a cyclical fashion, with peaks being seen post-Conquest in the twelfth and thirteenth century, and in the fifteenth and nineteenth centuries.[378] Parishes and towns also built communal buildings such as covered markets and guildhalls, but building activity overall is probably best recorded in the histories of local churches, which were often the pride of small communities, and into which the wealthy placed their wealth, probably in expectation of a better afterlife.

Although Christianity reached Devon from Ireland in the seventh century, the earliest churches were probably Saxon and largely built of wood, leaving few traces today. The Normans introduced stone building for churches in the eleventh and twelfth centuries: many of these early structures were in turn obscured by later enlargement and rebuilding. The most obvious survivals are towers; early examples were often separate structures but in later churches they were incorporated into the main building. Early Norman churches were usually cruciform and aisle-less but were often modified in later years by the addition of side-aisles. One part of Norman churches that often survives is the font, of which there are over 100 examples in Devon.

English towns built a remarkable number of churches, largely as the result of money spent as an expression of religious sentiment, or the wish of wealthy families to mark their status in society. Three-aisled churches were seen in London and York by the end of the fourteenth century, but only later in the south-west. In the fifteenth and early sixteenth centuries building energy swung from the great religious houses toward parish churches. These were particularly patronised by the guilds, as they themselves developed a greater role in the community.[379]

Church building and regular improvement continued throughout the medieval period, with the different periods of building identifiable from the styles of architecture adopted. Occasionally identification in this manner may be confirmed from ecclesiastical records if they are extant. The latter part of the thirteenth century saw the widespread introduction of the Decorated style in

[378] W. G. Hoskins, *Devon* (Chichester, Phillimore, 2003), pp. 269-273.
[379] J. Schofield and G. Stell, 'The Built Environment', in Palliser, *Urban History*, pp. 371-94.

Devon, shown particularly well in Exeter cathedral. By the mid-fourteenth century it had evolved into the Perpendicular style, which then came into its own in the fifteenth century. Nearly 95 percent of all pre-Victorian churches in Devon show evidence of fifteenth century construction or enlargement in this style.

Detailed decoration depended on the local stone available. For example, in east Devon, Beer stone allowed this, but in the west of the county granite restricted carving. Other fifteenth century characteristics are timber wagon roofs and rood screens. More than one hundred rood screens survive in Devon although many more were destroyed in the sixteenth century during the Reformation. Little church building occurred in the centuries following the Reformation until the nineteenth century revival when a wide mixture of styles was seen from Neo-Gothic in the 1840s to Arts and Crafts at the end of the century.[380]

Sources and analysis of church data

Church building dates for Devon were obtained from W. G. Hoskins' gazetteer of Devon.[381] Comparative data for other English counties was obtained from PastScape, a web-based database containing details of 420,000 records of monuments in England held at the National Record of the Historic Environment, a branch of Historic England.[382] Using the advanced research tool it was possible to limit the search to churches with any part of their structure dating to before the Reformation in 1540. By examining each record individually, it was possible to remove records relating to supposed sites of demolished churches, other religious buildings, and deserted medieval villages. Some authors have stated that there are more than 600 churches in Devon, although some of these are later non-conformist or Methodist chapels.[383] Hoskins claimed to have visited every church he recorded, and he gave dates for the origin, rebuilding and restorations that had occurred in each church. His dating was sometimes from charters and other ecclesiastical records, but more often simply from the architectural styles seen. A note was made of the number of churches per county, and the number of those which had some evidence of building or extension in the fifteenth century which was then expressed as a percentage

[380] B. Cherry and N. Pevesner*, Devon* (London, Penguin Books, 1989), pp. 38-115.
[381] Cherry and Pevsner, *Devon*; Hoskins, *Devon*, pp. 317-520.
[382] https://www.pastscape.org.uk.
[383] J. Lane and H. Walshaw, *Devon's Churches: A Celebration* (Green Books, Totnes, 2007), p. 8.

(Table 3.15, Figure 3.18). Church building was clearly a national activity in the fifteenth century, although it can be seen from the data that Devon and Somerset were particularly active, with more than seventy percent of their churches either built or substantially extended during this period. As Nicholas Orme has argued regarding Devon, 'This process of building reflected a more affluent society after it had recovered from the Black Death'.[384]

Evidence from Hoskins can be used to look in more detail at the periods of church building in Devon. He recorded a total of 430 in his gazetteer while *Pastscape* records 414 pre-reformation churches. Apart from a short description of each village and church, Hoskins gives an estimate of the century in which the church was built or extended significantly (Figure 3.19). Examples of Hoskins' style are shown here:

> St. Mary's (Totnes) was wholly rebuilt between 1432 and 1460. The nave was constructed between 1432 and 1444, the chancel 1445-48, and the handsome red sandstone tower, 1449-59. The magnificent roodscreen of Beer stone was erected in 1459-60 by order of the corporation.[385]
>
> The granite church of St. Mary (Belstone) was deprived of nearly all its interest by a drastic restoration in 1881, when it was practically rebuilt except for the low fifteenth century tower.[386]

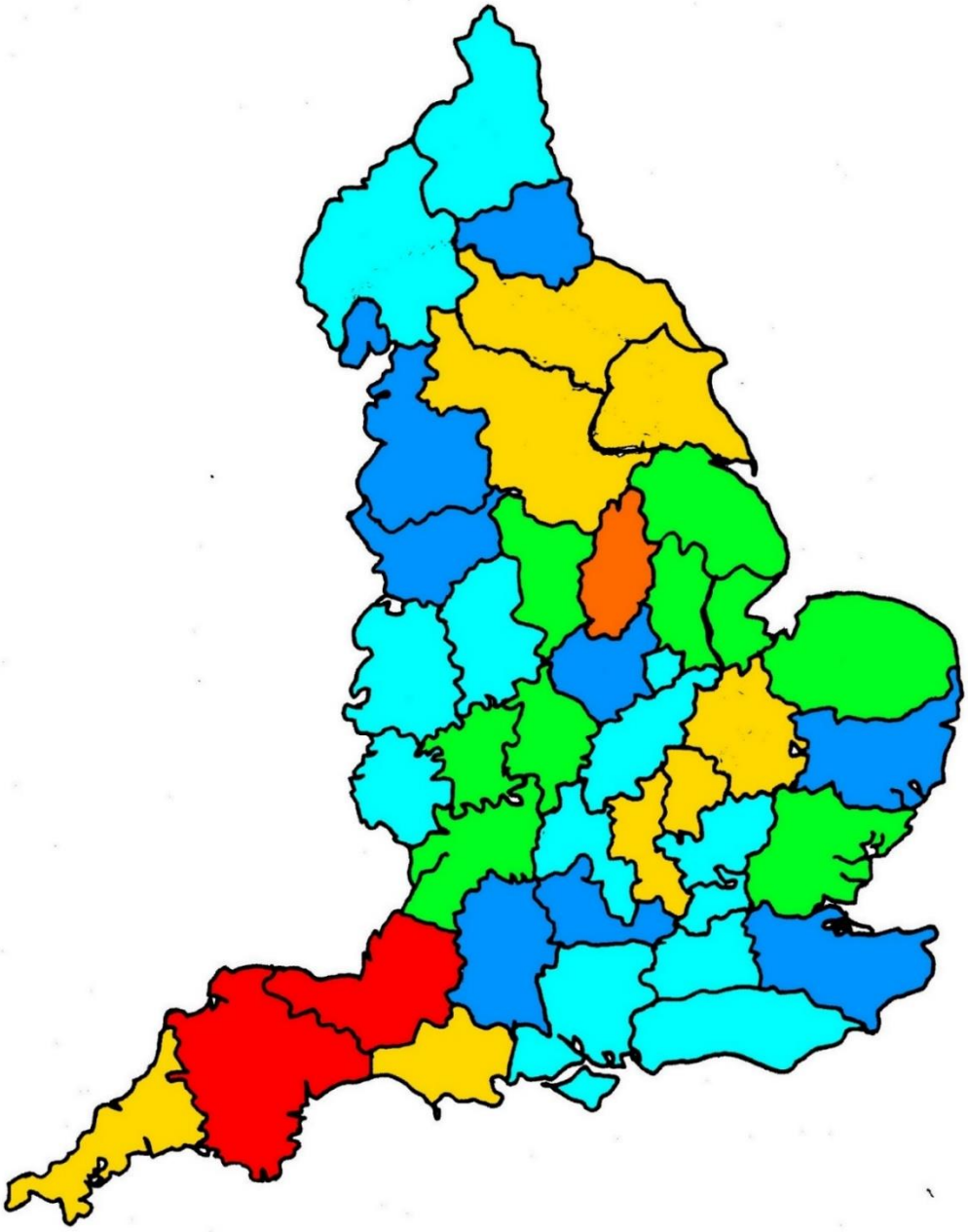
[384] N. Orme*, The Church in Devon, 400-1560* (Exeter, Impress Books, 2013), p. 109.
[385] Hoskins*, Devon*, p. 507.
[386] Hoskins, *Devon*, pp. 331-2.

Table 3.15 Number of pre-reformation churches showing evidence of fifteenth century building or extension in England by county.

County	Churches	15C building	Percentage
Bedfordshire	87	51	58.6
Berkshire	79	28	35.4
Buckinghamshire	126	70	55.6
Cambridgeshire with Huntingdon	258	141	54.7
Cheshire	90	31	34.4
Cornwall	212	106	50.0
Cumberland with Westmoreland	127	23	18.1
Derbyshire	146	59	40.4
Devon	**414**	**305**	**73.7**
Dorset	243	145	59.7
Durham	72	27	37.5
Essex	305	148	48.5
Gloucestershire	209	88	42.1
Hampshire	273	89	32.6
Herefordshire	182	9	4.9
Hertfordshire	122	25	20.5
Kent	379	142	37.5
Lancashire	110	38	34.5
Leicestershire	189	66	34.9
Lincolnshire	476	236	49.6
Middlesex (London)	178	49	27.5
Norfolk	661	300	45.4
Northamptonshire	267	80	29.9
Northumberland	65	9	13.8
Nottinghamshire	186	121	65.0
Oxfordshire	240	71	29.6
Rutland	37	7	18.9
Shropshire	140	33	23.6
Somerset	452	326	72.1
Staffordshire	101	24	23.8
Suffolk	313	97	31.0
Surrey	97	16	16.5
Sussex	274	48	17.3
Warwickshire	224	100	44.6
Wiltshire	274	99	36.1
Worcestershire	163	70	42.9
Yorkshire	470	243	51.7
Total	8241	3520	42.7

Source: Data from *PastScape.* Note*:* Churches by county in England with evidence of fifteenth century building (main structure or significant additions) are shown numerically and as a percentage.

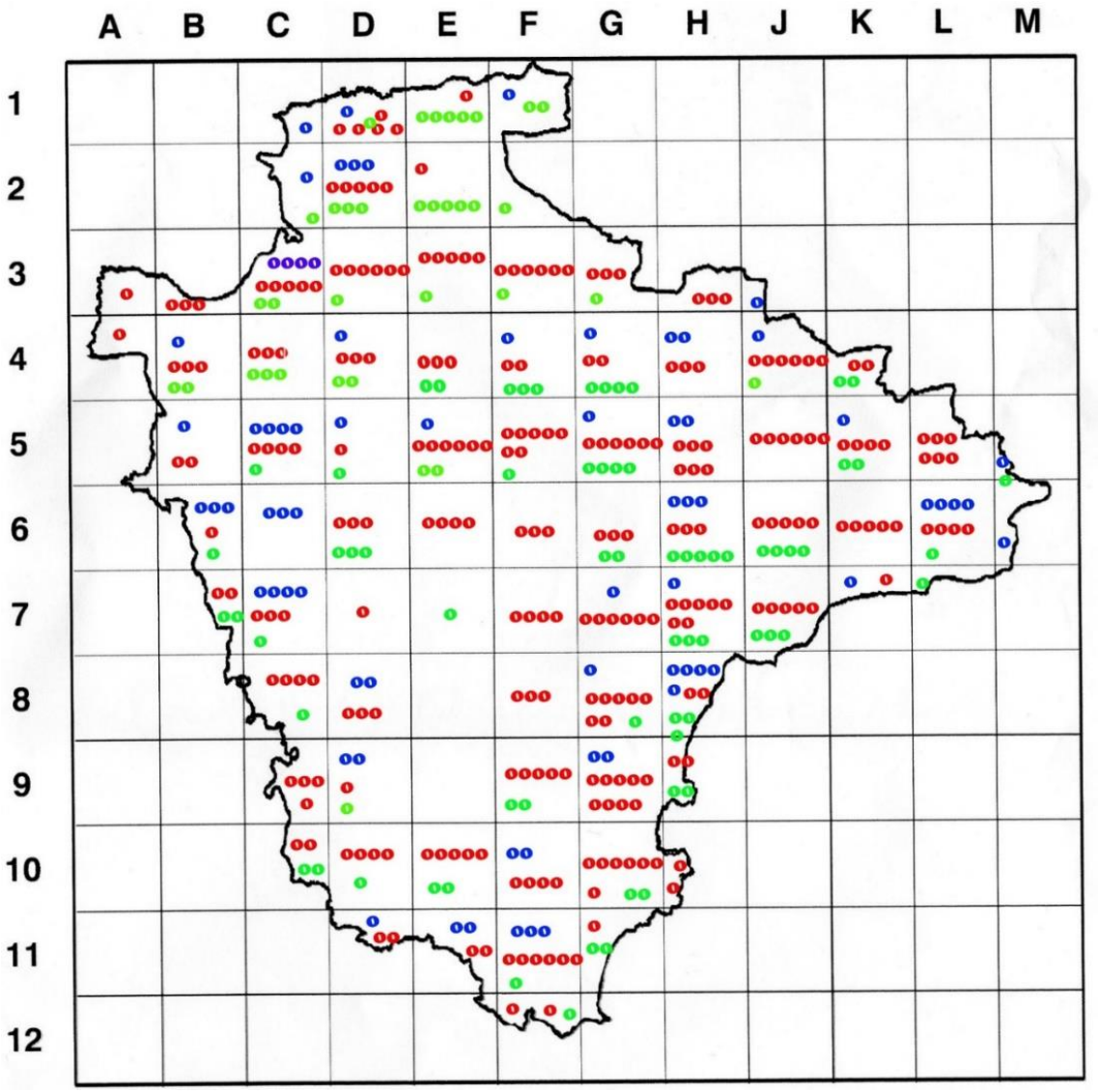
Figure 3.18 Percentage of churches by English county built or extended in the fifteenth century.



Source: Data from *PastScape* as shown in Table 3.16.

Note: Key: Red >70%, Orange 60-69%, Yellow 50-59%, Green 40-49%, Blue 30-39%, Pale blue <30%.

Figure 3.19. Churches in Devon showing their likely period of construction or major extension according to Hoskins.



Source: Data from Hoskins, *Devon.*

Note: Grid derived from ¼ inch O.S. map of England by Hoskins. Date key: Date of construction or extension: Blue prior to 1400, red between 1400 and 1500, green after 1500).

Examples of Devon churches funded as a consequence of local prosperity are not difficult to find.[387] Tiverton has a fifteenth century building enhanced by carvings on the pillars depicting the processes of the textile industry which

[387] G. Byng, *Church Building and Society in the Later Middle Ages* (Cambridge, Cambridge University Press, 2017), pp. 51-135.

financed its building. John Greenway was a London merchant venturer and draper who paid for a family chapel in the church with a frieze of merchant ships around the walls.[388] Cullompton church, which is nearby, was built in the fifteenth and sixteenth century, paid for by John Lane another cloth merchant, and there are carvings of merchant ships, shears and other symbols of the cloth trade in the church.[389] Widecombe-in-the-moor has a magnificent granite tower built in the fifteenth century and paid for by tinners.[390] Totnes, a small but very prosperous town, again due to its cloth merchants, built the present church in the mid-fifteenth century, largely from the sale of indulgences by Bishop Lacy in 1432.[391] Dartmouth built a small church in the late fourteenth century, which was greatly enlarged in the early fifteenth century under the patronage of John Hauley, mayor, international shipping merchant and privateer.[392]

Does the proportion of churches built or enlarged in the fifteenth century correlate with indices of taxable wealth at county level? If one considers county lay subsidy paid (corrected for area) as seen in Table 3.2, of the ten counties whose ranking rose most between 1334 and 1524/5, four ranked in the top ten counties for church building in the fifteenth century, Table 3.16. These were all in the South-West, Devon (1st), Somerset (2nd), Dorset (4th) and Cornwall (9th). This could be because church building is a sign of new wealth, but alternatively could simply be because other counties already had a substantial number of large churches, and that the South-West counties were relatively late to develop their building programmes. The change in ranking of county wealth used here is estimated over a period of more than 190 years, and so a degree of caution should be used before putting too much weight on it. The method of assessment for taxation had also changed over this period.

On the other hand, the widespread church building at this time may well indicate increasing wealth throughout this period and into the following century in the South-West. Other civic buildings such as guildhalls and church houses were certainly built but few have survived. Because of their religious importance

[388] Lane and Walshaw, *Devon's Churches*, p. 98; P. Maunder, *Tiverton Cloth, the story of the town's woollen trade, 1475-1815* (Exeter, Short Run Press Ltd., 2018), pp. 1-10.
[389] Cherry and Pevsner, *Devon*, p. 303.
[390] Hoskins. *Devon*, p. 132.
[391] Cherry and Pevsner, *Devon*, p. 868.
[392] Lane and Walshaw, *Devon's Churches*, p. 48.

churches have been continuously refurbished over the centuries and survive as evidence of previous periods of prosperity

3.06 Conclusions

Examination of the tax returns from the fourteenth to sixteenth century gives information about the wealth of communities in England with some certainty. Most increased prosperity is evident in the south-west counties, with Cornwall, Somerset, Dorset and especially Devon showing substantial increases in wealth in comparison to other English counties. Devon changed in ranking from 34th to 16th, a change second only in size to that of Essex amongst English counties. Within the county of Devon, the change in rank of hundreds' tax revenues per 1000 acres between 1334 and 1524/5 shows the areas increasing wealth to be mostly those in the east and south of the county.

Credit was very much part of the late medieval economy in England and an insight into its volume and who used it can be obtained from the records of the Court of Common Pleas. Comparing the data from two English counties, Derbyshire, and Devon, shows that economically both suffered from an economic recession in the mid-fifteenth century, although Devon was much less affected and recovered first. The defendants in the actions brought before the court were a broad section of the communities but emphasised some differences in the sources of each county's wealth, with Derbyshire having local traders and miners and Devon a preponderance of merchants and marine occupations. Both counties, however, were still very much involved in agriculture. It must be remembered, however, that all these figures relate to creditors who were unable to repay their debts on time and cannot be said to be truly representative of these counties' economic communities. Those individuals fulfilling their credit agreements by paying up on time, which probably formed the majority, remain unrecorded.

Devon was very active in church building in the fifteenth century, indicating economic success and wealth during this period and examples of funding of this activity from successful merchants and citizens have been presented. While this appeared to be a national phenomenon, the evidence assessed here shows that Devon was exceptional in this activity, paralleled only by the neighbouring county of Somerset. While circumstantial, all such evidence tends to support the

thesis that Devon had developed a thriving economy, particularly in the southern and eastern parts of the county by the end of the fifteenth century. Undoubtedly Devon moved from being a relatively impoverished county to being one of the wealthiest during the fifteenth century and managed to avoid the worst of the mid-century recession. The changes in wealth were not evenly distributed throughout the county and were concentrated in the south and east and probably related to the thriving industries such as cloth, tin, manufacturing, and overseas trade in those areas.

Chapter 4. Population estimation.

4.01 Introduction.

Study of economic change not only requires estimates of changes in wealth but also of population. An increase in wealth or output in one county may be due to increased productivity or alternatively an increase in population, or both. As Broadberry et al. state:

> Economic growth can either be extensive or intensive. Extensive growth arises where more output is produced in line with a growing population but living standards remain constant, while intensive growth arises where more output is produced by each person.[393]

The establishment of parish registers in 1538 and later the national census in the nineteenth century have allowed relatively accurate population estimates to be made for early modern England. .[394] There have been many attempts by historians over the last century to estimate the size of the medieval population of England, and the results are very varied. Pioneering work has been carried out by Russell, Postan, Wrigley and Schofield, Smith, Blanchard and Campbell. The most recently published is by Broadberry et al. and based largely on the work of Campbell. The authors believe that this represents the best estimate to date of the country's population in the period between 1086 (Domesday Book) and 1870.

Their methodology is complex. Initially 'benchmark' estimates are derived from the Domesday Book and the 1377 poll tax records. Estimates for the 1086 population have been made previously by Russell, Darby, Postan and Harvey, each using different assumptions about omissions and householder multiplier (to allow for wives and children), resulting in estimates for the whole population ranging from 1.1 million to nearly 2 million at that time. Broadberry et al**.** used an estimate of 1.71 million**.** The population in 1377 was estimated by Russell

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[393] S. Broadberry, B. M. S. Campbell, A. Klein, M. Overton, B. van Leeuwen, *British Economic Growth, 1270-1870* (Cambridge, Cambridge University Press, 2015), p.3.

[394] J. C. Russell, *British Medieval Population* (Albuquerque NM, University of New Mexico Press, 1948); M. M. Postan, 'Medieval Agrarian Society in its Prime: England' in M. M. Postan ed. *The Cambridge Economic History of Europe, Vol.1, The Agrarian Life of the Middle Ages* (Cambridge, Cambridge University Press, 1966), pp.549-632; E. A. Wrigley and R. S. Schofield, *The Population History of England, 1541-1871: A Reconstruction* (Cambridge, Cambridge University Press, 1989); R. M. Smith, 'Human Resources', in G. Astill and A. Grant eds., *The Countryside of Medieval England* (Oxford, Blackwell, 1988), p. 191; I. S. W. Blanchard, *The Middle Ages: A Concept Too Many?* (Avonbridge, Newlees Press, 1996); B. M. S. Campbell, *English Seigniorial Agriculture* (Cambridge, Cambridge University Press, 2000).

and Postan, again with widely differing results. The assumptions which differed were for the proportion of the population under fifteen years, and the likely rate of under-enumeration. Russell's estimate was 2.2 million and Postan's 3.2 million. Broadberry et al. proposed a 'best estimate' of 2.5 million by making and justifying intermediate assumptions.

To estimate the trends and annual growth rate between these two dates, Broadberry et al. adopted Hallam's method. He had collected population data from various sources relating to individual manors in eight English regions for periods around six dates between 1086 and 1377. The periods ranged from a few years to nearly a whole century. He estimated that the population had grown between these dates by between 1.9 and 5.8 times depending on the region, the south-west being the least. Broadberry et al. augmented the data for 1086 to 1317 and then using the same methodology, extended the period covered to 1377 and then to 1541. The estimates for these later dates were supplemented with 'benchmark' data from Cornwall and Wrigley et al.[395] These produced values for the population of England in 1522 and 1541 of 2.35 million, and 2.83 million respectively.

