

Taking the measure: a demographic-based study of non-metropolitan Surrey, c. 1550-1750.

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Abstract

This thesis offers an exploration in a sub-regional context of early modern England's interconnected demographic and economic systems, revealing some of the patchwork of local experiences which made up the national picture. The study's findings contribute to a number of discussions. It challenges or develops aspects of some current narratives including on the changing balance between pastoral and arable agriculture, on the 1550s and 1590s mortality crises and on differing patterns of male and female mortality. It also re-emphasises geographical characteristics of migration, though expanding understanding of the origins of London apprentices.

Taking a parish-level framework of analysis, it considers non-metropolitan Surrey (the majority of the historical county of Surrey excluding only those parishes which were in practice subsumed within Surrey's neighbour, London) between the mid-sixteenth and the mid-eighteenth centuries. A mainly rural area with a varied terrain it contained several small or modestly-sized towns and a certain amount of industrial activity. Consideration is given to its population levels, its agriculture and other aspects of its economy, the mobility of its people and their patterns of mortality both in normal times and in periods of crisis. Finding both temporal and spatial similarities and differences between parishes and broader localities, significant influences identified include its towns, transport routes, proximity to London, soils and landscapes.

Methodologically, the study provides an innovative extension to previous studies. Taking a 'big data' approach, it uses large datasets of quantitative sources including parish registers, poor law records, apprenticeship records and probate documents supplemented by a variety of qualitative sources. It explores the direct evidence these sources contain and also the indirect, unwitting, evidence parish registers provide, showing how together such sources can be used to examine the demographic and economic lives of people across a wide area and over a considerable period of time, an approach with widespread applicability.

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Abbreviations

CamPop: Cambridge Group for Population Studies

HRO: Hampshire Record Office

1664LD: Surrey Hearth Tax, Lady Day 1664

LandIS: Land Information Systems, Cranfield University

<http://www.landis.org.uk/soilscapes/>

LPA: Lambeth Palace Archives

PCC: Prerogative Court of Canterbury

QS: Surrey Quarter Sessions

ROLLCO: Records of London Livery Companies Online <https://www.londonroll.org/>

SHC: Surrey History Centre

SPD: State Papers Domestic

TNA: The National Archives

VCH: Victoria County History, Surrey (3 vols., Malden (ed.))

WSFHS: West Surrey Family History Society

Conventions

Calendar: Most dates are given New Style. The exception is when referring to an individual record, such as a person's probate inventory or a settlement examination. In these the year is given as recorded in the document ie Old Style, though with the New Style date included also, such as 1640/1.

1: Introduction

Overview

This thesis is a demographic-based study of Surrey, one of the less researched counties of England, in the early modern period. It provides an exploration in a sub-regional context of England's inter-related economic and demographic systems in that period revealing some of the geographical patchwork of local experiences which made up the national picture.

The broad outlines of early modern England's demographic history were established in Wrigley and Schofield's ground-breaking works, *Population History of England, 1541-1871* and *English Population History from Family Reconstitution, 1580-1837*, in which they and others reconstructed England's changing population between the early sixteenth century and the mid-nineteenth century.¹ Within this they explored constituent elements of the population such as its age distributions, fertility levels, nuptiality rates, levels of emigration and mortality patterns, identifying longer term trends and also shorter term variations which included both more modest seasonal and annual fluctuations and the extreme mortalities which periodically afflicted early modern England. Finally, they considered the much wider question of the association between pre-industrial population changes with the economic changes of the eighteenth century which marked the start of the so-called industrial revolution.

Their study made use of parish registers from 404 parishes from across England. Such a national study, as Wrigley and Schofield readily acknowledged, was not able to

¹ E. A. Wrigley and R. S. Schofield (eds.), *The Population History of England, 1541-1871: a Reconstruction* (Cambridge, 1989); E. A. Wrigley (ed.), *English Population History from Family Reconstitution, 1580-1837* (Cambridge, 1997b).

encompass the complexity of the patchwork of local and regional differences and influences which made up the national whole, the focus of their study precluding more than a limited consideration of such variations. They wrote for example:

[T]he functioning of the national aggregate will never be well understood unless analyses or relations that appear to characterise the national entity are paralleled by similar work at the local scale. Only in this way can those aspects of English demographic and economic history in which there was homogeneity of behaviour throughout the country be distinguished from those where the national aggregate reflects an average condition that may prove to be true of few individual communities, and that may therefore tend to lead to misguided conclusions about the relations between demographic and economic behaviour in the past.²

Some studies have provided insights but there is still much we do not know about the demographic or economic experiences of different parts of the country.³ Concerned with ‘the character, causes and consequences of population change between the late thirteenth and the early nineteenth centuries’, Briggs et al. recently commented:

[T]he description and interpretation of population totals, trends and distributions at the national and regional scale is a very different kind of exercise from the microstudy of unusually well-documented local populations and social groups. Yet both approaches are essential to a fuller understanding of past population change.⁴

² Wrigley and Schofield (eds.), *Population History of England*, p. 482.

³ Such studies include J. D. Chambers, *The Vale of Trent, 1670-1800: a Regional Study of Economic Change* (London, 1957); V. Skipp, *Crisis and Development: an ecological case study of the forest of Arden, 1570-1674* (Cambridge, 1978); M. Zell, *Industry in the Countryside: Wealden society in the sixteenth century* (Cambridge, 1994b); J. T. Swain, *Industry before the Industrial Revolution: north-east Lancashire, c. 1500-1640* (Manchester, 1986); J. D. Marshall, 'Agrarian Wealth and Social Structure in Pre-industrial Cumbria', *Economic History Review*, 33 (1980).

⁴ C. Briggs, P. M. Kitson, and S. J. Thompson, 'Introduction', in C. Briggs, P. M. Kitson, and S. J. Thompson (eds.), *Population, welfare and economic change in Britain, 1290-1834* (2014), p. 4.

This study seeks to reduce the gap and refine our understanding of the picture of national population and economic trends by considering one part of early modern England, namely non-metropolitan Surrey (that is the historical county of Surrey apart from the areas which contemporaries regarded as *de facto* part of London). Regional or sub-regional studies such as this have much to offer to the understanding of both the national picture and the local. As Marshall commented, on the one hand ‘a real understanding of parts of “the nation” might considerably enhance understanding of the whole’ and, on the other, ‘county (and regional and sub-regional) data provide background for the study of smaller or microcosmic units’.⁵

The approach followed is to make use of 'big data' in the study of a specific geographical area in a way which, it is thought, has not been