Broadberry et al. also provided county estimates for 1377 and 1600 but not for the fifteenth century. This thesis examines comparative population changes by county over the 'long fifteenth century' and needs a different approach, albeit based on estimates by previous historians using their householder multipliers for poll tax and lay subsidy records. They found that between 1377 and 1600:

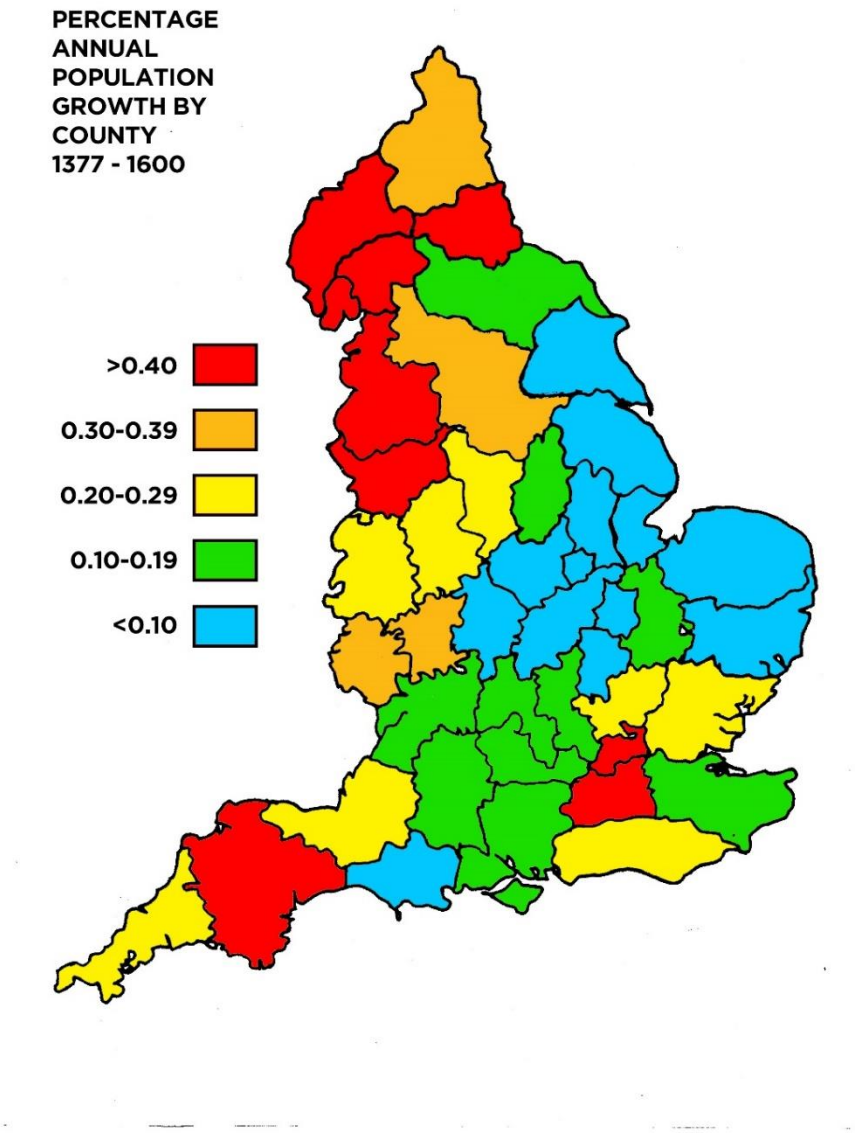
> The south-west, west midlands, north-west, between and the immediate home counties were all economically and demographically more dynamic than eastern England and the east midlands and recovery and growth were strongest in counties which had been most thinly peopled at the earlier date, including those closest to, and furthest from, London.[396]

Devon is a good example of such a county, with an estimated growth in population between 1377 and 1600 of 86,239 to 258,587, representing an annual growth rate 0.49%, amongst the highest in England at the time, Figure 4.01. However, the growth rate over 223 years was very unlikely to have been constant, almost certainly slower in the late fourteenth and the first part of the fifteenth century. Their method assumes a logarithmic growth over that period.

[395] Cornwall 1970, Wrigley 1997.
[396] Broadberry et al., *British Economic Growth,* pp.22-7.

When this is used to calculate Devon's population in 1524 (after 147 years), a figure of 177,199 is obtained, representing a growth of 105 percent over the period.

Figure 4.01. Percentage annual population growth by county, 1377-1600.



Source: Data from Broadberry et al., *British Economic Growth,* pp. 26-7.

This chapter first examines the evidence for population in English counties by using the data on the number of taxpayers from lay subsidy and poll tax

records. For Devon this is repeated at hundred, and parish level and corrected for land area. Density maps of taxpayers per acreage for 1332, 1377 and 1524/5 are drawn. The problem of converting taxpayer numbers to estimated populations is then explored before calculating population change between 1377 and 1524/5, which is relevant to the study of the fifteenth century economy, and also extending these calculations to hundreds and selected parishes for Devon.

4.02 Lay subsidies, poll taxes and taxpayers.

Of the records studied in the last chapter, lay subsidies and poll taxes only recorded the number of tax-payers liable in the years of 1332, 1377-81 and 1524/5. Even then the numbers per county or hundred depend on the nature of the tax being levied, and even if correction factors are used, these may not truly reflect the population including non-householders, the indigent, and some aliens.[397] The most reliable way to use these sources is an examination of the returns for the year in question in terms of county or hundred ranking. Changes in ranking over time may give some idea as to whether there have been regional or local changes in population. The poll tax records for 1377, 1379 and 1381 are most complete in recording the population liable for assessment in 1377, and include both men and women whether married or single, and children over the age of fourteen (in 1377 but rising to sixteen later), but exclude the clergy, the indigent, and some other groups such as tinners, particularly relevant for Devon and Cornwall.[398] Nonetheless, when estimating possible changes over time in economic growth, an idea of probable population change is important, and therefore it is necessary to attempt population estimates using taxation returns as the most informative source available.

Table 4.01 shows the numbers of taxpayers recorded across England by county in the 1332 lay subsidy returns, for the poll tax in 1377 and for the lay subsidy of 1524/5. Where no data was available for 1332, the lay subsidy return for 1327 was substituted. Taxpayers per 1000 acres are calculated, and these results ranked. The sources for the data shown in Table 4.01 are very varied and

[397] Broadberry et al., *British Economic Growth,* pp. 3-45; Sheail, 'The Regional Distribution of Wealth', 111-126; R. S. Schofield. 'The Geographical Distribution of Wealth in England, 1334-1649', *Economic History Review*, 18 (1965), 483-510.
[398] Fenwick. *The Poll Taxes of 1377, 1379 and 1381,* pp. xii-xxxix.

include printed versions of the lay subsidy returns for 1332 (or 1327 if 1332 was not available), which have been produced by local history societies since the nineteenth century. The poll tax records are used from 1377, which are the most complete, and have been edited by Fenwick. Schofield and Sheail have edited the lay subsidy returns for 1524/5. The 1525 data has been used where 1524 data is missing. The two years are very similar. The references for all these publications concerning 1332 or 1327 follow Table 4.01.

Figures 4.02, 4.03 and 4.04 show the distribution of taxpayers per 1000 acres, shown in approximate quartiles for 1332,1377 and 1524/5. Table 4.01 and Figure 4.03 show that the lowest density of taxpayers in 1377 was in the northern counties of England and in Devon, and highest in the midlands and East Anglia. Durham and Cheshire were excluded from the 1377 poll tax as they were palatinates. In Figure 4.02, the data is incomplete, but the highest density of taxpayers lay in counties south of a line joining the Severn and the Wash, with the highest concentrations in Essex, Holland (Lincolnshire) and Huntingdonshire. Figure 4.04 shows higher population densities in almost all southern and eastern counties with much lower numbers in northern counties. The numbers per county or hundred depend on the nature of the tax being levied. Changes in ranking over time may give some idea as to whether there have been regional or local changes in population.

Table 4.01. Taxpayers by acreage in English counties in 1332 (or 1327),1377 and 1524/5.

County	Area, 1000s acres	Tax payer 1332 *(1327)*	Tax payer per 1000 acres 1332 *(1327)*	Tax payer 1377	Tax payer per 1000 acres in 1377	Rank in 1377	Tax payers in 1524/5	Tax payers per 1000 acres in 1524/5	Rank in 1524/5
Bedford	298	4320	14.5	20339	68.2	2	1779	6.0	31
Berkshire	468			22723	48.5	20	5924	12.7	19
Buckingham	473	2374	5.1	24672	52.1	14	7040	14.9	7
Cambridge	550			27350	49.7	17	8005	14.6	9
Cornwall	868	*5769*	*6.6*	35274	40.6	26	8524	9.8	25
Cumberland	969	3409	3.5	11841	12.2	40			
Derbyshire	662			23243	35.1	30	2079	3.1	36
Devon	1658	10632	6.4	45635	27.5	35	23923	14.4	10
Dorset	631	7621	12.0	34241	54.2	11	8480	13.4	17
Essex	988	*8326*	*8.4*	47962	48.5	21	15898	16.1	6
Gloucester	737	*9094*	*12.3*	36760	49.8	15	8825	12.0	22
Hampshire	1040	*7980*	*7.7*	33241	31.9	31	13992	13.5	16
Hereford	427			15318	35.8	29	2816	6.6	30
Hertford	409			19975	48.8	18	5989	14.6	8
Huntingdon	232	4632	19.9	14169	61.0	8	4399	19.0	2
Kent	1135	11005	8.8	56557	49.8	16	13052	11.5	23
Lancashire	1215			23880	19.6	38	1943	1.6	38
Leicestershire	528			31730	60.0	9	4840	9.2	26
Linc. Holland	210	3363	16.0	18592	88.5	1	2864	13.6	15
Linc. Kesteven	504			21566	42.7	25	4472	8.9	27
Linc. Lindsey	989	2644	2.6	47303	47.8	23	6767	6.8	29
Middlesex	181			11243	62.1	5	5039	27.8	1
Norfolk	1307			88797	67.9	3	21400	16.4	5
Northampton	643			40225	62.5	4	11311	17.6	4
Northumberland	1256			14162	11.2	41			
Nottingham	540	*3903*	*7.2*	26260	48.6	19	3060	5.7	32
Oxford	477			24982	52.3	13	6687	14	12
Rutland	97			5994	61.8	6	1393	14.4	11
Shropshire	759	4877	6.4	23574	31.0	33	3762	5.0	34
Somerset	1019	*10348*	*10.2*	54063	53.0	12	14235	14.0	13
Staffordshire	754	3958	5.2	21465	28.4	34	5529	7.3	28
Suffolk	951	*11000*	*11.6*	58610	61.6	7	17453	18.4	3
Surrey	484	5496	11.3	18039	37.1	28	6476	13.4	18
Sussex	930	7001	7.5	35326	37.9	27	11285	12.1	21
Warwickshire	578	6158	10.6	25447	44.0	24	7898	13.7	14
Westmorland	486	1415	2.9	7389	15.2	39			
Wiltshire	880	9410	10.6	42599	48.4	22	10958	12.5	20
Worcestershire	465	1052	2.2	14542	31.2	32	5026	10.8	24
York. East R	664			38238	57.5	10	3362	5.1	33
York. North R	1287			33185	25.7	36	2063	1.6	37
York. West R	1933			48149	24.9	37	7508	3.9	35

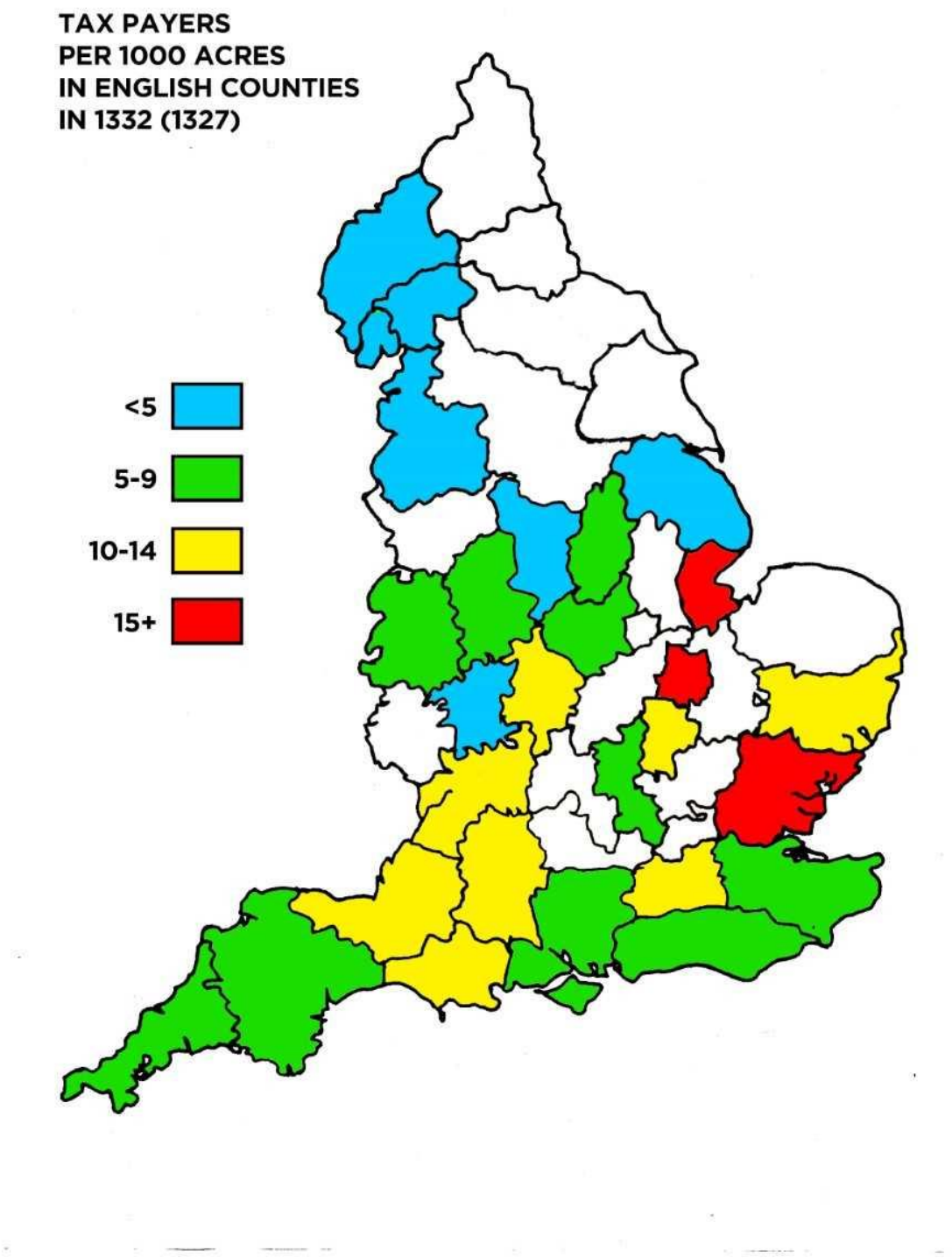
London		1,636		23314					

Sources: Schofield, *Geographical Distribution of Wealth*; Fenwick, *The Poll Taxes of 1377, 1379 and 1381*; Sheail, *The Regional Distribution of Wealth,* s.s, 28/29 (London, List and Index Society, 1998).

Source references for data for 1327 and 1332 shown in table 4.01.

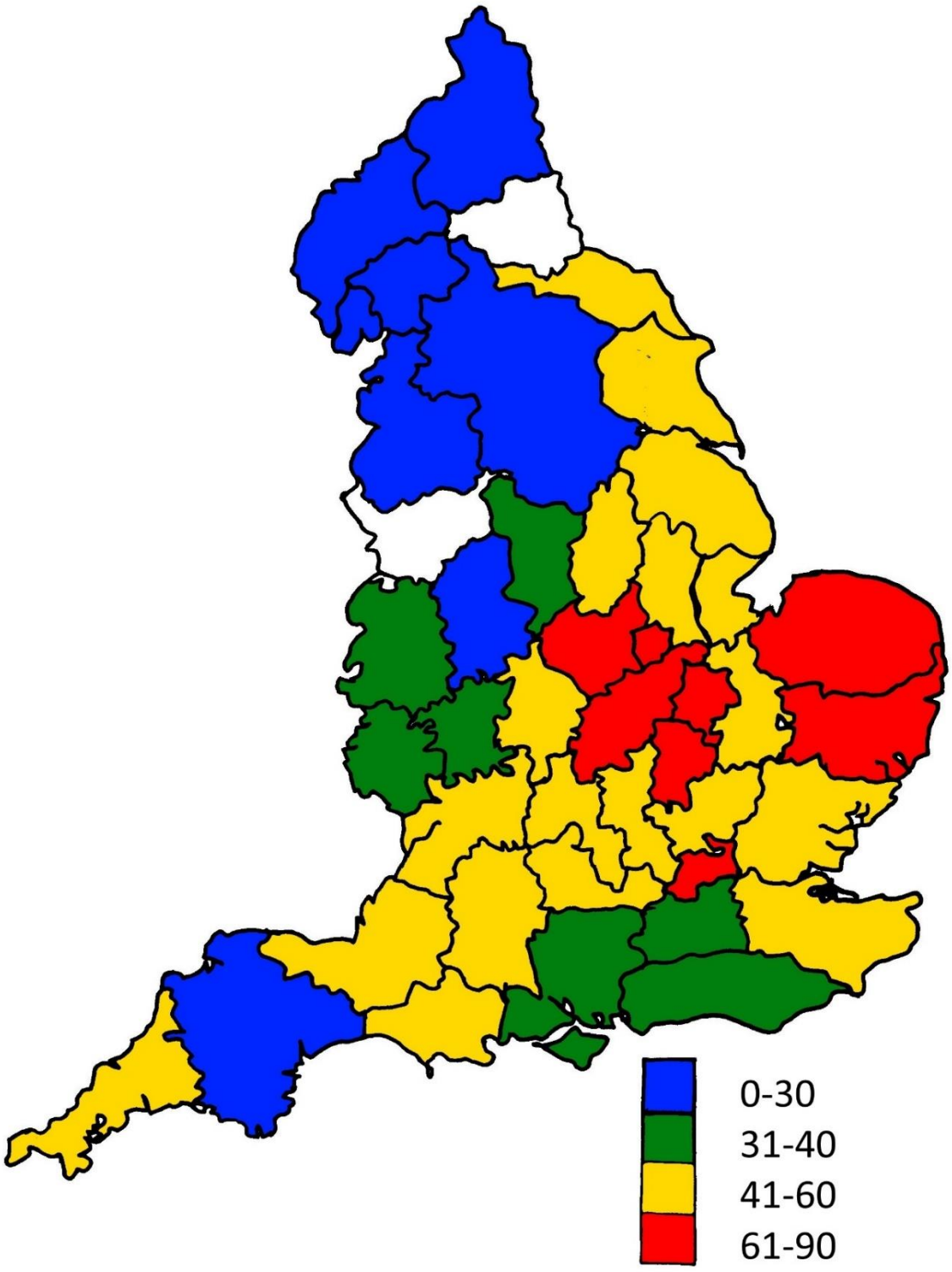
Bedfordshire: S.A.H.Hervey, 'Two Bedfordshire Subsidies', 1309 and 1332, *Suffolk Green Books*, No.18 (Bury St. Edmunds, Paul and Mathew, 1925), pp.107-188; Buckinghamshire: A.C.Chisnall (Buckingham Record Society, 1966), Vol.14; Cornwall: www.snsbi.org.uk/Nomina_pdf/Nomina_v9_p81_Padel.pdf. (accessed 6/05/2020); Cumberland: T.Wilson, *Cumberland Lay Subsidy Fifteenth and Tenth, 6 Edward III*, http://www.british-history.ac.uk/no-series/cumberland-lay-subsidy-edw3/pp52-56 (accessed15/05/2016); Derbyshire: J.C.Cox, 'Derbyshire in 1327', *Journal of the Derbyshire Archaeological and Natural History Society,* 30 (1908), 23-96; Devon: A.M.Erskine, *The Devonshire Lay Subsidy of 1332* (Exeter, Devon and Cornwall Record Society, Vol.14, 1969); Dorset: A.D.Mills, *The Dorset Lay Subsidy Roll of 1332* (Bridport, Dorset, Dorset Record Society, Vol.4, 1971); Essex: J.C.Ward, *The Medieval Essex Community: The Lay Subsidy of 1327,* Vol. 88 (Chelmsford, Essex Record Office,1983); Gloucestershire: P.Franklin, *The Taxpayers of Medieval Gloucestershire: An Analysis of the 1327 Lay Subsidy Roll with a New Edition of its Text* (Stroud, Gloucestershire, Allen Sutton, 1993); Hampshire: P.Mitchell-Fox and M.Page eds*. The Hampshire Tax List of 1327* (Winchester, Hampshire County Council, 2014); Huntingdonshire: J.A.Raftis,M.P.Morgan, *Early Huntingdonshire Lay Subsidy Rolls* (Toronto, Pontifical Institute of Medieval Studies, 1996); Kent: H.A.Hanley,C.W.Chalklin,, *The Kent Lay Subsidy Roll of 1334/5* , Vol.18 (Tonbridge, Kent, Kent Archaeological Society, 2004); Lancashire: 'Exchequer Lay Subsidy Roll, Lancashire 1332', in *Record Society of Lancashire and Cheshire, Miscellanies Vol.II* (London, Wymans, 1896), pp.1-102; Leicestershire: W.G.D.Fletcher, 'The Earliest Leicestershire Lay Subsidy Roll, 1327', Reprinted from *Transactions of the Leicestershire Architectural and Archaeological Society* (1891), London, British Library Historical Print Editions; Lincolnshire: D.A.Postles, www.historicalresources.mygen.co.uk/UNC/lincers.1. (Accessed 12/05/2016); Nottinghamshire: www.historicalresources.myzen.co.uk/NOTTSLS/nottslsintro.pdf (accessed 6/05/2020); Shropshire: T.N.A., E179/166/2/membranes 1-18; Somerset: F.H.Dickinson, *Kirby's Quest for Somerset,* Somerset Record Society (London, Harrison and Sons, 1889), pp. 79-284; Staffordshire: G.Wrottesley, *Staffordshire Lay Subsidy, 1332-3,* http://www.british-history.ac.uk/staffs-hist-collection/vol10/pt1/pp79-132.uk; Suffolk: 'Suffolk in 1327 Being a Subsidy Return', *Suffolk Green Books*, No.9, Vol.11 (Woodbridge, George Booth, 1906); Surrey: *Surrey Taxation Returns* (The Surrey Record Society, (London, Butler and Tanner, 1932); Sussex: W.Hudson, *The Three Earliest Subsidies for the County of Sussex, 1296, 1327, 1332* (London, Sussex Record Society, 1910), pp. 225-231. www.british-history.ac.uk/suss-record-soc/vol10/pp225-231 (Accessed 12/05/2016); Warwickshire: W.F.Carter, *The Lay Subsidy Roll for Warwickshire of 6 Edward III (1332)* (London, Dugdale Society, Oxford University Press, 1926), pp.1-89; Westmorland: C.M.Fraser, *The Cumberland and Westmorland Lay Subsidies for 1332,* Vol.66 (Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, 1966), pp.131-158; Wiltshire: D.A.Crowley, ed. *The Wiltshire Tax List of 1332,* Vol.45, (Trowbridge,UK, Wiltshire Record Society, Bookcraft,1989), pp. 1-130; Worcestershire: J.Amphlett, *Lay Subsidy Roll, AD 1332-3, and Nonarum Inquestiones, 1340, for the County of Worcester* (Oxford, The Worcester Historical Society, J.Parker, 1899); London: M. Curtis, 'The London Lay Subsidy of 1332', in *Finance and Trade under Edward III*, ed. G.Unwin (Manchester, University of Manchester Press, 1918), pp. 35-60.

Figure 4.02. Numbers of taxpayers per 1000 acres in 1332 (or 1327) lay subsidy returns.



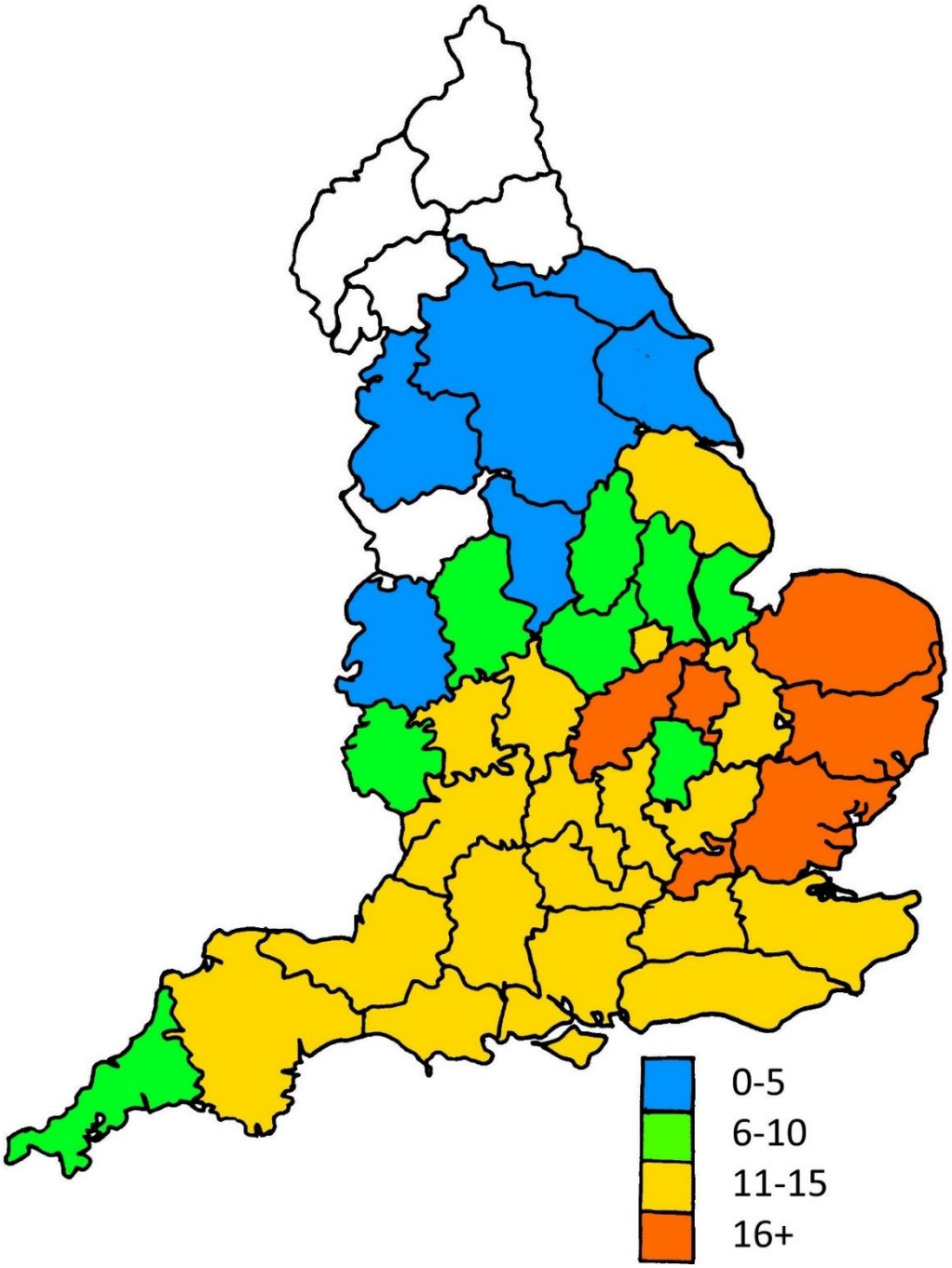
Source: Map based on data and sources listed in Table 4.01.

Figure 4.03. Number of taxpayers per 1000 acres in English counties for 1377 poll tax.



Source: Map based on data and sources listed in Table 4.01.

Figure 4.04. Number of taxpayers per 1000 acres in English counties for 1524/5 lay subsidy.



Source: Map based on data and sources listed in Table 4.01.

Taxpayers per 1000 acres ranked for Devon hundreds in 1332, 1377 and 1524/5 are shown in Table 4.02 and Figure 4.05. The county shows a rank distribution of taxpayers for these years whose pattern has remained similar over the period as indicated by a Spearman rank correlation test (r=0.71, p=0.01). North and mid-Devon had fewer taxpayers per 1000 acres except for Braunton hundred which contained the port at Barnstaple. Hundreds in the south and east of the county had the highest number of taxpayers per 1000 acres. Little can be inferred from these findings, however, of total population changes.

These methods, however, have many limitations. Devon's hundreds have changed in size over the years, and some comprise non-contiguous areas sited in adjacent hundreds. It has been suggested that this makes the hundred an unsuitable unit for economic study, although as absolute precision is not required, this is probably not a major issue: correction of tax revenues for land area can compensate for differences in hundred sizes. [399] Comparison of rank orders at different dates does give some indication of the direction of economic development in relative but not absolute terms.

This section shows that density maps of taxpayers per 1000 acres can be drawn from taxation records for English counties and hundreds in Devon for those dates when tax records indicate the numbers of taxpayers rather than simply the total amount of tax returned for a town or parish. The next section uses this same data to estimate actual population numbers for English counties and Devon hundreds.

[399] F. W. Morgan, 'Domesday Geography of Devon', *Transactions of the Devon Association*, 72 (1940), 308.

Table 4.02 a. Number of taxpayers in Devon hundreds in 1332, 1377 and 1524/5.

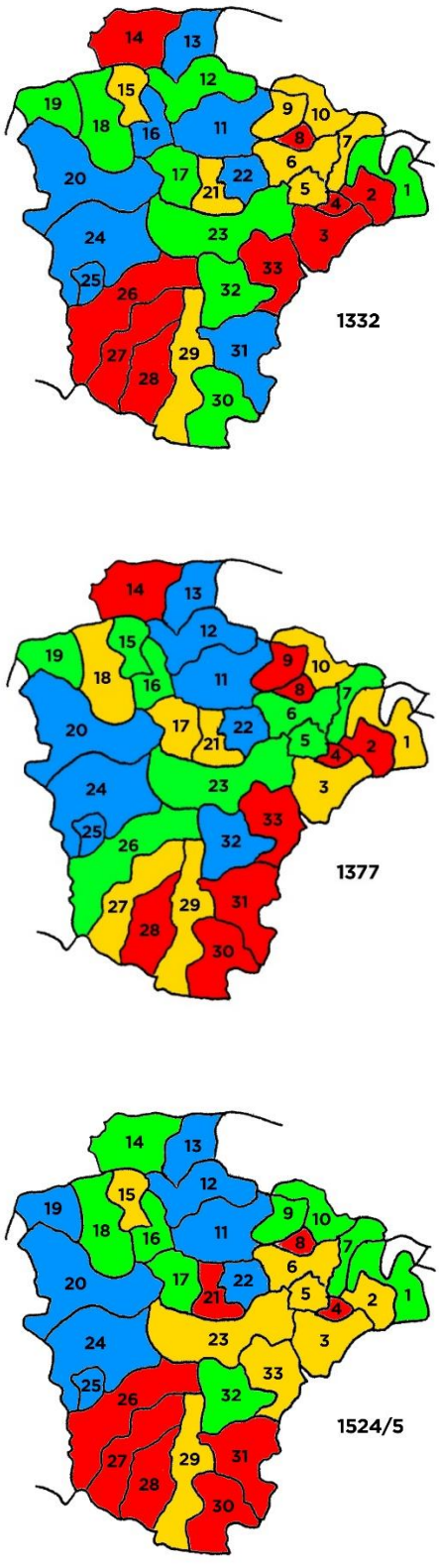
Hundred	Area in acres/1000	Taxpayers 1332	Taxpayers 1377	Taxpayers 1524
Axminster	51	325	1918	740
Bampton	29	206	911	460
Black Torrington	144	402	2496	1527
Braunton	73	922	3019	1146
Cliston	16	159	461	317
Coleridge	53	308	2866	1650
Crediton	29	292	1176	713
Colliton	24	297	1092	507
East Budleigh	53	763	1757	1155
Ermington	50	728	2310	1177
Exminster	48	903	2173	896
Fromington	35	284	1090	650
Halberton	9	156	420	278
Hartland	31	148	715	380
Hayridge	47	350	1331	927
Haytor	60	257	2637	2050
Hemyock	24	210	694	402
Lifton	132	341	1121	796
North Tawton	48	156	1195	707
Plympton	34	436	1096	741
Roborough	51	551	1244	1155
Shebbear	68	471	2734	1050
Shirwell	48	200	559	274
South Molton	70	382	1342	847
St Mary Ottery	10	283	567	250
Stanborough	64	526	2262	1262
Tavistock	37	115	401	304
Teignbridge	58	314	1189	991
Tiverton	24	165	1083	369
West Budleigh	32	148	290	330
Winkley	9	51	291	
Witheridge	78	168	301	461
Wonford	87	507	2066	1866

Sources: Areas for hundreds derived by adding the given parish areas in any one hundred (1880), derived from Pearson, J. R. “Six Assessments of Devon, 1291-1883”, *Transactions of the Devonshire Association*, 22 (1890), pp. 143-165; A. M. Erskine. *The Devonshire Lay Subsidy of 1332* (Devon and Cornwall Record Society, New Series, Vol. 14, 1969); C. C. Fenwick. *The Poll Taxes of 1377, 1379 and 1381;* J. Sheail. *The Regional Distribution of Wealth in England.*
Note: Winkley joined with North Tawton in 1524/5.

Table 4.02 b. Taxpayers per 1000 acres in Devon hundreds in 1332, 1377 and 1524/5 and ranking.

Hundred	Area acres/ 1000	Tax payers acres/ 1000 1332	Rank 1332	Tax payers acres/ 1000 1377	Rank 1377	Tax payers acres/ 1000 1524	Rank 1524
Axminster	51	6.37	15	37.61	22	14.51	9
Bampton	29	7.10	18	31.41	17	15.86	14
Torrington	144	2.79	3	17.33	6	10.60	6
Braunton	73	12.63	27	41.36	25	15.70	13
Cliston	16	9.94	24	28.81	15	19.81	21
Coleridge	53	5.81	13	54.08	32	31.13	30
Crediton	29	10.07	23	40.55	23	24.59	28
Colliton	24	12.38	26	45.50	27	21.13	22
E. Budleigh	53	14.40	29	33.15	20	21.79	24
Ermington	50	14.56	30	46.20	30	23.54	27
Exminster	48	18.81	32	45.27	28	18.67	17
Fromington	35	8.11	20	31.14	16	18.57	18
Halberton	9	17.33	31	46.67	31	30.89	31
Hartland	31	4.77	9	23.06	9	12.26	8
Hayridge	47	7.45	19	28.32	13	19.72	19
Haytor	60	4.28	7	43.95	26	34.17	32
Hemyock	24	8.75	22	28.92	14	16.75	15
Lifton	132	2.58	2	8.49	2	6.03	3
N. Tawton	48	3.25	5	24.90	12	14.73	10
Plympton	34	12.82	28	32.24	19	21.79	25
Roborough	51	10.80	25	24.39	11	22.65	26
Shebbear	68	6.93	16	40.21	24	15.44	11
Shirwell	48	4.17	6	11.65	5	5.71	1
S. Molton	70	5.46	11	19.17	7	12.10	7
St M. Ottery	10	28.30	33	56.70	33	25.00	29
Stanborough	64	8.22	21	35.34	21	19.72	20
Tavistock	37	3.11	4	10.84	4	8.22	4
Teignbridge	58	5.41	10	20.50	8	17.09	16
Tiverton	24	6.88	17	45.13	29	15.38	12
W. Budleigh	32	4.63	8	9.06	3	10.31	5
Winkley	9	5.67	12	32.33	18		
Witheridge	78	2.15	1	3.86	1	5.91	2
Wonford	87	5.83	14	23.75	14	22.59	23

Figure 4.05. Comparison of tax payers per 1000 acres in the Devon hundreds in 1332, 1377 and 1524/5.



Source: Data from Table 4.02 b, ranked as quartiles (blue (lowest), green, yellow, red (highest). Note: Hundreds numbered as in Figure 3.08.

4.03 Population estimates

When there appears to be an economic gain in an area over time, this may be associated with improved productivity, an increase in population or both. As a result, it is useful to have an estimate of population change over time. The estimation of total population in England in medieval times has challenged historians for many years. Indeed, Cornwall opines:

> The root of the problem is our virtually complete ignorance of fifteenth-century demography.[400]

In the absence of parish registers, which recorded baptisms and burials from 1538 onwards, tax records have been pressed into service, although Willard observed that:

> it is impossible to determine the proportion of the population included within this pauper class. This is the reason … for avoiding the use of lists of taxpayers in estimating the population … in the fourteenth century.[401]

Subsequently, historians have disagreed with this verdict, and have used lay subsidy and poll tax records to good effect to make population estimates. They cannot be used directly as a marker of population size as subsidy records generally only list householders, usually excluding women and children, who were not household heads, as well as those with too little in the way of property to tax. Aliens and servants (who were not householders) are recorded inconsistently, and the degree of evasion, by definition, can only be guessed at. The Domesday Book of 1086 presents similar problems. Russell, undaunted, led the way beginning by devising a factor (x 3.5) by which the number of people recorded in the Domesday Book could be multiplied to make allowance for the absence of women, children, and the poor from the records, and with 5% added for under-enumeration.[402] Alternative values (x4.5 and x 5) have been

[400] Cornwall, 'English Population in the Early Sixteenth Century', pp. 32-44.
[401] J. F. Willard. *Parliamentary Taxes on Personal Property, 1290-1334* (Cambridge, MA, The Medieval Academy of America, 1934), p.88; The implication in the quotation was that a large part of the population was too poor to pay taxes, and so tax records would not give a good indication of true population size.
[402] Russell, *British Medieval Population*, pp. 34-54.

suggested by Darby and by Harvey, with higher allowances for omission rates, after examining data from later medieval records.[403]

For the poll tax records of 1377, Russell suggested lower allowances for children per household and under-enumeration (x1.57) than did Postan (x2.27) two decades later, although the reasons for their differences are not clear.[404] Wrigley and Schofield examined the proportion of under-15s in the population after 1538 when parish registers became available, and found that it never rose above 40%, lower than Postan's allowance.[405] It is unlikely that after the Black Death, in a period of low population growth, that so high a proportion of children occurred. Poos and, for a later period, Campbell have suggested lower rates of evasion than did Postan.[406]

Working on data from the Military Muster of 1522, Whittle and Yates derived a factor of x3.17 by doubling the number of men assessed to allow for women and adding 37% for children under 16.[407] No allowance for evasion or under-enumeration was made. Nevertheless, in Exeter at the Military Muster of 1522, run to ascertain availability for war and arms owned, 30% of the largely male population was rated as of nil worth. These individuals may have been unmarried men or apprentices, and very few of these names appear in the lay subsidy records of 1524/5.[408] Of the names appearing in Exeter's muster list of 1522, 20% do not appear in the tax lists of 1524/5, presumably because they were below the threshold for taxation.

A. Dyer proposed a multiplier of 1.9 for 1377 and of 6.5 for 1524 to obtain estimated population but did not detail the assumptions he made to reach these numbers.[409] Cornwall gave more detailed methodology, using different

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[403] H. C. Darby, *Domesday England* (Cambridge, Cambridge University Press, 1977), pp. 63, 89; Harvey, 'Domesday England' in Hallam, AHEW*, Vol 2,* pp. 48-9.
[404] Russell, *British Medieval Population*, p. 146; Postan, 'Medieval Agrarian Society in its Prime: England', p. 562.
[405] Wrigley and Schofield, *The Population History of England,* Table 3.1, p.69.
[406] L. Poos, *A Rural Society After the Black Death, 1350-1525* (Cambridge, Cambridge University Press, 1991); B. M. S. Campbell, 'The Population of Early Tudor England: A Re-evaluation of the 1522 Muster Returns and 1524 and 1525 Lay Subsidies', *Journal of Historical Geography*, 7 (1981), 145-154.
[407] J. Whittle and M. Yates, ' "Pays Reel or Pays Legal?" Contrasting Patterns of Land Tenure and Social Structure in Eastern Norfolk and Western Berkshire, 1450-1600', *The Agricultural History Review*, 48 (2000), 1-26.
[408] M. M. Rowe. *Tudor Exeter, Tax Assessments 1489-1595 Including the Military Survey 1522,* Vol.22 (Torquay, Devon and Cornwall Record Society, 1977), pp. 7-34.
[409] A. Dyer*, Decline and Growth in English Towns, 1400-1640* (Cambridge, Cambridge University Press, 1991), p. 31.

approaches for not only different counties but even different hundreds in a county, as he found that tax assessors had used slightly different approaches in each place.[410] He did not include women listed, and also removed aliens before applying a multiplier, adding them back later, as they were probably not householders but mainly servants or transients. For the counties of Rutland and Buckinghamshire he allowed 10% for missing returns and assumed the ratio of individuals was 3:3:4 for men:women:children under 16. [411] This gave a multiplier for the 1524/5 returns of 10/3 or x3.33. In Suffolk and Sussex only 2/3 of the men recorded in the 1522 muster rolls appeared in the 1524/5 records, so a correction factor of 3/2 was applied before the previous multiplier of 10/3, a combined multiplier of 3/2 X 10/3 = 5. In Berkshire he found the proportion of taxpayers to those recorded in the muster was higher and used a correction factor of 4/3 before using a multiplier of 10/3.

For Devon only a few returns survive for the 1522 muster, those for Exeter, and a few parishes from Shebbear hundred.[412] A breakdown of those compared to the 1524/5 subsidy returns are shown in Table 4.03a and 4.03b. The Exeter data indicate that 77% of those named in the muster appeared in the tax records for 1524/5. For the parishes of Shebbear listed, only 51% of the names in 1522 appear in 1524/5. The difference may be because Exeter as a city (within the city walls) had a more prosperous population than Shebbear, a rural hundred, or that the Shebbear muster list contained names of those owning land in the parishes but not resident there, although this is not noted on the muster list. These figures suggest that Cornwall's multiplier of 3/2 x 10/3 or 5 may be as appropriate for Devon in 1524/5 as for Sussex, as similar evidence for the proportions of men, women and children and non-recording of men is found.

[410] Cornwall, 'English Population in the Early Sixteenth Century', pp. 32-44.
[411] J. Cornwall, *The County Community Under Henry VIII, the Military Survey, 1522, and Lay Subsidy, 1524-5, for Rutland* (Oakham, Rutland Record Society, 1980).
[412] M. M. Rowe, Tudor Exeter, Tax Assessments 1489-1595, Including the Military Survey 1522 (Exeter, Devon and Cornwall Record Society, 1977); 1148 Madd/18/5, D. R. O.

Table 4.03a, Parishes of the City of Exeter *recorded* in both 1522 and 1524/5.

Parish	Resident in 1522	Taxed in 1524/5	Women taxpayers in 1524/5
St. Stephen	54	41	1
St. Martin	48	65	3
St. Pancras	25	16	1
All Hallows G.S.	54	33	1
St Kerrian	33	24	1
St. Paul	57	42	3
St. Mary Major	134	142	3
St. Petrock	82	55	4
St. Mary Arches	60	24	1
St. Olave	55	32	0
Holy Trinity	102	96	6
St. George	72	57	4
St. David	50	35	0
St. John	61	47	2
Total	887	709	29

Sources: Devon Record Office; Rowe*, Tudor Exeter*.

Table 4.03b, Parishes in Shebbear hundred *recorded* in both 1522 and 1524/5.

Parish	Resident in 1522	Taxed in 1524/5	Women taxpayers in 1524/5
Littleham	52	39	2
Landcross	64	8	1
Meeth		29	0
Lt. Torrington	35	33	0
Newton St. Petrock	38	20	0
Beaford	88	45	2
Alwington	46	49	5
Petrockstowe	85	34	0
Shebbear	95	58	0
Buckland Filleigh	51	21	1
Wear Gifford	67	33	1
Merton	69	N/D[413]	N/D
Peters Marland	35	24	3
Total	725	393	15

Sources: J. Gibson and A. Dell, *Tudor, and Stuart Muster rolls* (Birmingham, Federation of Family History Societies, 1989), p.13; Devon Record Office, 1148 Madd/18/5; Stoate, *Devon Subsidy Rolls, 1524-7.*

A. Dyer proposed a multiplier of 1.9 for the 1377 poll tax data and Broadberry et al. have compromised by using Russell's, Postan's, and Dyer's published work

[413] Merged with Petrockstowe, Peters Marland and Beaford.

to produce a ‘best estimate’ for 1377, assuming 37.5% children and under-enumeration of 10%.[414] These estimates are shown in Table 4.04.

The estimates from Russell appear very low and for Postan too high. Those of A. Dyer and Broadberry et al. are not identical but similar, bearing in mind that their methodologies are very different. In Table 4.05, population estimates for 1524/5 by A. Dyer, Cornwall and Broadberry et al. are compared. Broadberry et al. do not give a figure for 1524/5 but suggest an annual growth rate for each county for the years between 1377 and 1600. The value shown here for 1524/5 has been calculated using this figure but is plainly too high. This is not surprising, as it is accepted that the population probably did not begin to increase until at least 1450 or even later, and Broadberry et al. have described the period from 1450 to the beginning of parish registers in 1538 ‘as very much a demographic Dark Age’.[415] As a result, the multipliers of A. Dyer are adopted in this thesis when populations in Devon are being estimated for 1377 and 1524/5 and Darby’s x13.5 multiplier for 1332 subsidy.

[414] Broadberry et al., *British Economic Growth,* Table 1.02, p. 8.
[415] Broadberry et al., British Economic Growth, p.16.

Table 4.04. Population estimates derived from several authors for 1377 compared.

County	Tax payers 1377 (Fenwick)	Estimated population 1377 (Russell) x1.64	Estimated population 1377 (Postan) x2.37	Estimated population 1377 (Dyer) x1.9	Estimated population 1377 (Broadberry)
Bedford	20339	33356	48203	38644	36771
Berkshire	22723	37266	53854	43174	41081
Buckingham	24672	40462	58473	46877	44604
Cambridge	27350	44854	64820	51965	52885
Cornwall	35274	57849	83599	67021	61964
Cumberland	11841	19419	28063	22498	22633
Derbyshire	23243	38119	55086	44162	43912
. **Devon**	**45635**	**74841**	**108155**	**86707**	**86239**
Dorset	34241	56155	81151	65058	61904
Essex	47962	78657	113670	91128	92053
Gloucester	36760	60286	87121	69844	81923
Hampshire	33241	54515	78781	63158	70736
Hereford	15318	25121	36304	29104	30230
Hertford	19975	32759	47341	37953	36113
Huntingdon	14169	23237	33581	26921	25616
Kent	56557	92753	134040	107458	107482
Lancashire	23880	39163	56596	45372	43172
Leicestershire	31730	52037	75200	60287	61163
Linc. Holland	18592	30491	44064	35325	171965
Linc. Kesterven	21566	35368	51111	40975	
Linc. Lindsey	47303	77576	112108	89875	
Middlesex	11243	18439	26646	21362	62476
Norfolk	88797	145627	210449	168714	176844
Northampton	40225	65969	95333	76426	75393
Northumberland	14162	23226	33564	26908	30389
Nottingham	26260	43066	62236	49894	52221
Oxford	24982	40970	59207	47465	49424
Rutland	5994	9830	14206	11389	10837
Shropshire	23574	38661	55870	44791	48502
Somerset	54063	88663	128129	102720	101376
Staffordshire	21465	35203	50872	40783	40658
Suffolk	58610	96120	138906	111359	113106
Surrey	18039	29584	42752	34274	32613
Sussex	35326	57935	83723	67119	65437
Warwickshire	25447	41733	60309	48349	54714
Westmoreland	7389	12118	17512	14039	13358
Wiltshire	42599	69862	100960	80938	82847
Worcestershire	14542	23849	34465	27630	29105
York East	38238	62710	90624	72652	236907
York North	33185	54423	78648	63052	
York West	48149	78964	114113	91483	
Total	1,244,660	2,041,242	2,949,844	2,364,854	2,448,656

Table 4.05. Population estimates from several authors for 1524/5 compared.

County	Tax payers 1524	Estimated population (Dyer) 1524 x6.5	Estimated population (Cornwall) 1524 x5	Estimated population (Broadberry) 1524 'calculated'
Bedford	1779	11564	8895	40756
Berkshire	5924	38506	29620	51215
Buckingham	7040	45760	35200	51667
Cambridge	8005	52032	40025	64969
Cornwall	8524	55406	42620	86888
Derbyshire	2079	13513	10395	59791
Devon	**23923**	**155500**	**119615**	**177199**
Dorset	8480	56120	42400	70660
Essex	15898	103337	79490	129080
Gloucester	8825	57363	44125	94895
Hampshire	13992	90948	69960	90816
Hereford	2816	18304	14080	48384
Hertford	5989	38928	29945	49172
Huntingdon	4399	28594	21995	26771
Kent	13052	84838	65260	133996
Lancashire	1943	12630	9715	112217
Leicestershire	4840	31460	24200	62069
Linc. Holland	2864	18616	14320	171965
Linc. Kesterven	4472	29068	22360	
Linc. Lindsey	6767	43986	33835	
Middlesex	5039	32754	25195	169711
Norfolk	21400	139100	107000	174226
Northampton	11311	73522	56555	84801
Nottingham	3060	19890	15300	68037
Oxford	6687	43466	33435	60717
Rutland	1393	9055	6965	11160
Shropshire	3762	24453	18810	67019
Somerset	14235	92528	71175	142153
Staffordshire	5529	35939	27645	62268
Suffolk	17453	113445	87265	129105
Surrey	6476	42094	32380	61356
Sussex	11285	73353	56425	87800
Warwickshire	7898	51337	39490	61542
Wiltshire	10958	71227	54790	103284
Worcestershire	5026	32669	25130	50135
York East	3362	21853	16810	313232
York North	10315	13410	10315	
York West	37540	48802	37540	
Total		1,924,364	1,480,280	3,200,215

Table 4.06. A comparison of estimated population changes between 1377 and 1524/5 in English counties ranked, using A. Dyer's and Broadberry et al.'s estimates.

County	Estimated population 1377 (Dyer) x1.9	Estimated population 1524 (Dyer) X6.5	Estimated percentage change population 1377-1524	RANK	Estimated population 1377 (Broadberry)	Estimated population 1524 (Broadberry)	Estimated percentage change population 1377-1524	RANK
Bedford	38644	11564	-70.0	32	36771	40756	10.8	29
Berkshire	43174	38506	-10.8	17	41081	51215	24.7	18
Buckingham	46877	45760	-2.4	13	44604	51667	15.8	23
Cambridge	51965	52032	0.001	12	52885	64969	22.8	21
Cornwall	67021	55406	-17.0	21	61964	86888	40.2	8
Derbyshire	44162	13513	-69.4	30	43912	59791	36.2	12
Devon	**86707**	**155500**	**79.0**	**1**	**86239**	**177199**	**105**	**3**
Dorset	65058	56120	-13.7	20	61904	70660	14.1	25
Essex	91128	103337	13.4	6	92053	129080	40.2	8
Gloucester	69844	57363	-17.9	23	81923	94895	15.8	23
Hampshire	63158	90948	40.2	3	70736	90816	28.4	17
Hereford	29104	18304	-37.1	26	30230	48384	60.1	6
Hertford	37953	38928	2.6	10	36113	49172	36.2	12
Huntingdon	26921	28594	6.2	8	25616	26771	4.5	30
Kent	107458	84838	-21.1	25	107482	133996	24.7	18
Lancashire	45372	12630	-72.2	33	43172	112217	160	2
Leicestershire	60287	31460	-47.8	28	61163	62069	1.5	32
Lincolnshire	166175	91670	-44.8	27	171965	171965	0.0	33
Middlesex	21362	32754	53.3	2	62476	169711	171.6	1
Norfolk	168714	139100	-17.6	21	176844	174226	-1.5	34
Northampton	76426	73522	-3.8	14	75393	84801	12.5	27
Nottingham	49894	19890	-60.1	29	52221	68037	30.3	16
Oxford	47465	43466	-8.4	15	49424	60717	22.8	21
Rutland	11389	9055	-20.5	24	10837	11160	3.1	31
Shropshire	44791	24453	-45.4	28	48502	67019	38.2	11
Somerset	102720	92528	-9.9	16	101376	142153	40.2	8
Staffordshire	40783	35939	-11.9	18	40658	62268	53.2	7
Suffolk	111359	113445	1.9	11	113106	129105	14.1	25
Surrey	34274	42094	22.8	4	32613	61356	88.1	4
Sussex	67119	73353	9.3	7	65437	87800	34.2	14
Warwickshire	48349	51337	6.2	8	54714	61542	12.5	27
Wiltshire	80938	71227	-12.1	19	82847	103284	24.7	18
Worcestershire	27630	32669	18.2	5	29105	50135	72.3	5
Yorkshire	227187	84065	-63.1	30	236907	313232	32.2	15

Table 4.06 shows a comparison of the estimates for the population of English counties in 1377 and 1524/5, and the apparent rate of population growth between these two dates. Again, the two methodologies used by A. Dyer and by Broadberry et al. are very different and the results do not coincide although many of the rankings are similar. Counties such as Devon, and some other

West Country counties, and counties such as Middlesex near to London show clear population growth, whereas counties in the north and east show decline.

Estimation of the local population in Devon hundreds was made from taxpayer numbers and multipliers from Darby for 1332 and A. Dyer for 1377 and 1524/5. The results are shown in tables 4.07 and 4.08, the latter corrected by land area to give population per 1000 acres. In the earlier period, north Devon had a relatively high population in hundreds near the coast such as Shebbear, Braunton and South Molton, but a much lower population in more rural inland areas such as Black Torrington and Lifton. South and eastern hundreds of Devon were well populated, especially in those hundreds which had small towns or sea ports. 1377 shows a different picture, with clear depopulation of most of Devon following the Black Death, although there appears to be some preservation of population in urban areas in the south of the county such as Ottery St. Mary and Coleridge hundred. One hundred and fifty years later in 1524, population recovery had largely occurred, with the highest populations in hundreds with urban areas, particularly in the south. Immigration from rural areas of people seeking employment may have also contributed to the high populations seen. The rapid development in eastern hundreds was probably due to the burgeoning textile industry, particularly in small towns. These changes over time are well shown in Figure 4.06.

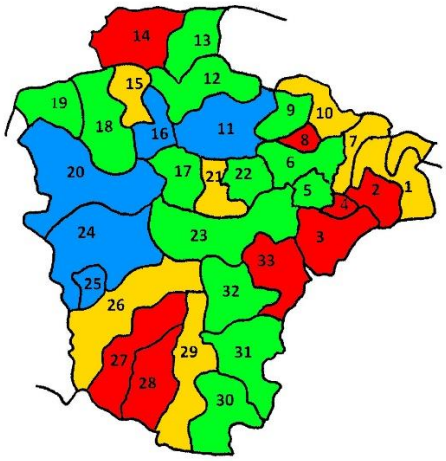
Table 4.07. Estimated population in Devon hundreds in 1332, 1377 and 1524/5

Hundred	Tax Payers 1332	Estimated population 1332 x13.5	Tax Payers 1377	Estimated population 1377 x1.9	Tax Payers 1524/5	Estimated population 1524/5 x6.5
Axminster	325	4388	1918	3644	701	4557
Bampton	206	2781	911	1731	435	2828
Black Torrington	402	5427	2496	4742	1491	9692
Braunton	922	12447	3019	5736	1142	7423
Cliston	159	2147	461	876	309	2009
Coleridge	308	4158	2866	5445	1519	9874
Crediton	292	3942	1176	2234	689	4479
Colliton	297	4010	1092	2075	501	3257
East Budleigh	763	10301	1757	3338	1097	7131
Ermington	728	9828	2310	4389	1133	7365
Exminster	903	12191	2173	4129	859	5584
Fromington	284	3834	1090	2071	636	4134
Halberton	156	2106	420	798	269	1749
Hartland	148	1998	715	1359	372	2418
Hayridge	350	4725	1331	2529	889	5779
Haytor	257	3470	2637	5010	1949	12669
Hemyock	210	2835	694	1319	365	2373
Lifton	341	4604	1121	2130	789	5129
North Tawton	156	2106	1195	2271	576	3744
Plympton	436	5886	1096	2082	733	4765
Roborough	551	7439	1244	2364	1120	7280
Shebbear	471	6359	2734	5195	1004	6526
Shirwell	200	2700	559	1062	160	1040
South Molton	382	5157	1342	2550	729	4739
St. Mary Ottery	283	3821	567	1077	231	1502
Stanborough	526	7101	2262	4298	1222	7943
Tavistock	115	1553	401	762	294	1911
Teignbridge	314	4239	1189	2259	966	6279
Tiverton	165	2228	1083	2058	365	2373
West Budleigh	148	1998	290	551	313	2035
Winkley	51	689	291	553	85	553
Witheridge	168	2268	301	572	448	2912
Wonford	507	6845	2033	3863	1810	11765

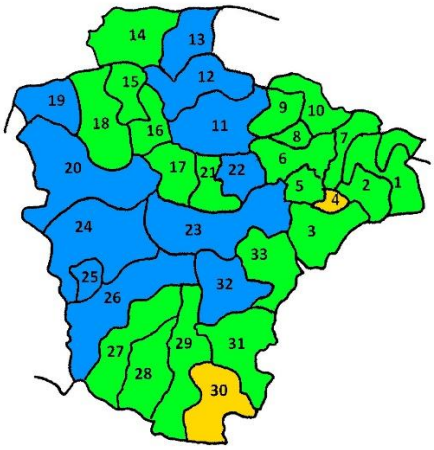
Table 4.08. Estimated population per 1000 acres in Devon hundreds in 1332, 1377 and 1524/5.

Hundred	Area, 1000s acres	Estimated population 1332 x13.5	Estimated population 1332 per 1000 acres	Estimated population 1377 x1.9	Estimated population 1377 per 1000 acres	Estimated population 1524/5 x6.5	Estimated population 1524/5 per 1000 acres
Axminster	51	4388	87	3644	71	4557	89
Bampton	29	2781	97	1731	60	2828	98
Black Torrington	144	5427	38	4742	33	9692	67
Braunton	73	12447	172	5736	79	7423	102
Cliston	16	2147	138	876	55	2009	126
Coleridge	53	4158	78	5445	103	9874	186
Crediton	29	3942	134	2234	77	4479	154
Colliton	24	4010	164	2075	86	3257	135
East Budleigh	53	10301	193	3338	63	7131	135
Ermington	50	9828	195	4389	88	7365	147
Exminster	48	12191	253	4129	86	5584	116
Fromington	35	3834	111	2071	59	4134	118
Halberton	9	2106	241	798	89	1749	194
Hartland	31	1998	65	1359	44	2418	78
Hayridge	47	4725	100	2529	54	5779	123
Haytor	60	3470	58	5010	84	12669	211
Hemyock	24	2835	118	1319	55	2373	99
Lifton	132	4604	35	2130	16	5129	39
North Tawton	48	2106	44	2271	47	3744	78
Plympton	34	5886	173	2082	61	4765	140
Roborough	51	7439	145	2364	46	7280	143
Shebbear	68	6359	93	5195	76	6526	96
Shirwell	48	2700	56	1062	22	1040	22
South Molton	70	5157	74	2550	36	4739	68
St. Mary Ottery	10	3821	384	1077	108	1502	150
Stanborough	64	7101	112	4298	67	7943	124
Tavistock	37	1553	42	762	21	1911	52
Teignbridge	58	4239	72	2259	39	6279	108
Tiverton	24	2228	94	2058	86	2373	99
West Budleigh	32	1998	63	551	17	2035	64
Winkley	9	689	76	553	61	553	61
Witheridge	78	2268	29	572	7	2912	37
Wonford	87	6845	78	3863	44	11765	135

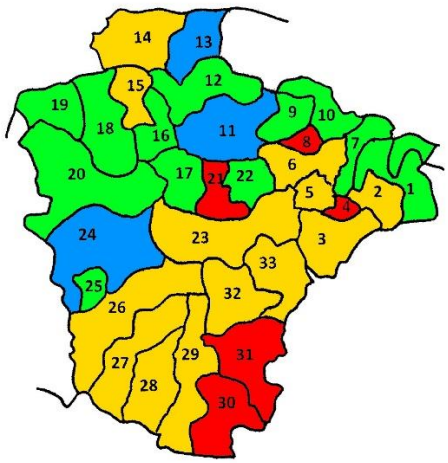
Figure 4.06. Estimated population per 1000 acres by hundred in Devon in 1332, 1377 and 1524/5.



1332



1377



1524/5

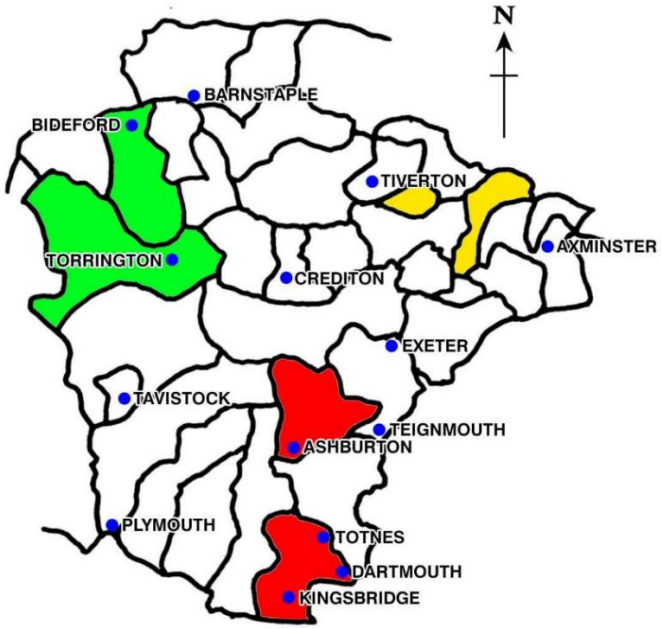
Source: Data from Table 4.10.

Note: Hundred numbers as in Figure 3.04. Key, Red, >150 per 1000 acres; Yellow, 100-149; Green, 50-99; Blue, <50.

This exercise may be repeated at parish level in some of the Devon hundreds for the same three years. Unfortunately, this exercise is complicated by the fact that many returns did not record the tithings or vills within a hundred separately but listed all the payers together.[416] In Devon in 1332 this occurred in the hundreds of Crediton, West Budleigh, Coliton, Axminster, Tavistock and South Molton. In 1377 Hayridge, Bampton, Fremington, Coliton, South Molton, Cliston, Witheridge, Tiverton, Tavistock, and Molland were similarly affected.

To examine Devon hundreds at parish level, two hundreds have been selected from the areas of East Devon (Halberton and Hemyock in yellow), North Devon (Shebbear and Black Torrington in green) and South Devon (Coleridge and Teignbridge in red), shown on the map at Figure 4.06.

Figure 4.07. Map of Devon showing locations of hundreds selected.



Source: Drawn by the author.

[416] This may have been a consequence of Devon's dispersed settlement pattern, also discussed in chapter 5.

These hundreds have detailed records for all three dates, and their data are shown in Tables 4.09-4.14. These hundreds are quite different in their make-up. Teignbridge, whilst predominantly consisting of rural parishes, contained the stannary town of Ashburton, which also later became a major centre for the cloth industry. Shebbear in North Devon was also predominantly rural but had a port at Bideford. In considerable contrast, Coleridge contained the prosperous towns of Totnes and Dartmouth, and the manors around Dodebrooke which later joined to form the town of Kingsbridge.

Table 4.09. Taxpayers, estimated population, and estimated population per 1000 acres for the parishes of Halberton hundred in Devon for the years 1332, 1377 and 1524/5.

Parish	Area 1000 acres		Taxpayers		13.5	Estimated population X 1.9	X 6.5		Estimated population /1000 acres	
		1332	1377	1524/5	1332	1377	1524/5	1332	1377	1524/5
Halberton	5.75	40	129	186	540	245	1209	94	43	210
Sampford Peverell	2.00	19		68	257		340	129		170
Whitage		5	34		68	65				
Canonsleigh		2			27					
Ashford		11	34		149	65				
Leonard Moor		2			27					
Muxbere		12			162					
Willand	0.99	8	30	24	108	57	156	109	58	158
Moorstone		2			27					
Ash Thomas		3			41					
Manley		4			54					
Appledore		14			189					
Assessors		2			2					
Hundred totals	8.74	124	227	278	1651	431	1807	189	49	207

Table 4.10. Taxpayers, estimated population, and estimated population per 1000 acres for the parishes of Hemyock hundred for the years of 1332, 1377 and 1524/5.

Parish	Area 1000 acres		Taxpayers		X13.5	Estimated population X1.9	X6.5		Estimated population / 1000 acres	
		1332	1377	1524/5	1332	1337	1524/5	1332	1337	1524/5
Hemyock	1.27	32	141	89	432	268	579	340	211	456
Culmstock	3.49	28	81	79	378	514	154	151	44	147
Culm Davy		11	40		149	70				
Clayhidon	5.09	24	148	51	324	281	331	64	55	65
Dunkeswell	5.16	11	28	15	149	53	98	29	10	19
Churchstanton	4.98	28	134	64	378	255	51	76	10	10
Awliscombe	2.56	16	61	56	216	116	364	84	45	142
Buckerell	1.55	16	61	36	216	116	234	201	75	151
Waringstone		7			95					
Assessors		2								
Hundred totals	24.10	175	694	390	2337	1319	2535	97	55,	105

Table 4.11. Taxpayers, estimated population, and estimated population per 1000 acres for the parishes of Shebbear hundred in Devon for the years 1332, 1377 and 1524/5.

Parish	Area 1000 acres		Taxpayers			Estimated Population			Population /1000 acres	
					X13.5	X 1.9	X 6.5			
		1332	1377	1524/5	1332	1377	1524/5	1332	1377	1524/5
Newton St. Petrock	1.56	12	N/D	20	162	N/D	130	104	N/D	83
Petrockstowe	4.03	10	78	34	135	148	221	33	37	55
Sheepwash	1.97	13	103	22	176	196	143	89	99	73
Meeth	2.48	6	81	29	81	154	189	33	62	76
Huish	0.99	5	20	17	68	38	111	69	38	112
Beaford	3.20	8	66	45	108	125	293	34	39	91
Iddesleigh	2.95	12	72	46	162	137	299	55	46	101
Merton	N/D	12	102	N/D	162	194	N/D	N/D	N/D	N/D
Lt. Torrington	2.60	11	N/D	33	149	N/D	215	57	N/D	83
Frithelstock	4.00	22	123	53	297	234	345	74	58	86
Heaton Satchville	N/D	10	47	N/D	135	89	N/D	N/D	N/D	N/D
Buckland Fileigh	3.04	9	38	21	122	72	137	40	24	45
Peters Marland	2.20	15	67	24	203	127	156	92	58	71
Langtree	4.14	23	180	64	311	342	416	75	83	100
Parkham	5.81	24	160	58	324	304	377	56	52	65
Abbotsham	1.76	53	180	54	716	101	351	407	57	199
Littleham	1.25	59	86	39	797	163	254	638	131	203
Northam	4.19	28	280	94	378	532	611	90	127	146
Weare Gifford	1.59	7	31	33	96	59	215	60	37	135
Lancross	0.33	6	20	8	81	38	52	245	115	158
Monkleigh	2.18	14	72	58	189	137	468	87	63	215
Buckland Brewer	6.16	N/D	129	98	N/D	245	637	N/D	40	103
Bideford	3.20	30	267	79	365	507	514	114	159	160
Shebbear	5.83	28	N/D	58	351	N/D	377	60	N/D	65
Alwyngton	2.66	N/D	140	49	N/D	266	319	N/D	100	120
Bulkworthy / Putford	N/D	N/D	80	24	N/D	152	156	N/D	N/D	N/D

Note: N/D = data lacking.

Table 4.12. Taxpayers, estimated population, and estimated population per 1000 acres for the parishes of Black Torrington hundred in Devon for the years 1332, 1377 and 1524/5.

Parish	Area 1000 acres		Taxpayers			Estimated population			Estimated population /1000 acres	
					X13.5	X 1.9	X6.5			
		1332	1377	1524/5	1332	1377	1524/5	1332	1377	1524/5
Black Torrington	7.20	34	155	53	459	295	345	64	41	48
Highhampton	N/D	10	34	30	135	65	195	N/D	N/D	N/D
Hatherleigh	7.05	34	200	119	459	380	774	65	54	110
Jacobstowe	N/D	8	N/D	28	108	N/D	N/D	N/D	N/D	N/D
Exbourne	N/D	10	43	35	135	N/D	N/D	N/D	N/D	N/D
Monk Oakhampton	1.49	8	N/D	23	108	N/D	150	72	N/D	100
Broadwood Kelly	2.67	12	86	36	162	163	234	61	61	88
Kigbear	N/D	6	N/D	13	81	N/D	85	N/D	N/D	N/D

Inwardleigh	N/D	12	64	37	162	122	241	N/D	N/D	N/D
Ashbury	N/D	6	N/D	10	81	N/D	65	N/D	N/D	N/D
Northlew	7.25	20	N/D	69	270	N/D	449	37	N/D	62
Beaworthy	N/D	7	33	32	95	63	208	N/D	N/D	N/D
Halwill	3.47	9	45	31	122	86	202	35	25	58
Ashwater	8.59	35	136	72	473	258	468	55	30	54
Luffincot	0.97	4	N/D	9	54	N/D	59	56	N/D	60
Werrington	5.00	53	241	42	716	458	273	143	92	55
Tetcott	2.18	7	N/D	26	95	N/D	169	44	N/D	76
Clawton	5.36	13	160	45	176	304	293	33	57	55
Hollacombe	1.22	5	17	10	68	32	65	56	26	53
Holsworthy	N/D	32	200	100	432	380	650	N/D	N/D	N/D
Chilsworthy	N/D	4	N/D	N/D	54	N/D	N/D	N/D	N/D	N/D
Pyworthy	5.02	22	151	76	297	287	494	59	57	98
Bridgerule	3.22	12	100	26	162	190	172	50	59	53
Bradworthy	9.59	52	206	61	702	391	397	73	41	41
West Putford	2.62	17	N/D	29	230	N/D	189	88	N/D	72
Sutcombe	3.59	12	79	45	162	150	293	45	42	81
Abbots Bickington	1.08	3	N/D	8	41	N/D	52	38	N/D	48
Milton Damerell	4.25	14	160	38	189	304	247	44	72	58
Thornbury	2.77	10	75	26	135	143	168	49	52	61
Bradford	3.47	12	76	40	162	144	260	47	42	75
Samford Courtney	7.96	19	203	(16+102)	257	386	767	26	48	96
Assessors		3			3					
North Petherwin	8.16	N/D	N/D	92	N/D	N/D	598	N/D	N/D	73
Honeychurch	0.61	N/D	N/D	10	N/D	N/D	65	N/D	N/D	107
Cookbury	2.71	N/D	N/D	28	N/D	N/D	182	N/D	N/D	67
Belstone	N/D	N/D	N/D	33	N/D	N/D	215	N/D	N/D	N/D
Northcott	N/D	N/D	14	12	N/D	27	78	N/D	N/D	N/D
Pancrasweek	3.78	N/D	78	36	N/D	189	234	N/D	50	62
St. Giles in the Heath	3.04	N/D	N/D	29	N/D	N/D	189	N/D	N/D	62

Table 4.13. Taxpayers, estimated population, and estimated population per 1000 acres for the parishes of Coleridge hundred in Devon for the years 1332, 1377 and 1524/5.

Parish	Area 1000 acres		Taxpayers		X13.5	Estimated Population X 1.9	X 6.5		Estimated Population /1000 acres	
		1332	1377	1524/5	1332	1377	1524/5	1332	1377	1524/5
Chivelstone[417] South Pool	4.949	26	135	119	513	257	774	104	52	156
East Portlemouth	1.971	10	54	52	135	103	338	68	52	172
Slapton	3.430	22	270	80	297	513	520	87	149	152
Sherford Buckland T-S	3.326	9	50	54	122	95	351	37	29	105
Dartmouth[418]	Town	59	238	183	797	452	1190	Town	Town	Town
Harberton	5.755	76	161	121	1026	306	787	178	53	137
Charleton	2.779	18	129	61	243	245	397	87	88	143
Kingsbridge[419]	Town	56	338	36	756	642	234	Town	Town	Town
Ashprington	2.790	24	63	78	324	120	507	116	43	182
Stoke Fleming	3.332	34	129	87	459	245	566	138	74	170
Totnes	Town	53	303	189	716	576	1229	Town	Town	Town
Blackawton and Strete	5.646	37	231	95	500	439	618	89	78	109
Cornworthy	2.721	24	87	52	324	165	338	119	61	124
Stokenham	6.011	48	531	201	684	1008	1307	108	168	217
Dittisham	3.438	16	126	91	216	239	592	63	70	172

[417] Includes East Prawle.

[418] Includes Townstall, Norton and Southtown.

[419] Includes Dodebroke, Matston, North Pool, Grimston, and Bearscombe.

Table 4.14. Taxpayers, estimated population, and estimated population per 1000 acres for the parishes of Teignbridge hundred in Devon for the years 1332, 1377 and 1524/5.

Parish	Area 1000 acres		Taxpayers		X13.5	Estimated Population X 1.9	X 6.5		Estimated Population /1000 acres	
		1332	1377	1524/5	1332	1377	1524/5	1332	1377	1524/5
Bovey Tracey	7.262	38	150	102	513	285	663	70	39	91
Ideford	1.471	22	30	26	297	57	169	202	39	115
Kingsteignton	4.021	24	39	43	324	74	280	81	18	70
Teigngrace	1.329	10	15	13	135	29	85	102	21	64
Highweek	2.422	22	61	66	297	116	429	123	48	177
Islington	7.563	29	132	88	392	251	572	52	33	76
Ashburton	6.936	53	138	149	770	262	969	111	38	140
North Bovey	5.654	15	31	45	203	59	293	36	10	52
Morehampstead	7.656	29	156	106	392	296	689	51	39	90
Lustleigh	2.939	22	39	19	297	74	124	101	25	42
Manaton	6.393	14	30	54	189	57	351	30	9	55

If the assumptions made in estimating the populations of Devon in this chapter are accepted, it is clear that the county was severely affected by the mortality of the mid-fourteenth century. In Halberton and Hemyock a fall of over half of the population is seen but there was an almost total recovery by 1524. Some villages are no longer mentioned in returns but may have been absorbed by neighbouring more prosperous parishes or small towns rather than dying out completely. Alternatively, their apparent disappearance could be the result of difficulties that the tax assessors had in recording Devon's widely dispersed hamlets and farms rather than nucleated villages, leading to variations in their assignments. Centres in Halberton particularly increased in size during the fifteenth century, possibly reflecting the growth of the cloth industry there.

In north Devon the picture was different. While all parishes saw a setback from the plague and many recovered, there were many parishes that did not, and were much smaller a century later in terms of population per acre than at the beginning of the fourteenth century. Examples are Bradworthy, Ashwater and Bridgerule in the hundred of Black Torrington, and Sheepwash, Buckland Fileigh and Peters Marland in Shebbear. What is remarkable, however, is that there are neighbouring parishes such as Meeth, Huish and Beaford in Shebbear, and Sampford Courtenay, Pyworthy and Sutcombe in Black Torrington which appear to recover and prosper.

South Devon also suffered badly from the plague, evidenced by the data for Coleridge and Teignbridge. Recovery over the following century and a half appeared more complete in some parishes than others and in towns such as Totnes, Dartmouth, and Ashburton. This apparent recovery may have been due to an influx of residents from surrounding areas during the fifteenth century as new opportunities arose for alternative occupations to farming. Around England at this time there is evidence for the rise of small towns and industrial villages, but often at the expense of older established centres.[420] These small towns were often the site of an expanding cloth industry, although its progress through the fifteenth century had peaks and troughs. Devon had a particularly large number of small towns for its size, as has been noted in chapter two.

4.04 Conclusion

The population of England is generally believed by many historians not to have recovered completely after the Black Death during the fifteenth century. Broadberry et al. argue that the population only began to recover in the sixteenth century although not quite reaching pre-plague levels by 1600. The point at which this recovery began is uncertain.[421] The possible causes for the lack of population growth in the fifteenth century suggested include repeated epidemics of plague and other febrile illnesses or changes in fertility. Wrigley and Schofield have written extensively supporting the later thesis. From data extracted from parish registers after 1538, they concluded that late medieval population was determined by 'quiet fluctuations in fertility' thus securing 'an accommodation between population and resources'.[422] Hatcher has robustly challenged this position, using evidence for mortality amongst two monasteries to show recurrent episodes of early mortality dominated the late fourteenth and fifteenth centuries, and were more likely to have been a reason for the failure of the population to recover.[423]

The data shown here shows that failure of the population to recover was not an even occurrence across England. Table 4.06 shows the estimated populations

[420] Hatcher, 'The Great Slump', pp.268-270; C. C. Dyer, *An Age of Transition? Economy and Society in England in the Latter Middle Ages* (Oxford University Press, 2005), pp. 190-194.
[421] Broadberry, *British Economic Growth*, pp. 3-31.
[422] Wrigley and Schofield, *The Population History of England.*
[423] J. Hatcher, 'Understanding the Population History of England, 1450-1750,' *Past and Present*, 180 (2003), 83-130; J. Hatcher, A. J. Piper, D. Stone, 'Monastic Mortality: Durham Priory 1395-1529', *Economic History Review*, 59 (2006), 667-687.

for English counties at 1377 and 1524/5 and the percentage change in estimated populations between these dates. The total estimated English population is shown as 2.19 million in 1377 and 1.48 million in 1524. This is similar to an estimate made by Campbell of 1.84 million (confidence limits 1.05-2.92 million) for 1524. He derived his estimate from listings for Norfolk, Suffolk and Essex in 1524 and the proportion of the whole English population in each county at the 1377 poll tax.[424] In most cases the county population had fallen, and this was most marked in the northern most counties. This overall decline has overshadowed the fact that some regions saw an increase in population during this period. Differences in population are likely to reflect differences in economic performance, with some areas attracting immigrants due to the availability of land and other means of making a living. For Devon estimated population levels were 81,604 in 1377 and 130760 in 1524, representing an annual increase averaging 0.32 percent (logarithmic growth). The only counties to show an apparent increase in population were Middlesex, Surrey, and Hampshire (0-25% growth) and Devon (40% growth). Using Dyer's multipliers for Devon of x1.9 for 1337 and x6.5 for 1524 a growth of 79.3% is seen over this period. The reason for these increases may not have been increased fertility but is more likely to be immigration from elsewhere to counties with a more buoyant economy.

Campbell's estimate for the England's population in 1524 using lay subsidy data is similar to this author's, but much lower than the estimates of Cornwall and of Broadberry et al., and he feels that it is not compatible with a generally held view that the population was 3 million in about 1550. He reluctantly concludes that:

> The evidence of the lay subsidies is too equivocal to be conclusive…the same data are capable of yielding a wide range of different estimates…and it will be necessary to turn to alternative, if even more intractable, sources of evidence.[425]

However, this thesis is not so much concerned with exact total populations at national, county, hundred or parish level but more with a comparison of the proportional changes that have occurred over time.

[424] Campbell, 'The Population of Early Tudor England', 145-154.
[425] Campbell, 'The population of Early Tudor England', 154.

Examination of the tax returns from the fourteenth to sixteenth century gives information about the wealth of counties and communities in England with some certainty, and about actual populations with some reservations. In the absence of census data at this time, only approximate estimates of the population may be made. Ranking counties by their number of taxpayers per 1000 acres in 1332 and 1377 gives an indication of the distribution of England's population at both times, although the data for 1332 is incomplete.

For the county of Devon, the change in rank of hundreds' tax revenues per 1000 acres between 1334 and 1524/5 shows the areas increasing in wealth to be mostly those in the east and south of the county. Estimating actual populations from the same data using different multipliers for each period involves many assumptions, but if the results can be accepted, they show the dramatic changes for each hundred over the period. Working at parish level in six sampled hundreds again shows how different the changes could be within a relatively small area.

Using estimated population figures, it can also be shown that Devon's total population increased by forty percent over the period of 'the long fifteenth century', and although the reasons for this are not clear, it is likely to either to be the cause, or associated with, the county's increased prosperity at this time. Looking at data from hundred and parish levels, increasing prosperity was very localised, being centred around ports and towns, favouring the east and south of the county over the north. Towns have always been a magnet for those without land or wealth, who migrate from rural areas in the hope of a better living.[426]

This chapter has demonstrated that the estimated population in Devon recovered after the Black Death more quickly than in many English counties and grew considerably during the fifteenth century. Within the county this increase was uneven, but most marked in the southern and eastern areas. Possible reasons for these changes may include the decline of the previously important north coast ports due to silting, the development of cloth towns in the east and south of the county, the increasing importance of tin mining, and

[426] M. Kowaleski, 'Medieval People in Town and Country: New Perspectives from Demography and Bio-archaeology', *Speculum,* 89 (2014), 573-600.

pastoral agriculture, and ship building and provisioning, international and local trade, and fishing in the south coastal ports.

Chapter 5. International trade

5.01 Introduction

The previous chapters have used local taxation records to estimate changes in the wealth and population in England, and particularly in Devon, between the mid-fourteenth and early sixteenth centuries. While it was evident that the south of England, and especially Devon, prospered during at least some parts of 'the long fifteenth century', the causative influences are not obvious but are likely to be multiple.[427] The growth of coastal and international marine trade is likely to have been one of these factors, and it can be seen from the evidence for the wealth of counties in chapter 3, that those counties with flourishing ports were the most successful at that time. Examples are London, Essex, Middlesex and Hampshire and Devon. This chapter uses studies the records of port customs records from Southampton and Exeter during this period to examine the extent and nature of international maritime trade and possible effects of this commerce on the local economy. The volume of trade indicates both the source and extent of Devon's wealth at this time, the former as exports and the latter as imports. It is, however, important to distinguish as far as possible between goods consumed or produced in Devon, from those in transit to and from other regions.

Until 1275 customs duties were negligible, as were personal taxes. The king lived on the income and resources of his extensive lands.[428] National customs had been occasionally imposed for short periods, but their effect on trade was not significant. Edward I in 1275, having seen the success of customs duties in Naples and Sicily, and laden with debt from wars in Scotland and Wales, imposed a new custom on wool and hides being exported, being due from all merchants whether English or foreign. Initially, this tax raised some eight to ten thousand pounds a year, and was imposed every year, continuing for centuries until the export of wool had become minimal and was eventually prohibited in 1547.[429]

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[427] G. Harriss, *Shaping the Nation, England 1360-1461* (Oxford, Oxford University Press, 2005), pp. 264-9; J. Hatcher, 'The Great Slump of the Mid-fifteenth Century', Ch.12 in *Progress and problems in medieval England*, eds., R. Britnell and J. Hatcher (Cambridge, Cambridge University Press, 1996), pp. 237-272.
[428] J. F. Willard, *Parliamentary Taxes on Personal Property, 1290-1334* (Cambridge, MA, Mediaeval Academy of America, 1934), pp. 3-8; E. M. Carus-Wilson and O. Coleman, *England's Export Trade, 1275-1547* (Oxford, Oxford University Press, 1963), pp. 1-4.
[429] Carus-Wilson and Coleman, *England's Export Trade*, pp. 1-3.

5.02 Southampton and Exeter

Southampton and Exeter were chosen as ports to study because their proximity makes for many similarities, but also as their trading patterns during the fifteenth century differed in many respects. Both Southampton and Exeter were ancient ports, the former being active in continental trade from Saxon times, and the latter from the Roman period, mainly through its outports of Topsham and Exmouth. Both were involved in coastal as well as international trade.

Southampton gained importance during the fourteenth and early fifteenth centuries in the Mediterranean trade, with a deep port able to receive Italian galleys from Venice and Genoa. They often chose Southampton with its good land connections to London rather than risk a voyage around the sandbanks off the Kent coast to enter the Thames, and also because London charged a payment known as 'scavage'. This was a duty exacted from non-resident merchants on all goods they had for sale. Most of Southampton's international trade was in the hands of foreigners with the town burgesses mainly acting as middlemen. Many leading men of the town were engaged in trade with the Mediterranean ports but never went there personally; instead, they established good relationships with visiting Italian merchants. They hosted their visitors and competed with each other for the right to handle their goods.[430] In 1447 the king recorded that

> Southampton…abounds in merchants, sailors and mariners who flock from distant parts to that town with an immense quantity of cargoes… galleys and ships plying with merchandise to the port there.[431]

The Italians' main interest was securing cloth, mainly from Wiltshire's flourishing weaving industry. But wool was also profitably exported to Italy legitimately by-passing the wool staple at Calais. In return they received alum, dyes (mainly woad), cotton (from Egypt) and sweet wine and spices.[432] These goods were later shipped coastally to more minor ports on the south coast or carted inland locally and to London.

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[430] A. A. Ruddock, 'Italians in Southampton, 1350-1460', Chapter 2 in A. A. Ruddock, *Italian Merchants and Shipping in Southampton, 1270-1600* (Southampton, University College, 1951.

[431] C. Platt, *Medieval Southampton: The Port and Trading Community, AD 1000-1600* (London, Routledge, Keegan, and Paul, 1973), pp. 152-155.

[432] M. Hicks, ed., English Inland Trade, 1430-1540 (Oxford, Oxbow Books, 2015), pp. 6, 14.

Exeter had been involved in the international wine trade since as early as the thirteenth century with seasonal fleets leaving for Bordeaux in the autumn, returning the following spring.[433] However, most of the other maritime business conducted through Exeter was coastal, with foreign and local goods being landed at Dartmouth, Portsmouth, and some smaller West Country ports, but being customed at Exeter. This was because the River Exe was blocked below Exeter by a weir and silt. Exeter's outports were Exmouth and Topsham with goods carted to the city.

Although most of England's extensive international trade was with Italy, Spain, France, and the Low Countries during the fifteenth century, Portugal also was an active trading partner. Ships plied between mainly Lisbon and London, Bristol, Southampton, and Dartmouth. Most sailing was during the summer months, but inward sailings to England in December brought dried fruit and sweet wines for the festive season. Trade was fostered by royal and aristocratic links which had built over the years. English imports were oil, wine, wax and *grain* (a red dye for cloth) together with dried fruit and honey. By the end of the fifteenth century this list included marmalade, sugar (from Madeira), almonds, oranges, pomegranates and even parrots. Exports consisted mainly of different varieties of cloth such as kerseys in addition to broadcloth, and from London, pewter and brass vessels and other small, manufactured goods. Trade declined in the mid-fifteenth century as the result of economic recession but recovered by the 1490s.[434]

5.03 Customs records

By 1303 a new custom duty was imposed nationally on all goods imported or exported by alien merchants, and by 1347 a cloth custom was imposed on both denizen and alien merchants. The actual totals of customs duties paid were comprehensively recorded at a national level (in the enrolled accounts) and have largely survived, but the few surviving local customs records, the particular accounts, are often incomplete or affected by multiple exemptions.[435] Those of

[433] S. Rose, *The Wine Trade in Medieval Europe, 1000-1500* (London, Bloomsbury, 2011), pp. 59-88.
[434] W. R. Childs, 'Anglo-Portuguese Trade in the Fifteenth Century', *Transactions of the Royal Historical Society*, 2 (1992), 195-219.
[435] Carus-Wilson and Coleman, *England's Export Trade*, pp. 4-33; N. S. B. Gras, *The Early English Customs System: A Documentary Study of the Institutional and Economic History of the Customs from the Thirteenth to the Sixteenth Century* (Cambridge, MA, Harvard University Press, 1918), pp. 3-20.

Southampton and Exeter are among the few particular accounts that have survived substantially intact and cover a reasonable period of time. Most national enrolled accounts have survived, and although less detailed, cover the country more completely. The importance of these customs is indicated by the fact that during the second half of the fourteenth century, fifty percent of the king's revenue was derived from it.[436]

The Southampton records are used here as a comparison to those of Exeter, as although they are not from Devon, they are from the nearest major international port trading with the Mediterranean. They have been transcribed and published and are of assistance in understanding Exeter's records.[437] The latter were consulted at the Devon Record Office, photographed, transcribed and translated to provide the data here. Customs rolls for fifteen sample years across the period between 1399 and 1510 have been used. They vary in length between one and six vellum membranes each year, and all but two of these years selected appear to be complete.

In this chapter, firstly the socio-political events of the period and their possible effects on maritime trade are discussed. The sources of the customs data used are then described, together with their limitations. Southampton and Exeter customs are presented and analysed in tabular form to indicate the type and volume of trade and their fluctuation over the fifteenth century, and comparisons are made between the two ports.

5.04 Effects of social and political change on maritime trade during the fifteenth century.

The changes in the importance of maritime trade in the fifteenth century cannot be fully considered without reference to the political upheavals at home and abroad at this time. The fourteenth century saw major social change following the great loss of population due to famines and plague, and the cost to English

[436] Carus-Wilson and Coleman, *England's Export Trade*, p. 3.

[437] P. Studer, The Port Books of Southampton, 1427-30 (Southampton, Southampton Record Society, 1913); H. S. Cobb, The Port Books of Southampton, 1439-40 (Southampton, Southampton Record Society, 1961); B. Foster, The Port Books of Southampton, 1435-6 (Southampton, Southampton Record Society, 1963); E. A. Lewis, The Port Books of Southampton, 1448-9 (Southampton, Southampton Record Society, 1993); D. B. Quinn, The Port Books of Southampton, 1469-71, 1477-81 (Southampton, Southampton Record Society, 1937, 1938); T. B. James, The Port Books of Southampton, Vol.1 andVol.2, 1509-10 (Southampton, Southampton Record Society, 1990).

taxpayers of a series of battles with France, later referred to as the 'Hundred Years War'.[438]

Despite various treaties, conflict with France recommenced at the beginning of the fifteenth century, to continue intermittently for fifty years. Apart from some notable victories for the English, the end result was the loss of almost all English held territories in France except for Calais. The subsequent disquiet over these events at home in England may have been a contributing factor in the start of the civil war, later termed the 'Wars of the Roses'.[439]

It might be expected that these military campaigns and battles would have had a devastating effect on maritime trade, especially with France.[440] However, unlike modern warfare, these conflicts were intermittent, localised, and involved a small proportion of the total population, as well as usually occurring on foreign soil or at sea. These attributes are very different from modern warfare with its massive involvement of civilian populations, and sustained onslaught over time. The only exceptions were the *chevauchees* against rural communities in France. This was a raiding method for weakening the enemy, primarily by burning and pillaging enemy territory reducing the productivity of the region, and usually carried out on horseback. The technique was largely used in the fourteenth century under Edward III but remained in use in the fifteenth century under Henry V.[441] Most battles, although brutal, only lasted a day. From this it can be argued, as has indeed McFarlane, that international or civil warfare had but a limited influence on maritime trade activity during the fifteenth century. [442] The evidence from local port records from the South-West suggests that this was indeed the case, as trade remained relatively active over this period, although with signs of economic recession in the mid-century. Indeed, Touchard when writing about Exeter trade claimed that the evidence pointed to a port largely immune from the political crises of 1380-1430, describing it as an era of

[438] I. Mortimer, *The Perfect King, The Life of Edward the Third* (London, Cape, 2006), pp. 223-255; M. Kowaleski, 'Warfare, Shipping and Crown Patronage: The Impact of the Hundred Years War on the Port Towns of Medieval England', in L. Armstrong, I. Elble, M. M. Elble , eds., *Money, Vol.1, and Vol.2Markets and Trade in Late Medieval England* (Leiden, BRILL, 2007), pp. 233-256.
[439] D. Grummit, *A Short History of the Wars of the Roses*, (London, I. B. Tauris, 2013), pp. 13-21.
[440] M. M. Postan, 'Some Social Consequences of the Hundred Years War', *Economic History Review*, 12, (1942), 1-12.
[441] S. Cooper. *The Real Falstaff: Sir John Falstolf and the Hundred Years War* (London, Pen and Sword, 2010), pp. 70-6.
[442] K. B. Mcfarlane, *The Wars of the Roses*, The Raleigh Lecture on History (London, British Academy, 1964).

'Golden Mediocrity'.[443] By this one assumes that he meant a time of modest success during average activity.

No European country held maritime supremacy during the fifteenth century. Navies were pulled together by commissioning merchant vessels for a short period, usually to raid the coast of an enemy country, and doing little lasting harm but often offering the chance of plunder. The effect was to demonstrate superiority, rather like the *chevauchees* in France during the previous century. Small fleets did patrol the Channel during the earlier part of the century to facilitate safe passage of troops to France and later to escort wine fleets on the route to and from Bordeaux, and even fishing fleets to Iceland. The foundation of a regular navy had to wait another century.[444]

5.05 Sources.

Extant local customs records for the fifteenth century exist as paper port books in Southampton, but as vellum rolls in lesser provincial ports such as Exeter. The local accounts record the ships entering harbour, usually giving date of arrival, name of ship and master, the cargo type and quantity, and names of merchants who were responsible for paying any customs due. The actual fees collected were also recorded, although these varied not only according to the type of goods in question, but also with the status of the merchant and his home port. Exchequer accounts were the government's central tally from all the local port accounts and cover much of England at this time. Although these are usually fairly complete, they lack many of the details of interest to historians.[445]

Southampton

The records from Southampton show the activity in a provincial, yet well-established trading centre in the South of England. Many of the customs records survive from the town, and have been transcribed and published over the last century by several authors, providing insight into economic activity on

[443] H. Touchard, *Le Commerce Maritime Breton, a la Fin du Moyen Age* (Paris, Les Belles Lettres, 1967).
[444] C. F. Richmond, 'English Naval Power in the Fifteenth Century', *History*, 52 (1967), 1-15; N. A. M. Rodger, *Essays in Naval History, from Medieval to Modern* (Farnham, Ashgate, 2009).
[445] M. Kowaleski. *Local Customs Accounts of the Port of Exeter 1266-1321,* Vol. 36 (Exeter, Devon and Cornwall Record Society, 1993), p. 31.

the south coast of England at this time.[446] Southampton was a major trading centre in Saxon times and became even more important from the late thirteenth century with the development of the Mediterranean trade, mainly with Venice and Genoa in Italy, bringing in exotic cloths, wines, dried fruits and spices, and returning with woollen cloth, pewter wares and hides.[447] In most years the inward and outward shipping movements were recorded separately, but unfortunately the origins and destinations of the ships were not noted. Sometimes the name of the master or the type of cargo offer a clue, but no consistent conclusion can be drawn about these aspects of the trade. It is also difficult to separate international from coastal trading although cargoes such as firewood and coal can be assumed to be coastal. Exports such as wine and dried fruit were probably re-exports to local ports of goods previously brought in from further afield.

The Port Books are written in Anglo-Norman, although Latin terms are also used. The earliest records from 1427 include details of all goods, including those exempt from custom, although later books are less detailed and even refer to some goods as 'various merchandise'.[448] The earlier books often record the value of the cargo as well as the custom due. The Southampton Port Books were kept as bound sections which each relate roughly although not exactly to a single regnal year. For many years, the water bailiffs kept records for the Mediterranean fleets separately from ships originating locally or from North European ports, although this arrangement was not followed after the end of the fifteenth century. The books for both Mediterranean and North European fleets, the *Liber Alienigenus* and the *Liber Communis*, are published side by side in the printed series. In later years all shipping and cargoes were included together in a single document.

The principles upon which customs were levied remained essentially the same over this period. While customs due were equal for both denizen and alien merchants, many privileged citizens traded free of custom. Charges were usually the same whether goods were imported or exported, and the rates

[446] Southampton Record Society, *The Port Books of Southampton 1427-30*, P. Studer (1913); *1435-6*, B. Foster (1963); *1439-40*, H. S. Cobb (1961); *1448-9*, E. A. Lewis (1993); *1469-71*, D. B. Quinn (1937); *1477-81*, D. B. Quinn (1938); *1509-10, Vol.1*, T. B. James (1990); *1509-10, Vol.2*, T. B. James (1990).
[447] A. A. Ruddock, *Italian Merchants and Shipping in Southampton 1270-1600* (Southampton, Southampton Record Society, 1951), pp. 9-36.
[448] James, *Port Book of Southampton, 1509-10, Vol.1*.

charged were remarkably stable over the fifteenth century. Many goods such as cloth and wine had specific charges, but others were subject to *ad valorem* charges of between one and three pence in the pound sterling. This system allowed for charges to be easily placed on new items of trade, and for increases in dues paid with increasing values of goods over time.[449] The great variety of units used to measure goods make accurate attempts at estimating the true volume of trade, in terms of actual quantities of goods, difficult.

As with most customs systems, Southampton exempted many merchants from the payment of duties on the goods they were trading. Many of these exemptions were long-standing and had been created by the crown in return for services rendered. The principal qualification for exemption was to be a burgess. Burgesses had to be freemen of Southampton and belong to the town guild. Some alien merchants could also become burgesses, but only when trading on their own account, rather than as agents for others. Despite these arrangements, there were frequent disputes as to whether merchants had the right to freedom of tolls, usually based on the citing of ancient custom or ecclesiastical connections.[450] Food and wine for the merchant's own use was usually toll free. These exemptions make the interpretation of the tolls recorded in the port books very difficult. Various other taxes on visiting ships such as cranage, anchorage, keelage, wharfage and even murage, a tax which was a contribution to the repair of the town walls, could be exacted and are recorded alongside customs payments.

Exeter

Exeter had collected town customs from as early as 1178, and records of ships entering the ports (Topsham and Exmouth) are found in the rolls of the Mayor's Court during the thirteenth and early fourteenth centuries. Separate port customs rolls for Exeter began in 1302/3 and seventeen such rolls on vellum covering the period until 1326/7 survive bound in a single bundle.[451] After this time records for a single year are usually bound together, although often in an incorrect temporal order, suggesting that this was done by a later archivist. For the fifteenth century about seventy percent of the rolls have survived, but the

[449] Cobb*, Port book of Southampton,1439-40,* p. xix.
[450] Cobb, *Port book of Southampton*,1439-40, pp. xxx-xxxi.
[451] Kowaleski, *Local Customs,* pp. 31-43.

series from the years 1381-1433 appears complete. In contrast to Southampton, the local port customs accounts of Exeter are distinguished by their early date, high rate of survival, and comprehensive record of all incoming (but not outgoing) ships. Unlike some records from other towns, such as Scarborough, Yarmouth and the Cinque ports, they list most ship's names, home port and master, the importers, their custom status and custom owed, and the type and quantities of goods imported.[452]

A typical record notes the date of entry, the name of the ship, its home port, and the master before listing the individual merchants, their goods and then the customs pledges. For example:

> *X die Octobre batild vocat le Trinite de Portelmouth unde Willo ate Pole est magister applic in porto Exon usgr le crano on XXX M lapid tegul da magister*

[Translation] 'On the tenth of October a ship called the Trinity from Portelmouth with William Pole as master entered the port of Exeter and using the crane, 3000 roof tiles were unloaded, the property of the master'.

The exact order in which the details are recorded changed over the century, although containing the same information. The language used is initially medieval Latin, but later some French terms are included, and by the early sixteenth century many English terms. Abbreviations abound and spelling is inconsistent, as is the handwriting. Problems are encountered with water damage and fading on parts of the membranes.

Coastal trade was recorded in local port customs accounts but tended not to be included in the national customs accounts, and so there are many discrepancies between such local accounts that survive and the exchequer accounts. As a result, the latter are believed to underestimate Exeter's importance.[453] Dartmouth and Plymouth acted as collection or bulking centres for South-West ports, exporting a wide range of English goods and importing wine and continental luxuries, as well as humbler building materials, dyes and foodstuffs. Exeter City Customs records also include imports through Dartmouth and Plymouth and some other south Devon ports, and this coastal trade is

[452] Kowaleski, *Local Customs,* pp. 31.
[453] Kowaleski, *Local Customs*, p.33.

included within the Exeter City customs. Records of exports through Exeter only survive as exchequer records. Kowaleski, by comparing national customs and local customs between 1385 and 1441 estimated that about seventy percent of Exeter's trade was coastal, much of it from Dartmouth and Plymouth.[454]

During the fourteenth century port customs formed up to nine percent of the total revenues of the city of Exeter.[455] These comprised customs on coastal trade imports, whilst customs on international trade went to the Crown. There were wide fluctuations in trade each year. Customing took place in the city of Exeter, and the monies collected were placed in the pyx (cashbox) in the Guildhall. Well known merchants could delay paying customs due by making a pledge, although this was largely confined to Exeter's elite.[456] London merchants did not pay import duties in many ports in England including Exeter. No list of customs rates for Exeter survives, but the port records give an idea of the customs collected. The charges were relatively light compared with some other ports such as Southampton. Many goods appeared to be imported free of custom during the fourteenth century, but this changed during the fifteenth century, possibly in order to maintain the total of value of custom collected in the face of falling trade, possibly as the result of episodes of conflict with France (despite McFarlane's arguments to the contrary), and population decline.[457]

5.06 Southampton shipping between 1427 and 1510

The numbers and main categories of goods imported by all ships each year into the port of Southampton are shown and summarised in Table 5.01. Table A 5.01 a-f in the appendix gives the detailed data of these ships and goods.

The most frequently customed cargo is wine, mostly from Bordeaux, although the amounts imported vary considerably over the years, possibly as the result of wars, particularly between 1324 and 1453.[458] Large amounts of cloth were handled, most of which was woollen and exported, but this category also includes some imports such as linen and canvas from Brittany and cotton and silk from Venice. The frequency that cloth was customed increased over the

[454] Kowaleski, *Local Markets,* p. 227, Table 6.1.
[455] Kowaleski*, Local Customs*, p. 7.
[456] Kowaleski, *Local Customs*, pp. 9, 13.
[457] Kowaleski, *Local Customs,* pp. 7-12.
[458] Rose, The Wine Trade in Medieval Europe, p. 66.

fifteenth century. Dyes such as woad and madder were initially a major item although became less important after the middle of the century. Tin was traded through Southampton, some being exported abroad, but also shipped to London to supply the pewter industry.

Table 5.01. Number of ships carrying major types of cargo customed at Southampton, 1427-1510.

Goods	**1427/28 N.Euro.**	**1427/28 Medit.**	**1439/40 Denizen**	**1439/40 Alien**	**1469/70 Denizen**	**1469/70 Alien**	**1480/81 Denizen**	**1480/81 Alien**	**1509/10 All**
Ships	256	208	231	190	461	55	293	23	576
(total)	464		421		516		316		576
Wine	55	54	53	41	109	13	70	8	123
Cloth	50	39	54	53	115	43	73	22	125
Dyes	12	40	57	81	24	4	14	1	26
Tin	0	3	2	17	6	6	8	10	25
Iron	39	25	31	4	27	0	21	6	21
Fish	41	25	20	0	51	1	45	1	108
Salt	0	0	12	0	9	0	2	0	20
Food	95	68	79	51	161	18	51	7	239
Misc.	64	67	94	67	87	32	108	16	133

Sources: Data from Southampton Port Books, P. Studer (1427-30); H. S. Cobb (1439-40); D. B. Quinn (1469-71); D. B. Quinn (1477-81); T. B. James (1509-10).

Iron was a consistent import used in construction of tools and ships. Some iron was from continental Europe, but some would have been of English production arriving in Southampton by coastal shipping. There are several unusual and infrequently recorded goods noted as miscellaneous in Table 5.01. These are detailed in Tables A5.02 a-c in the Appendix, grouped as household products, industrial tools and materials, and building materials.

The further analysis of the ‘miscellaneous’ items customed shows a great variety of goods, which were only occasionally recorded. Amongst household items, soap and oil was recorded relatively frequently throughout the century, whereas items such as glass and pewter vessels appeared mainly in the early sixteenth century possibly indicating an increasing prosperity and changing

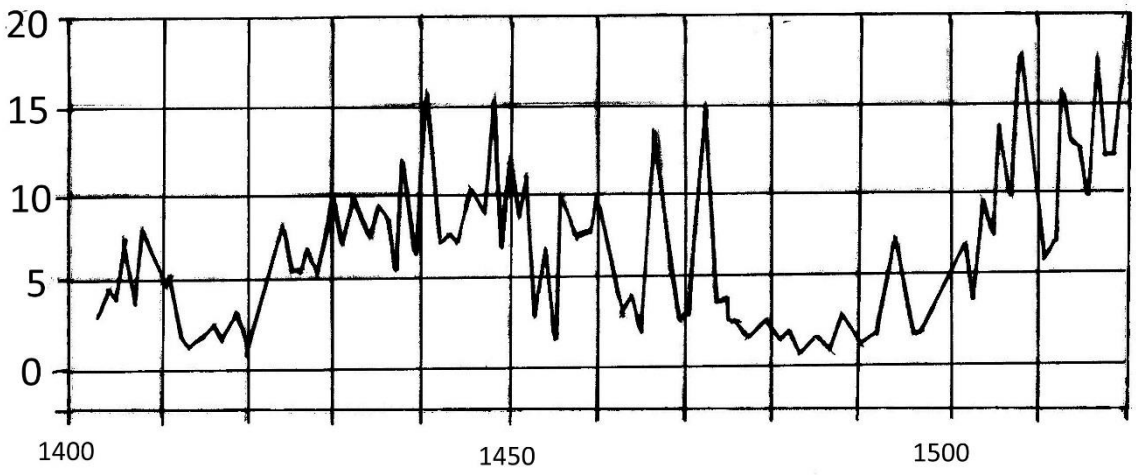
consumption patterns. The good land connections to London from Southampton may suggest that London was their intended destination. The industrial trade remained constant, with many of the items related to boat building and increasingly the leather industry. Building materials were relatively infrequent until the end of the period when many more loads of boards and Caen stone are mentioned, most likely indicating an increase in building construction, possibly again because of increasing local prosperity.

The ports of origin or destination were not recorded, only the port of 'registration' and master's name: the source and destination of the goods cannot be ascertained. [459] Whilst for instance most of the wine customed would have originated in Gascony, much shipping was not international but coastal, redistributing goods to other English ports, and sometimes even to Scotland and Ireland.[460] As a result the shipping records can only being used here as an overall indicator of total trading activity, rather than as that of a specific direction and volume of flow of different goods. Having said that, it can be assumed that goods such as wine from Gascony, and canvas, linen, dyes, and onions from Brittany for example are at least initially continental imports, whereas most woollen cloth, hides and tin comprised English exports. Despite the recurrent episodes of warfare with potential trading partners over the fifteenth century, it is perhaps remarkable that Southampton's trade remained as active as it did over this period.

Figure 5.01 provides some evidence of a decline in cloth exports between 1470 and 1490. Care needs to be taken, however, in the interpretation of apparent declines in overall trade as indicated by the volume of goods customed. This is because of the close links Southampton had with London, with good overland connections. Records suggest that later in the century goods from London being shipped through Southampton were customed prior to leaving London and probably do not appear in Southampton records.[461]

[459] Registration refers to the ship's home port.
[460] S. Rose, 'The Port of Southampton in the Fifteenth Century: Shipping and Ships' Masters', *Proceedings of the Hampshire Field Club and Archaeological Society,* 61 (2006), 174-181.
[461] H. S. Cobb, 'Cloth Exports from London and Southampton in the Later Fifteenth and Early Sixteenth Centuries: A Revision', *Economic History Review,* 31 (1978), 601-609.

Figure 5.01. Exports of cloth as thousands of cloths of assize or the equivalent from Southampton during the fifteenth century



Source: redrawn from Carus-Wilson and Coleman, *England's Export Trade*, pp. 148-9. Note: Data from exchequer records of port customs covering exports.

It is important to realise that in addition to Southampton's trade links with London, the port also supplied a large hinterland. This is recorded in Southampton's brokage books, records of the town's taxes on goods leaving it for many destinations in England. These have been extensively studied by the overland trade project at Winchester University.[462] Winchester, the ancient capital of the area was surrounded by religious houses which required a supply of with necessities and luxury goods imported through Southampton, by both international and coastal trade. Goods included fish, dried fruit, wine, and grain as well as utensils, hops and building materials.[463]

Southampton's trade inland went even further than Hampshire and Wiltshire. Small high value products could easily be carted well inland. Records show that while fish was only carried so far, and wine somewhat further, dyestuffs and spices were transported well inland. Carts were recorded as travelling as far as Derby. Bristol was an important trader with Southampton, exporting cloth to the

[462] W. A. Harwood and A. Murdock, in M. Hicks ed., *English Inland Trade, 1430-1540* (Oxford, Oxbow Press, 2015), pp. vii-xi.

[463] W. A. Harwood, 'A Butt of Wine and Two Barrels of Herring: Southampton's Trading Links with Religious Institutions in Winchester and South Central England, 1430-1540', in L. Clark ed., *The Fifteenth Century: Essays Presented to Michael Hicks* (Woodbridge, Boydell and Brewer, 2015), pp. 207-228.

port overland to be shipped to Italy in return for Mediterranean luxuries and necessities. This trade peaked in the 1460s and 1490s but diminished later. Newbury was also an important trading partner with Southampton sending much of its cloth production there and receiving cartloads of woad.[464] Assessment of Southampton's trade using its customs records demonstrates that it remained active throughout the fifteenth century and was particularly important in the Mediterranean trade, even though this was gradually superseded by a growing trade with France and Iberia in the latter part of the century. The prosperity this generated for Hampshire is reflected in the taxation records for the county at this time (as shown in chapter 3).

5.07 Exeter shipping between 1399 and 1510

A sample of fifteen years of Exeter's manuscript port customs records held at Devon Record Office in Exeter, were analysed and are summarised in Table 5.02. The manuscript records summarised appear complete for each year except for 1441 and 1483, which only include five months each. The other years have entries for twelve months although often not bound in the right order. The entries, unlike those from Southampton, are only for imports. Exports are recorded in the exchequer accounts only, probably as the customs duties on exports went directly to the crown, whilst import duties went to the city of Exeter.

[464] J. Hare, 'Southampton's Trading Partners: Beyond Hampshire and Wiltshire' in Hicks, *English Inland Trade*, pp. 105-110.

Table 5.02. Numbers of ships importing particular goods, recorded in the Exeter City customs rolls for Exeter.

Year	Ships	Wine	Cloth	Dyes	Tin	Iron	Fish	Salt	Food	Misc
1399-1400	91	31 34	20 22	13 14	0	27 30	2 2	9 10	18 20	21 23
1410-1411	78	35 45	15 19	12 15	0	21 27	18 23	10 13	6 8	18 23
1421-1422	82	38 24	24 29	15 18	2 2	16 20	23 28	8 5	23 28	37 45
1433-1434	61	19 31	9 15	14 23	1 2	9 15	23 38	7 11	12 20	20 33
1441 5 mo.	19	7 37	1 5	2 11	0	6 32	2 11	4 21	3 16	10 53
1453-1454	26	19 73	2 8	2 8	0	8 31	3 12	0	6 23	12 46
1459-1460	123	59 48	16 13	10 8	0	26 21	25 20	7 6	18 15	36 29
1461-1462	104	43 41	21 20	15 14	0	24 23	11 11	2 2	19 18	39 38
1463-1464	159	50 31	28 18	19 12	0	43 27	24 15	2 1	21 13	53 33
1471-1472	180	83 46	29 16	11 16	4 2	33 18	35 19	3 2	35 19	43 24
1484 5 mo.	48	24 50	10 21	3 6	2 4	4 8	5 10	1 2	6 13	21 44
1488-1489	111	27 24	17 15	11 10	7 6	5 5	22 20	8 7	16 14	29 26
1489-1490	110	29 26	24 22	8 7	14 13	16 15	23 21	9 8	16 15	41 37
1505-1506	123	43 35	8 15	26 21	11 9	10 8	20 16	13 10	38 31	6 5
1508-1509	127	27 21	39 31	17 13	0	8 6	11 9	15 12	35 28	32 25
Annual Average	96	38	18	12	3	18	17	6	19	29

Sources: Devon Record Office, (uncatalogued manuscripts), boxes labelled Exeter City Archives, Customs Rolls, 1-2 Henry IV, 10-11 Henry IV, 9-10 Henry V, 11-12 Henry VI, 18-19 Henry VI, 32-33 Henry VI, 36-37 Henry VI, 1-2 Edward IV, 3-4 Edward IV, 10-11 Edward IV, 1-2 Richard III, 4-5 Henry VII, 5-6 Henry VII, 20-21 Henry VII, 23-24 Henry VII

Note: Total numbers of ships and ships carrying each class of goods in black. Percentages of ships carrying each class of goods in red.

The main overall observation is that the number of ships customed at Exeter, whilst varying from year to year, gradually increased over the century. When the cargos listed are examined, wine was very prominent, and between a quarter and a half of all ships carried it each year. This was sometimes only a pipe or two for the master's own use, usually free of custom, but could be as much as a hundred tuns.[465] Cloth was the second most frequently carried commodity. This was mostly linen cloth and canvas, but some other types such as voile and chamlet (a finer form of linen), probably from Brittany, are recorded. No general trend in cloth cargos over the century is apparent, although they were least frequent mid-century, increasing later. Cloth was imported on average by eighteen percent of all ships, and dyes such as woad and madder as well as alum, a mordant, by twelve percent, implying that there was an important cloth industry in the South-West. Tin was most frequently carried in the last quarter of the century, although not in as large quantities as at Southampton. This was probably mostly a coastal trade on its way to London where there was a major pewter industry but also included exports to the Mediterranean via Southampton.[466] Amongst the miscellaneous items handled by the port of Exeter were tar, wax, plaster, stone, pelts, and honey in 1400. By 1489 they included foods and spices such as cardamom, almonds, ginger, pomegranates, sugar and pepper, along with materials such as teasels (for raising the nap on cloth), latyn plate (brass plate from Low Countries), feathers, soap and resin. In 1506, the range was even wider, with foodstuffs such as saffron, nuts, raisins and dates, household goods such as glass, oil, soap, paper, and building materials such as paving stones, marble and tiles recorded. There were also luxuries such as playing cards and rare cloths.

Many of these newer products were almost certainly brought from the Mediterranean to deeper ports such as Plymouth, Dartmouth and Southampton which could accommodate larger ships, and then brought by coastal shipping to the Exeter outports of Topsham and Exmouth. Goods were customed at these outports and later carted to Exeter. In the early fourteenth century, wine had predominated together with foodstuffs, dyes, materials, and manufactured goods. In the century from 1350-1450, changing political alliances periodically

[465] A tun consisted of about 256 gallons.

[466] J. Hatcher, *English Tin Production and Trade before 1550* (Oxford, Oxford University Press, 1973) pp.119-135.

affected Exeter's trade with the continent. Cloth exports fell, but soon north-west French ports were replaced by those of south-west France as principal markets. The main exports from Exeter at this time were English cloth, some hides, and fish, traded mainly for wine.[467] The volume of cloth is recorded by Carus-Wilson and Coleman, the figures derived from exchequer rather than local records, as previously shown in Figure 5.01. From the mid-fifteenth century trade prospered, although the proportion of ships with wine fell, and cloth, dyes, tin, and other materials began to dominate. By the end of the fifteenth century, and in the early sixteenth century, the proportions had hardly altered, except for an increase in cloth, salt and, between 1470 and 1490, tin.

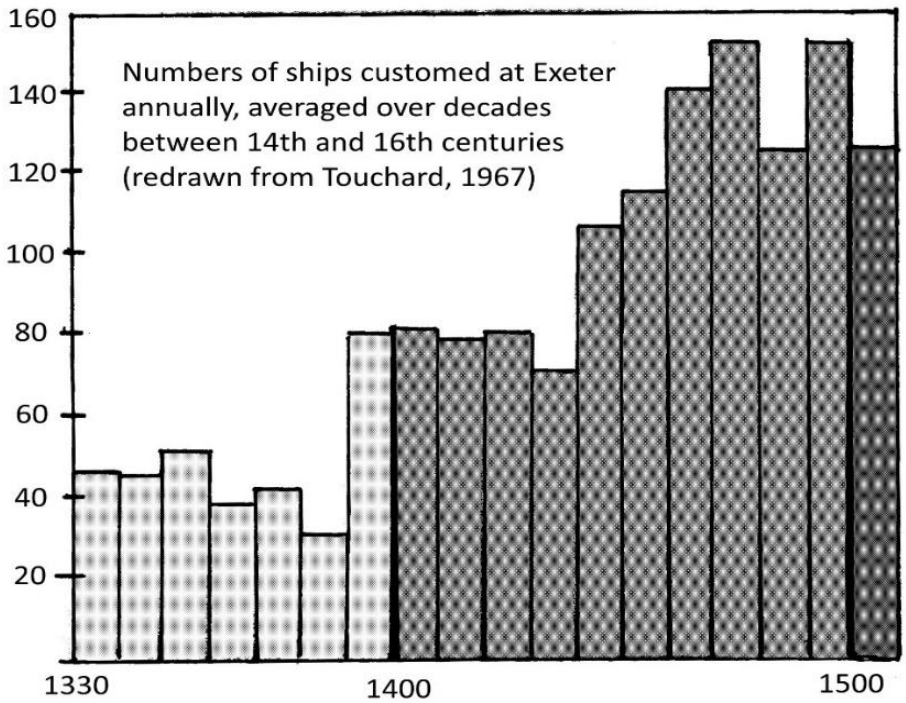
The expansion of the fishing industry, as discussed in chapter two, meant that fish became an increasingly important commodity. Herring (allecium, harryng, bukhorne) had been the most popular fish for centuries, described as 'green' when fresh, 'white' when salted and dried and 'red' when smoked, often for several days. As the century proceeded, a greater variety of fish were imported. Conger eel was brought from the Channel Islands, and sturgeon, salmon, and lamprey from further afield or from South-West rivers. Stokfish was an unspecified fish, but probably mainly cod (mylwell). It was salted and air dried and later beaten flat with 'stoks'. Hake, pollock, dogfish (dentro), mackerel, mullet, haddock, pilchard, sprats and whiting were also listed.[468] 'Brode fysshe' were flat fish but of an unspecified species, but probably including plaice, megrim and sole. Many of the fish types were also described as being 'salio', 'sal', or salted, which was the main method of preservation, or rub' (smoked), much of which was sold abroad in France and Iberia. A curiosity, previously mentioned in chapter two, were puffins. They were believed to come from the sea and were traded as fish. Barrels of puffins were customed in Exeter, mainly shipped from Loo in Cornwall. They were eaten on meat free days.[469]

Our own findings for the sampled years in the fifteenth century can be compared with Touchard's analysis of Exeter's port records for a longer time period. This shows that an average of about seventy ships entered Exeter

[467] Kowaleski, *Local Customs*, 'Agriculture and Trade', pp. 9-40.
[468] M. Kowaleski, 'The Expansion of the South-western Fisheries in Late Medieval England', Economic History Review, 53 (2000), 429-454.
[469] K. Abala and T. Eden, Food and Faith in Christian Culture (New York, Columbia University Press, 2011), pp.105-6.

annually during the first half of the fifteenth century, but this number increased substantially later in the century, peaking at 210 in the 1470s.Touchard's thesis only shows data from local port records up until 1430. It is likely (but not explicitly stated) that his source of data after this date was from exchequer records, which provided a less detailed record of ship numbers and customs collected. His main interest was in Anglo-Breton trade, and so other nations' ships may not have been included.

Figure 5.02. Numbers of ships customed at Exeter between 1330 and 1510.



Source: Redrawn from Touchard, *Le Commerce Maritime Breton,* p.397. Note: Hatching patterns used to differentiate centuries.

Figure 5.02 shows Touchard's data averaged for each decade between 1330 and 1510. These show around 40 ships per year before 1400, then 60 per year until 1450 and then 100-150 per year thereafter.[470] These data substantially agree with this author's results shown earlier in this chapter in Table 5.02. Differences that occur are likely to be due to sampling of the local customs records rather than counting each year from exchequer records.

[470] Touchard, *Le Commerce Maritime Breton*, pp. 396-7, Tables 14 and 16.

In Table 5.02, only the numbers of ships entering and customed with certain types of goods at Exeter are considered. To explore the changes in volume of goods customed at Exeter (Topsham), the data for the four most frequently recorded types of imports; wine, dyes and alum, linen cloth and canvas, and fish, have been extracted for the fifteen representative years from the fifteenth and early sixteenth century also used in Table 5.02. Making valid comparisons between years is made more difficult by the wide variety of measures used, many of which remain undefined. [471] Examining the volume of goods customed as opposed to the number of ships carrying them gives a more detailed indication of the extent and degree of change in maritime trade over the century. A detailed account of the volumes imported into Exeter during fifteen sampled years between 1400 and 1509 is shown in Appendix A5.03, summarised for brevity in Table 5.03. Wine volumes are reduced to tuns, dyes and alum to hundredweights, linen and canvas to fardels, and fish and salt to hundredweights as well.

Year	Wine (tuns)	Dyes, alum (cwt)	Linen, canvas (fardels)	Fish (cwt)	Salt (cwt)
1399-1400	1041	1308	92	628	143
1410-1411	760	549	48	536	164
1422-1423	264	624	56	1358	58
1431-1432	285	389	36	580	33
1441 *	50	36	20	15	25
1444-1445	316	526	0	340	0
1458-1459	293	443	479	433	24
1461-1462	195	1981	284	245	33
1463-1464	320	1238	381	376	3
1470-1471	502	1198	621	673	0
1484 *	192	432	274	44	39
1488-1489	545	730	407	348	160
1489-1490	158	1183	435	360	24
1505-1506	761	2473	2322	364	6052
1508-1509	451	3922	3142	658	6450

Table 5.03. Approximate summary of volume of imports at Exeter, 1400-1509.

Sources. Devon Record Office, (uncatalogued manuscripts), boxes labelled Exeter City Archives, Customs Rolls, 1-2 Henry IV, 10-11 Henry IV, 9-10 Henry V, 11-12 Henry VI, 18-19 Henry VI, 32-33 Henry VI, 36-37 Henry VI, 1-2 Edward IV, 3-4 Edward IV, 10-11 Edward IV, 1-2 Richard III, 4-5 Henry VII, 5-6 Henry VII, 20-21 Henry VII, 23-24 Henry VII

[471] M. Kowaleski, *Local Customs Accounts of the Port of Exeter, 1266-1321* (Devon and Cornwall Record Society, Exeter, 1993), pp. 216-20.

Wine, mainly new red, was imported from Bordeaux in tuns (252 gallons each), pipes (half of a tun) and hogsheads (quarter of a tun). Exception tended to be for sweet wines such as Malmesey, Bastard, Baston, Romeney and Port which were traded in barrels, capites, butts and bottles[472]. Dyes such as madder and woad and alum, a mordant, were needed to supply the burgeoning cloth industry. Madder came in bales (2.5 cwt) but also in tuns and barrels (a quarter hundredweight), woad in tuns (6 quarters), bales and pipes, and alum in cades, lasts, tuns, bales and barrels. Linen cloth (sometimes called Holland cloth if it came from Flanders) was usually in fardels (a bundle of unspecified size), although Kowaleski states that at Exeter it contained 64 cloths, size unspecified [473]. Linen also came in quarters, pieces (usually 60 yards) or actual measurements in yards or ells. Canvas came in fardels (300 yards), bolts (40 yards) and bales.

A wide variety of fish were customed, becoming more varied as the century progressed. 'C' meant the tale or number of fish (100) or their weight (1 hundredweight =112 pounds). A seam or summa was a quarter in weight (28 pounds). A last was 10 seams or 20 cades (a small barrel mainly used for herring). Tuns, pipes, barrels (30 gallons), bushels, killerkins (a half barrel), baskets, hogsheads, fardels and packs were also used applied to fish. Larger fish such as cod, ling and pollock were usually simply counted. Salt was usually measured in quarters or tons, but also by the charge, a unit varying between 5 and 11 hundredweights, but most often 10 cwt. or 40 quarters.

As can be seen from Table 5.03, there was buoyant trade at the beginning of the fifteenth century which declined in volume toward the middle years, before flourishing in the last decades of the century. Wine imports were highest in tuns at the end of the fourteenth century, then declined, recovering later but to no more than half of the previous levels. Dyes, alum, and linen cloth were highest in 1508-9. Salt imports declined over the century but reaching unprecedented levels in the early sixteenth century while fish imports grew markedly. Examination of the Exeter Customs Rolls from the fifteenth century enabled the types of fish traded to be determined. Some fish was recorded simply as sarde, pisces, pissis or fyshhe. Most of the catch over the century, was recorded in

[472] In the medieval period, Malmesey and Romeny were sweet white wines from Greece.
[473] Kowaleski, Local Customs, p. 218.

some detail. Figure 5.03 shows the types of fish landed and how these changed over the century.

Figure 5.03 . Fish types customed at Exeter over the fifteenth century.

	1399	1410	1422	1431	1440	1454	1458	1461	1463	1470	1483	1488	1489	1505	1508
Fish	X	X	X	X			X	X	X		X	X	X	X	X
Herring	X	X	X	X		X	X	X	X	X		X	X	X	X
Cod/ling	X		X	X		X	X	X	X	X	X	X	X	X	X
Lamprey	X	X													
Hake		X	X	X		X						X	X	X	X
Conger		X	X	X		X	X	X		X	X	X	X	X	X
Stockfish		X					X								
Whiting		X	X							X			X	X	X
Haddock			X				X		X	X					
Dogfish				X		X	X	X	X	X	X	X	X	X	X
Mackerel				X	X					X					
Salmon				X	X	X			X						X
Pollock						X	X		X		X	X	X	X	X
Flat fish						X	X	X	X	X	X		X	X	X
Puffin													X		
Pilchards						X	X			X	X		X	X	
Sturgeon									X						
Ray										X					
Sprats													X		X
Porpoise															X

Sources: Devon Record Office, (uncatalogued manuscripts), boxes labelled Exeter City Archives, Customs Rolls, 1-2 Henry IV, 10-11 Henry IV, 9-10 Henry V, 11-12 Henry VI, 18-19 Henry VI, 32-33 Henry VI, 36-37 Henry VI, 1-2 Edward IV, 3-4 Edward IV, 10-11 Edward IV, 1-2 Richard III, 4-5 Henry VII, 5-6 Henry VII, 20-21 Henry VII, 23-24 Henry VII

Kowaleski, using exchequer rather than local records, describes a major increase in the numbers of ships from Devon and Cornwall carrying fish.[474] Expressed as a percentage of all shipping it changed from 25 percent in 1391/2 to 35 percent in 1492/3 and 1497/8. In terms of value, the salt and fish trade had increased from £299 to £1,162 per annum. She notes, however, that the value of this trade was only about five percent of the region's overseas trade at that time, dwarfed by cloth and tin exports, wine and linen imports. She also shows evidence from tithe records, that these valuations of the fish trade probably represent only a fraction of the total, as some eighty percent of fish brought in avoided custom. Table 5.02 derived from local customs records

[474] M. Kowaleski, 'The expansion of the south-western fisheries in late medieval England', *Economic History Review*, 53 (2000), 429-454.

suggests that the percentage of shipping in Devon involved in transporting fish was rather small in comparison with other goods.

5.08 Conclusions

The port customs records, analysed in this chapter, show that the level of maritime trade through the two ports of Southampton and Exeter was sustained, with short-term fluctuations, throughout the fifteenth century. Exeter's records show marine trading expanding across the fifteenth century, both in quantity and variety of goods. The range and quantity of goods imported reflect both Exeter's requirements, and that of a well-connected hinterland with a rapidly developing economy.[475] This is also evidenced by the frequent mention in the port records of merchants from Taunton, Tiverton and Totnes trading in goods, as well as merchants from Exeter.

This was despite a national economic depression generally regarded to have occurred during the middle decades of the fifteenth century or even longer in some parts of England. The ports of the South and South-west found success at a time when previously prosperous ports on the east coast experienced a decline in trade, probably due to silting of their harbours, a dwindling Baltic trade and trouble with the Hanseatic League in the mid-fifteenth century.[476]

At Southampton, the importance of the Mediterranean fleet lessened as the century went on, but their place was to some extent replaced by a growth in the French and Iberian trade, for which southern ports were ideally placed geographically. South Devon ports had already developed considerably as a result of their importance to the Crown, providing and provisioning shipping over the previous century of conflicts with France, as referred to in chapter two..[477]

Southampton differed from Exeter as a port. It benefitted from its proximity and influence from London, and its extensive Hanseatic and Mediterranean commercial contacts. Nevertheless, many trends in the trade of the two ports follow similar lines. There was an increase over the century in the importation of

[475] Kowaleski, 'The Port Trade and the Hinterland', in *Local Markets*, pp. 222-278.
[476] E. F. Jacob, *The Fifteenth Century,1399-1485* (Oxford, Clarendon Press, 1961), pp. 356-360; M. Kowaleski. 'The Port Towns of Fourteenth Century Devon', in M. Duffy et al. eds., *The New Maritime History of Devon* (London, Conway Press, 1992), pp. 476-87.
[477] Kowaleski, 'The Port Towns of Fourteenth Century Devon', p. 63.

luxury goods, foods and spices, greater commerce in cloth of all types, a short period of increased trade in tin towards the end of the century, and more frequent importation of various forms of building materials. It is evident that Devon's maritime trade prospered and grew during the fifteenth century, although no more so than other southern ports such as Southampton. Trade, as recorded here, was clearly an important indicator of Devon's diverse economy in this period. Imports reflect local consumption but also vigorous local industries such as building and cloth manufacture.

6.0 Conclusions

This thesis set out to explore the reasons for Devon's apparent increase in wealth relative to many other English counties during the 'long fifteenth century' by examining the economic factors that may have contributed to this development. It is argued that the great diversity of industries extant in the county at that time provided economic resilience during a difficult period and fostered the development of wealth. Alternative possibilities include the relatively late economic development of the county or the introduction of new technologies.

Classic economics based on the ideas of eighteenth and nineteenth century writers such as Smith, Ricardo, Say and Mills, emphasised that economic growth depended on specialisation in industry and agriculture, and the development of technology promoting economic development. Their ideas included free use of capital, and free markets rather than protectionism, and were developed at the time of the Industrial Revolution. These ideas are inappropriate when applied to the changes seen in the fifteenth century. At that time only the textile industry had shown much technological development; with fulling mills, spinning wheels, and the broadloom. These changes, however, had already been introduced in earlier centuries. Agriculture showed little development in new technologies until the introduction of new crops in the seventeenth century, and more significantly, during the time of the Industrial Revolution when the importance of soil nitrogen was better understood and better breeding improved animal stocks.

A review of what has been written by historians about Devon's agriculture, industries, and economy over the last century is presented in chapter two, with comparisons with other English counties where appropriate. The comparisons for the foundation, growth and decline of boroughs, markets, and towns were examined as a possible indicator of a flourishing economy in Devon. The large number of boroughs, markets, and towns, and their later establishment in Devon relative to other areas in England in the fifteenth century did not clearly correlate, however, with their prosperity at that time. A possible reason for this is that Devon found itself with many new markets and towns as the result of the county's relative underdevelopment until the fifteenth century, or as well as the particular circumstances of its local geography.

All the historians reviewed in this thesis who wrote about Devon's economic history during the fifteenth century agreed, that for at least part of that period, local prosperity grew especially when compared to other English counties. Hoskins emphasised the high tax revenues from the county towns, Finberg describes the wealth of ecclesiastical demesne agriculture, and Hatcher of the resurgence of tin mining. Both Kowaleski and Touchard emphasise the growth of international maritime trade, and Fox and Kowaleski the importance of sea fishing. Carus-Wilson and Coleman describe the burgeoning textile industry. Only perhaps Carus-Wilson and Coleman suggested that the industry they describe was the principal factor in Devon's increasing prosperity. Both Hatcher and Kowaleski note that the county was becoming more diverse in its industries. This thesis argues, however, that it was this diversity rather than any single industry that was responsible for the county's increasing prosperity in the fifteenth and early sixteenth centuries.

Wool exports in the late medieval period had made England very prosperous, but the later development of the English cloth industry even more so. Exeter's exports of cloth, covering produce from most of Devon, rose from about one percent to eleven percent of the national total over the fifteenth century. The tin industry, extraction, smelting, and export having all but ended in Devon at the time of the Black Death, had a renaissance in the later half of the fifteenth century, also becoming an important source of local wealth. Agriculture remained the major industry, although the bulk of production in this period was by small landowners and remains unrecorded. Manorial records survive for

larger and ecclesiastical manors, but even these began to disappear from the mid-century as demesne land was increasingly let out with only rents recorded. Where records exist, it is evident that production fluctuated with climatic changes, and tended towards a dominance of pastoral over arable farming. This favoured Devon's rural economy which was dominated by pastoral farming. The crop returns when recorded compare favourably with other English counties. Fishing as an industry expanded over the century as evidenced by the development of fishing infrastructure and customs records. Not only the volume but the variety of fish landed increased.

It is interesting to compare the industrial diversity in English counties, which like Devon, appeared to flourish during the fifteenth century and those that did not. Norfolk which had been highly populated and prosperous before the Black Death, suffered economic and population decline thereafter, with a fall in foreign trade, arable and fishing, although an important textile industry remained. Derbyshire had some mining for coal and lead, but poor connections for trade. On the other hand, counties such as Surrey, Essex, Middlesex and Hampshire with good connections with London did relatively well. Hampshire for example, had the major port of Southampton with its extensive international trade, fishing, textile trading and manufacture and shipbuilding. It can be seen that economic diversity not only confers resilience to communities but also allows them to prosper. Having multiple industries allows a county, a community or even a household to change their productive focus as situations change. In Devon for instance, agricultural workers could move temporarily to other occupations such as weaving, fishing or tin working when the season allowed.

Evidence for the increase of wealth is presented in chapter three using records of lay subsidies and rebates. Devon increased its wealth ranking between 1334 and 1524 almost more than any other English county. Credit extended, reflected by debts owed, rose rapidly in the later half of the century, indicating a prosperous and actively commercial society. Public building projects, especially churches, were more numerous in Devon during the fifteenth century than in any other county, indicating a growing surplus of wealth and its public expression. It must be said that the evidence suggests that prosperity was not evenly spread across the county, with the south and east generally doing better, but overall the county did well.

Population estimations for the period have been made by historians using different assumptions and methodologies, with varied and often conflicting results. In this thesis a simple method is used, as the aim is to achieve an estimate of proportional population change over a period, rather than an exact determination at a given time. This shows that Devon had the greatest percentage population change between 1377 and 1524 of any of the English counties, and it is argued that this was almost certainly due to immigration from neighbouring counties and from abroad, as the result of the county's increasing prosperity and the opportunities for work afforded by the regions diversified economy.[478]

Chapter five describes the extent and changes in international and coastal trade from two major ports on the south coast, Southampton, and Exeter. Despite some reduction mid-century, volumes later in the fifteenth and early sixteenth century were expanding especially at Exeter, supplying the increasingly populous county of Devon.

In summary, this thesis shows that the increase in wealth and population in Devon during the 'long fifteenth century was unlikely to have been due to late economic development or to the effect of new technologies but instead it was due to the advantage of a highly diversified agricultural, industrial and trading economy in a time of economic turbulence.

Appendices

Appendix to chapter 3

Table A3.14. Occupations of defendants at Court of Common Pleas, 1418-1510.

Gentry.

[478] C. C. Dyer, 'Migrants in Rural England in Later Middle Ages', in W. M. Ormond, J. Storey, E. M. Tyler eds., *Migrants in Medieval England: c.500-c.1500* (Oxford, Oxford University Press, 2020), pp. 238-264; M. Kowaleski, Local Markets and Regional Trade in Medieval Exeter (Cambridge, Cambridge University Press, 1995), p. 39.

Occupation	Derbyshire 1418-65	Derbyshire 1470-1510	Devon 1418-65	Devon 1470-1510
Esquire	8	3	20	17
Gentleman	37	44	155	122
Knight	5	5	10	3
Queen of England	0	0	1	0
Total	50	52	186	142

Church.

Occupation	Derbyshire 1418-65	Derbyshire 1470-1510	Devon 1418-65	Devon 1470-1510
Abbot	5	0	9	8
Canon	0	0	1	0
Chaplain	6	2	7	12
Chopchurche	0	0	1	0
Churchwarden	0	0	1	0
Clerk	6	4	43	26
Pardoner	0	0	2	0
Parson	7	1	18	1
Precentor	0	0	2	0
Prior	5	0	3	3
Proctour	0	0	2	0
Rector	0	1	1	2
Scrivenor	0	0	2	0
Vicar	3	0	9	1
Writer	1	0	0	0
Total	33	8	101	53

Wool/cloth.

Occupation	Derbyshire 1418-65	Derbyshire 1470-1510	Devon 1418-65	Devon 1470-1510
Clothier	0	0	0	5
Draper	6	1	2	3
Dyer	3	5	24	17
Fuller	0	0	11	7
Mercer	6	6	24	21
Panne maker	1	0	0	0
Shearman	2	0	1	3
Shepherd	2	0	0	0
Spinster	0	0	1	0
Toker (fuller)	0	0	0	1
Tucker (fuller)	0	1	1	13
Walker (fuller)	1	0	0	0

Weaver	5	3	14	8
Woolman	1	0	0	0
Total	27	16	78	78

Maritime.

Occupation	Derbyshire 1418-65	Derbyshire 1470-1510	Devon 1418-65	Devon 1470-1510
Mariner	0	0	24	7
Seaman	0	0	1	0
Shipmaker	1	0	0	3
Shipman	0	0	12	0
Total	1	0	37	10

Agriculture.

Occupation	Derbyshire 1418-65	Derbyshire 1470-1510	Devon 1418-65	Devon 1470-1510
Drover	0	0	5	0
Farmer	0	0	2	0
Franklin	2	0	7	11
Husbandman	193	116	472	278
Labourer	12	16	21	9
Swynheler	0	0	1	0
Yeoman	103	81	112	161
Total	310	203	620	459

Food/retail.

Occupation	Derbyshire 1418-65	Derbyshire 1470-1510	Devon 1418-65	Devon 1470-1510
Baker	3	1	10	14
Brewer	0	1	2	2
Butcher	20	6	61	35
Fisher	4	0	5	3
Fish jowter	0	0	7	1
Fishmonger	3	1	2	0
Grocer	1	0	0	1
Hostilier	1	0	2	0
Huckster	0	0	1	0
Inn holder	0	1	0	1
Miller	0	3	0	2
Milner	5	1	0	0
Milward	0	0	4	0
Servant	1	0	2	0
Spicer	3	0	5	0

Taverner	1	0	0	1
Vintner	0	0	1	0
Total	42	14	102	60

Miscellaneous.

Occupation	Derbyshire 1418-1465	Derbyshire 1470-1510	Devon 1418-1465	Devon 1470-1510
Bailiff	1	0	4	0
Barker	0	2	0	0
Carrier	1	0	2	3
Chapman	13	2	20	2
Collier	4	3	0	0
Courtholder	0	0	0	2
Groom	0	0	3	0
Harper	0	0	1	0
Haulier	0	0	1	0
Homer	0	0	1	0
Loader	0	0	1	0
Master of hospital	0	0	0	2
Mayor of Plymouth	0	0	1	0
Miner	4	37	0	0
Minstrel	0	1	0	0
Ostler	0	0	6	0
Schoolmaster	0	0	0	1
Summoner	1	0	0	0
Surveyor	0	1	0	0
Tinker	3	0	0	0
Total	27	46	40	10

Artisan.

Occupation	Derbyshire 1418-65	Derbyshire 1470-1510	Devon 1418-65	Devon 1470-1510
Apothecary	0	0	1	0
Barber	0	0	3	1
Bell founder	0	1	2	1
Bottle maker	0	0	1	0
Bowyer	0	0	2	0
Brass worker	0	0	1	1
Carpenter	1	1	7	4
Cartwright	2	0	0	0
Chandler	0	0	2	0
Cooper	0	0	0	1
Cordwainer	0	0	0	2

Cutler	2	1	0	0
Farrier	1	0	0	0
Fletcher	1	0	0	0
Fourbour	0	0	1	0
Girdlemaker	1	0	1	0
Glaisier	0	0	1	0
Glover	1	0	2	2
Goldsmith	0	0	3	4
Hardwareman	0	0	1	1
Hatmaker	0	0	0	1
Helier (roofer)	0	0	3	0
Hooper	0	0	1	0
Horner	0	0	0	1
Hosier	1	0	1	1
Imagemaker	2	0	0	0
Ironmonger	1	1	0	0
Iron worker	0	1	0	0
Jeweler	0	0	1	0
Lime burner	0	0	0	1
Lockyer	2	0	0	0
Lympner (manuscript illustrator)	0	0	2	0
Marbler	0	0	1	0
Mason	2	0	14	1
Merchant	23	1	129	121
Painter	0	0	0	1
Pewterer	0	0	1	1
Ploughwright	0	1	0	0
Plumber	3	1	3	0
Potmaker	0	0	0	1
Pouchmaker	0	1	0	0
Roper	1	0	0	2
Salter	0	0	1	0
Sadler	2	0	2	3
Scythegrinder	0	4	0	0
Scythe-smith	6	17	0	0
Seamstress	2	0	0	0
Shoemaker	7	4	19	2
Skinner	3	0	7	2
Slater	1	0	0	0
Smith	9	9	19	16
Soper	0	0	1	0
Spurrier	0	0	0	1
Stainer	0	0	0	1
Stringmaker	0	1	0	0
Tailor	3	5	22	18
Tanner	8	1	21	7
Tiler	2	2	0	0
Turner	0	0	1	0

Wax maker	0	0	1	0
Wheelwright	3	0	0	0
Wright	6	0	0	0
Total	73	51	156	77

Merchants

	Derbyshire 1418-1645	Derbyshire 1470-1510	Devon 1418-1465	Devon1470-1510
Merchant	23	1	129	121

Source: Data from http;//aalt.uh.edu.

Appendices to chapter 5.

Table A5.01a. Ships customed at Southampton during 1427-8.

Southampton (1427-8)	Ships	Wine	Cloth	Dyes	Tin	Iron	Fish	Salt	Food	Misc
Northern trade, inwards	107	15 [14]	18 [18]	3 [3]	0 [0]	5 [5]	24 [22]	0 [0]	47 [44]	31 [29]
Northern trade, outwards	149	40 [27]	32 [21]	9 [6]	0 [0]	34 [23]	17 [11]	0 [0]	48 [32]	33 [22]
Mediterranean trade, inwards	102	24 [24]	25 [25]	21 [21]	0 [0]	9 [9]	16 [16]	0 [0]	50 [49]	34 [33]
Mediterranean trade, outwards	106	30 [28]	14 [13]	19 [18]	3 [3]	16 [15]	9 [8]	0 [0]	18 [17]	33 [31]
All trade inwards	209	39	43	24	0	14	40	0	97	65
All trade outwards	255	70	46	28	3	50	26	0	66	66
Total	479	109 [23]	89 [19]	52 [11]	3 [1]	64 [13]	66 [14]	0 [0]	163 [34]	131 [27]

Note: Numbers refer to numbers of ships carrying cargo types recorded. Percentages in parentheses.

Table A5.01b. Ships customed at Southampton during 1439-40.

Southampton 1439-40	Ships	Wine	Cloth	Dyes	Tin	Iron	Fish	Salt	Food	Misc
Denizen trade inwards	113	11 [10]	27 [24]	16 [14]	1 [1]	7 [6]	14 [12]	3 [3]	49 [43]	44 [39]
Denizen trade outwards	118	42 [36]	27 [23]	41 35]	1 [1]	24 [20]	6 [5]	9 [8]	30 [25]	50 [42]

Total denizen trade	231	53 [23]	54 [23]	57 [25]	2 [1]	31 [13]	20 [9]	12 [5]	79 [34]	94 [41]
Alien trade inwards	142	41 [29]	13 [9]	80 [56]	0 [0]	4 [3]	0 [0]	0 [0]	50 [35]	58 [41]
Alien trade outwards	48	0 [0]	40 [83]	1 [2]	17 [35]	0 [0]	0 [0]	0 [0]	1 [2]	9 [19]
Total alien trade	190	41 [22]	53 [28]	81 [43]	17 [9]	4 [2]	0 [0]	0 [0]	51 [27]	67 [35]
Total denizen and alien trade	421	94 [22]	107 [25]	138 [33]	19 [5]	35 [8]	20 [5]	12 [3]	130 [31]	161 [38]

Note: Numbers refer to numbers of ships carrying cargo types recorded. Percentages in parentheses.

Table A5.01c. Ships customed at Southampton during 1469-70.

Southampton 1469-70	**Ships**	**Wine**	**Cloth**	**Dyes**	**Tin**	**Iron**	**Fish**	**Salt**	**Food**	**Misc**
Denizen trade inwards	287	30 [10]	69 [24]	7 [2]	4 [1]	16 [6]	41 [14]	4 [1]	141 [49]	39 [14]
Denizen trade outwards	174	79 [45]	46 [26]	17 [10]	2 [1]	11 [6]	10 [6]	5 [3]	20 [11]	48 [28]
Total denizen trade	461	109 [24]	115 [25]	24 [5]	6 [1]	27 [6]	51 [11]	9 [2]	161 [35]	87 [19]
Alien trade inwards and outwards	55	13 [24]	43 [78]	4 [7]	6 [11]	0 [0]	1 [2]	0 [0]	18 [33]	32 [58]
Total denizen and alien trade	516	122 [24]	158 [31]	28 [5]	12 [2]	27 [5]	52 [10]	9 [2]	179 [35]	119 [23]
Denizen trade outwards	53	11 [21]	33 [62]	0 [0]	3 [6]	4 [8]	1 [1]	0 [0]	2 [4]	20 [38]

Note: Numbers refer to numbers of ships carrying cargo types recorded. Percentages in parentheses.

Table A5.01d. Ships customed at Southampton during 1477-78.

Southampton 1477-78	**Ships**	**Wine**	**Cloth**	**Dyes**	**Tin**	**Iron**	**Fish**	**Salt**	**Food**	**Misc**
Alien trade inwards	12	9 [75]	9 [75]	6 [50]	1 [8]	0	0	0	7 [58]	12 [100
Alien trade outwards	8	1	7	2	6	5	0	0	3	7

		[12]	[73]	[25]	[75]	[63]			[38]	[73]
Total inwards and outwards	20	10 [50]	16 [80]	8 [40]	7 [35]	5 [25]	0	0	10 [50]	19 [95]

Note: Numbers refer to numbers of ships carrying cargo types recorded. Percentages in parentheses

Table A5.01e. Ships customed at Southampton during 1480-81.

Southampton 1480-81	**Ships**	**Wine**	**Cloth**	**Dyes**	**Tin**	**Iron**	**Fish**	**Salt**	**Food**	**Misc**
Denizen trade inwards	240	59 [25]	40 [17]	14 [6]	5 [2]	17 [7]	44 [18]	2 [1]	49 [20]	88 [37]
Denizen trade outwards	53	11 [21]	33 [62]	0 [0]	3 [6]	4 [8]	1 [1]	0 [0]	2 [4]	20 [38]
Total denizen trade	293	70 [24]	73 [25]	14 [5]	8 [3]	21 [7]	45 [15]	2 [1]	51 [17]	108 [37]
Alien trade inwards	8	7 [88]	8 [100]	1 [13]	1 [13]	0 [0]	1 [13]	0 [0]	6 [75]	7 [88]
Alien trade outwards	15	1 [7]	14 [93]	0 [0]	9 [60]	6 [40]	0 [0]	0 [0]	1 [7]	9 [60]
Total alien trade	23	8 [35]	22 [96]	1 [4]	10 [43]	6 [26]	1 [4]	0 [0]	7 [30]	16 [70]
Total denizen and alien trade	316	78 [25]	95 [30]	15 [5]	18 [6]	27 [9]	46 [15]	2 [1]	58 [18]	124 [39]

Note: Numbers refer to numbers of ships carrying cargo types recorded. Percentages in parentheses.

Table A5.01f. Ships customed at Southampton during 1509-10.

Southampton 1509-10	**Ships**	**Wine**	**Cloth**	**Dyes**	**Tin**	**Iron**	**Fish**	**Salt**	**Food**	**Misc**
All trade inwards	325	43 [13]	44 [14]	19 [6]	9 [3]	15 [5]	82 [25]	15 [5]	147 [45]	83 [26]
All trade outwards	251	80 [32]	81 [32]	7 [3]	16 [6]	6 [2]	26 [10]	5 [2]	92 [37]	50 [20]
Total inwards and outwards	576	123 [21]	125 [22]	26 [6]	25 [6]	21 [4]	108 [19]	20 [3]	239 [41]	133 [23]

Note: Numbers refer to numbers of ships carrying cargo types recorded. Percentages in parentheses.

Sources: Data from the Southampton Port Books for all the tables above.

Table A5.02a. Number of ships entering or leaving Southampton with particular household materials or equipment.

Goods	1427/8 N.Euro.	1427/8 Medit.	1439/0 Denizen	1439/0 Alien	1469/0 N.Euro.	1469/0 Alien	1477/8 Alien	1480/1 N.Euro.	1480/1 Alien	1509/0 All
Barrows								1		1
Basins		1					1			
Baskets		3								
Beaver								1		
Beds						2		1		
Beer										2
Bellows								1		
Bells			1		2					
Billets								1		
Blankets										1
Books								1		
Bows			3				4		3	
Bow staves				2						
Bowls		1								
Brassware		1	7					1		1
Brushes								1		2
Buckets								1		
Candelabra										
Candles			3	1	1			2	1	
Candlesticks	1	1					3			
Caps		1								
Carpets									1	1
Cauldrons	1		1		1	1	1			
Charcoal	7	11								
Chests								1		1
Clocks	1									
Cloths			1							
Combs		1			1			2		1
Coral							1		1	
Cord			1					1		
Crosses									1	
Crystal									2	
Cupboards								3		
Cups					1					
Cushions										1
Daggers						1				
Dishes					1					
Fans										1
Feather beds			5		1		2			
Firewood										7
Frankincense					1					1
Frying pans									1	1
Fur hood										1
Furs										1
Garnets							1			
Glass			1					2		11
Gold dust				2						
Gum Arabic				1						
Haberdashery		2				2				3
Hats, straw				1		1		3		

Helmets								1		
Kerchiefs										1
Kettles				2			1	3		
Knives				2					1	
Laces									1	
Lamps										1
Lanterns										2
Mats		2								
Mirrors				1			2	2	2	
Napery			2							
Napkins										1
Needles								1		
Oil		7	10	22			5	16	2	1
Ointment		1								
Pans			1	1	2		1	1	1	
Paper			4	8				3		1
Paper, black		1								
Pen cases							1			
Pepper grinder										1
Pillows			1							
Pins				2			1			1
Pots				2	3			3		4
Pouches							1			
Quilts	1	1	2					1		
Razors							2		1	
Scissors								1		
Shears							2			
Sheets				2						
Shoes	1	1								
Shovels								2		1
Sieves					2			2		1
Soap	4	11	21	2	4	2	1	2	6	9
Soap, black			1	7				2		
Soap, white				2						
Spurs			1				1	1		
Staves			1		3	1				1
Stirrups										1
String										1
Tablecloths										1
Tables										1
Tablet										1
Tennis balls								2		
Thread	1	3		1			5	1	2	4
Towels										1
Veneer	1									
Vessels			5							
Vessels, metal				1						
Vessels, pewter	1	11								14
Vessels, tin					5	6	2	1		
Wicks			2							
Wormseed		1								

Table A5.02b. Number of ships entering or leaving Southampton with industrial materials or equipment.

Goods	1427/8 N.Euro.	1427/8 Medit.	1439/0 Denizen	1439/0 Alien	1469/0 N.Euro.	1469/0 Alien	1477/8 Alien	1480/1 N.Euro.	1480/1 Alien	1509/0 All
Anchors	2		1							1
Borax									1	
Cables		1	2		1					
Calfskins	1				1	5				1
Cards	6	2	9		2	1	1	7		8
Cattle								2		
Chain							1			
Clapholt	2									
Coal			6		6			6		2
Compasses										1
Cordwain	1									
Cork					4	1		6	1	3
Elephant tusks										1
Emery								1		
Flax			1		1	1				
Floats	1									
Furnaces										1
Galls					1				2	2
Grindstones										2
Hemp		1						1		
Hides		6	5	11	5	7	8	15		36
Horn										1
Horse bits										1
Horses			1					1		5
Hoses	1	2	1							
Hutches	1									
Lambskins		4		3		1				1
Leopard skins				1						
Litmus								1		
Millstones	5	2		2				6		
Oakham	1									3
Ovens										
Paint pots		3								
Pelts										1
Pitch			12					3		6
Quernstones		3	8							
Rabbit skins	1		2		2					
Resin		3		1	4			4		
Ropes	2	1	1		2					5
Rosin	3		4							9
Saltpeter			1				1		1	
Sheep skins			1							
Skins		1							10	
Sulphur			1	1						
Tallow	4		3	2	6	1	1	4	1	4
Tar	9	2			11			4		7
Teasels	3	1						2		1

Thrums								1		
Turpentine					1					
Wax	3	9	2	14	2	4	2		2	2
Wheelbarrow								1		
Woolfells										
Yarn	1		1				1			

Table A5.02c. Number of ships entering or leaving Southampton with building materials.

Goods	**1427/8 N.Euro.**	**1427/8 Medit.**	**1439/0 Denizen**	**1439/0 Alien**	**1469/0 N.Euro.**	**1469/0 Alien**	**1477/8 Alien**	**1480/1 N.Euro.**	**1480/1 Alien**	**1509/0 All**
Boards	1	2								9
Bricks	2				1					
Caen stone								3		16
Floorboards	1	1			4					
Laths	2				2					2
Marble					2					1
Nails	4	2	2		1	1	1	2	2	3
Pavingstone			1		2			4		5
Plaster of Paris			1							2
Slates	2	5	6		5			6		3
Stone	4		2							
Tiles								1		2
Timber	1									
Wainscot										1
Wood					6			5		

Sources: Data from the Southampton port books for all the tables above.

Table A5.03. Details of quantities of goods customed at Exeter between 1399 and 1508.

Year	**Wine**	**Dyes/alum**	**Linen/canvas**	**Salt and Fish**

1399-1400 Henry IV, 1-2	Tuns 1041.	Woad: 25 tuns, 2 pipes, 1 bale Madder: 154 bales Alum: 4 lasts, 3 pipes, 17 bales, 4 barrels	Linen cloth: 33 fardels, 8 pieces, 48 summa (quarters), 200 yards Canvas: 1 fardel, 200 yards	Salt: 571 quarters Unspecified or mixed fish: 24 seams, 5 pipes Herring: 22 lasts, 24 barrels, 6 tuns Smoked herring: 13 barrels Salt cod: 40 Lamprey: 48
1410-11 Henry IV 9-10	Tuns 759.25 4 cades Romeney and Malmesey.	Woad 6 bales. Madder 63 bales, 7 cades. Alum 52 bales, 7 cades.	33 pieces 12 fardels linen 3 fardels wool	Salt 2 tons 494 quarters Unspecified fish 29 summa, 22 fardels. Herring 26 lasts, 2 pipes, 18 barrels, 63 cades. Salt hake 2 C. Hake 8 summa. Lamprey 24. Conger 2 quarters. Stokfish 7 C. Whiting 2 lasts.
1422-3 Henry V, 9-10	Tuns 264, I barrel, 33 capites port wine, 7 bottles Romeney	Woad:32 pipes, 1 tun, 10 bales Madder: 37 bales, 1 tun Alum: 37 quarters, 8 cwt., 2 tuns, 2 pipes	Linen cloth: 44 fardels, 8 pieces	Salt: 230 quarters Unspecified fish: 7 fardels, 1 pipe Herring: 5 lasts, 67 cades, 8 pipes, 1 tun. Smoked herring: 1 C Salt cod: 70 Cod: 6C Conger: 14C, 1 fardel, 6 quarters Salt fish: 5 tuns Whiting: 3C Hake: 19C, 20 tuns Haddock: 56 cades
1431-2 Henry VI, 10-11.	Tuns 285 1 butt Romeney, 1 tun bastard, 1 pipe sweet wine	Woad: 2 pipes Madder: 52 bales, 2 barrels Alum: 26 cades, 2 bales, 7 barrels	Linen cloth: 30 fardels, 2C, 2 pieces Canvas: 4 fardels	Salt: 132 quarters Unspecified fish: 41 fardels, 52 seams Herring: 13C, 4 cades, 20 lasts, 1 barrel. Salt cod: 12. Hake: 12 seams Dogfish: 1 fardel, 43 seams. Conger, cod and ling: 9 seams. Mackerel: 1

				barrel. Salmon: 7 butts
1440-1 Henry VI, 18-19.	Tuns 50	Madder: 7 bales Alum: 2 bales	Linen cloth: 20 fardels	Salt: 101 quarters Mackerel: 1 cade Salmon: 2 cades
1454-5 Henry VI 32-33.	Tuns 315.5. 26 barrels 2 hogsheads cider. 15 tuns and 6 butts Romeney	Woad 81 bales 5 pipes. Madder 33 bales. Alum 5 bales.	None.	Herring 28 barrels. Salmon 8 barrels. Hake 9.5 C. Dried hake 2 packs. Conger 1C. Pollock 3C. Flatfish 3C. Dogfish and pollock 3 fardels. Dogfish 1 fardel, 103 quarters. Cod, ling and conger 0.5C. Fish: 17 fardels 2 barrels. Pilchards 23 barrels, 9 pipes, 4 hogsheads.
1458-9 Henry VI 36-37.	Tuns 292. 6 barrels wine.	Woad 5 tuns, 31 bales, 3 pipes, 1 barrel, 16 cades. Madder 17 bales, 1 cade. Alum 2 butts, 3 bales, 2 casks.	479 fardels	Salt 95 quarters. Salt cod 173. Herring 46 barrels, 4 lasts. Smoked herring 1C. Cod, ling and conger 40C, 3 quarters. Conger 2C. Salt conger 1.5C, 70. Cod, ling and dogfish 5C. Dogfish 14C, 1 fardel, 1 quarter. Salt dogfish 4C. Cod, pollock and ling 20. Cod 1 quarter. Pollock 3C Haddock 8C. Flatfish 2C. Pilchards 1 barrel. Stokfish 1C. Unspecified Fish 92 fardels, 4 barrels, 12 summa.
1461-2 Edward IV 1-2	Tuns 194. 5 barrels, 6 butts. Cider 1 pipe.	Woad 410 bales, 20 pipes, C. Madder 35 bales.	Linen cloth 260 fardels. Canvas 2 bales, 22 fardels.	Salt 140 quarters. Unspecified fish 2 barrels, 55 fardels, 2 summa, 2, 20. Herring 47 barrels. Cod and ling 41,

				4C. Cod 139. Dogfish 19.5C. Conger 60. Fish: 2 fardels, 3C. Cod, ling and dogfish 26. Flat fish 2C.
1463-4 Edward IV 3-4 (end of membrane badly damaged)	Tuns 320. 11 barrels wine. 8 butts Romeney. 1 barrel mead.	Woad 202 bales, 17 pipes. Madder 65 bales.	Linen cloth 377 fardels. Canvas 4 fardels.	Salt 3 quarters. Cod 97. Salt cod 113. Herring 85 barrels, 1 last. Dogfish 20C, 2M. Salt dogfish 2C. Pollock 2.5C, 1 fardel. ½ butt sturgeon. ½ butt salmon. Dogfish, haddock, pollock 1C. Unspecified fish 4 barrels, 2C, 8 summa, 1 last, 48 fardels.
1470-1 Edward IV, 10-11	502 tuns 21 tuns sweet wine	Woad: 257 bales, 2 sacks, 1 pipe Madder: 20 bales Alum: 24 barrels, 2 butts	Linen cloth: 614 fardels Canvas: 4 bolts, 900 yards	Cod: 412 Salt cod: 192 Cod, ling and conger: 10.5C, 90 Conger: 10C, 2 fardels Ray: 0.5C Pilchards: 15, ½ C Dogfish: 3 ½ barrels, 19 baskets 2 fardels, 2 baskets Salt dogfish: 1C, 6 baskets Mackerel: 3 barrels Dogfish and herring: 19 baskets Haddock: 7C Herring: 56 barrels, 2 tuns, 2 fardels, 1 bale Salt whiting: 7. Flatfish: 16C, 6 fardels, 20 baskets. Smoked herring: 14 tuns, 12 fardels, 3 packs, 4 barrels. Fish: 2 barrels, 1 killerkin, 1 bushel, 40.
1483-4 Richard III	Tuns 192. 1 barrel wine.	Woad 31 pipes, 5	20 bags linen cloth, 18 bales,	Salt 15 charges, 19 quarters. Salt cod

1-2 (March to September only)	Bastard 18 tuns.	barrels, 9 bales, 6 tun, 3 quarters. Madder 3 bales.	203 fardels. Canvas 5 fardels and ½ pack. 28 white cloths.	60. Cod 37. Conger 15. 5 fardels flat fish. 9 fardels of fish.
1488-9 Henry VII 4-5	Tuns 544.5. Malmesey1 butt. Romeney 7 butts.	Woad 52 bales, 11 pipes, 7 tuns. Madder 63 bales. Alum 2 butts, 5 bales.	Linen cloth 367 fardels, 3 pieces, 10 parcels. Fustian 12 pieces. Canvas 15 fardels.	Salt 640 quarters. Herring 24 barrels, 4 lasts, 1 cade. Pilchards 29 barrels, 2 pipes, 2 hogsheads, ½ last. Fish oil 30 barrels. Dogfish 14C, 3 quarters, 1 fardel. Salt cod 79. Cod, ling and conger 30 fardels. Unspecified fish 23 fardels, 4 packs, 1M. Flat fish 2C, 6 summa. Pollock 4C, 20. Cod 21. Conger 1C. Hake 1C. Dogfish and pollock 2 fardels. Salt fish 1C. Dried fish 1 pack. Dried hake 2 packs, 4C.
1489-90 Henry VII, 5-6	Tuns 158. Malmesey21 butts. Romeney 2 butts.	Woad: 69 pipes, 38 bales. Madder: 82 bales. Alum: 5 barrels.	Linen cloth: 396 fardels, 30 bolts, 1C ells, 1 pack, 3 wallets Canvas: 2 bales, 2 fardels	Salt: 97 quarters Unspecified fish: 16 fardels, 8 packs Herring: 38 barrels, 1 hogshead Dogfish: 35C, 40 Salted dogfish: 5 pipes Conger: 2 barrels, 3 hogsheads, 6C Cod and ling: 1 ½ C, 62 Salt cod: 70 Pilchards: 5 hogsheads, 1 pipe Dried fish: 1 fardel, 20, 4 packs, 2C dried hake Pollock 1C. Flatfish 10C. Mackerel 1 barrel. Whiting 8 quarters. Sprats 3 lasts. Puffin 1 fardel.

1505-1506 Henry VII 20-12	Tuns 761. Barrels 10. Tuns sweet white wine 10. Cider 3 hogsheads. Sweet wine 10 butts. Malineson 41 butts.	Woad 208.5 pipes, 38 measures, 24 bales 2C, 9 tuns, 9 sacks. Madder 14 bales. Alum 7C.	Linen cloth 868 fardels, 1235 pieces, 30 bundles, 8 hogsheads, 15 bales. 4 pieces fustian. 4C and 40 pieces white cloth. 20 pieces black cloth. 28C bleached cloth. Canvas 45.5C and 32 pieces.	Salt 302 tons, 50 quarters. Unspecified fish 7 fardels, 43 summa. Dried fish 12 fardels, 4 summa. Salt fish 2C. Herring 54 barrels, 6 cades. Cod, ling, conger 9C, 40. Conger 3C, 9 hogsheads. Flat fish 6C, 3 fardels. Hake 1C, 1 quarter. Pilchards 20 barrels. Dogfish 1 barrel. Hake and pollock 2C. Whiting 2 fardels.
1508-9 Henry VII 23-24	Tuns 451.25. Romeney 43 tuns, 2 barrels, 6 hogsheads. Sweet wine 12 tuns, 1 pipe. Bastard 8 tuns. Baston 32 tuns, 1 pipe. Malbek 10 butts.	Woad 17 tuns, 255 pipes, 185 bales, 3C, 4 casks, 1 quarter. Madder 19C, 63 bales, 3 hogsheads. Alum 4 fardels, 2 sacks.	Linen cloth 504 fardels, 2,440 pieces. Holland 88 pieces. Fustian 1 bale, 28 pieces. Bleached cloth 3 pieces. Chamlet 12 pieces. Watered cloth 13C. White cloth 1C, 26 yards. Painted cloth 3C, 45 pieces. Voile 20 pieces. Damask 15 yards. Canvas 3C, 5 pieces. Flock 3 stones.	Salt 322.5 tons. Herring 54 barrels, 4 hogsheads. White herring 21 barrels, 1 pipe, 1 hogshead. Red herring 2 cades. Flat fish 37 fardels, 18C, 4 summa. Hake 16C. Dried hake 1 pack. Dried hake and pollock 5C. Hake and pollock M. Pollock 2C. Whiting and sprats 12 lasts. Conger 3 ½ C, I flask, 4. Dogfish 8C, 1 pipe. Flat fish and pollock 2C. Cod and ling 3 ½ C. Unspecified fish 46 fardels, 6C. Salmon 13 butt and 1quarter. Porpoise 1 flask, 16 pieces.

Sources. Devon Record Office, (uncatalogued manuscripts), boxes labelled Exeter City Archives, Customs Rolls, 1-2 Henry IV, 10-11 Henry IV, 9-10 Henry V, 11-12 Henry VI, 18-19 Henry VI, 32-33 Henry VI, 36-37 Henry VI, 1-2 Edward IV, 3-4 Edward IV, 10-11 Edward IV, 1-2 Richard III, 4-5 Henry VII, 5-6 Henry VII, 20-21 Henry VII, 23-24 Henry VII

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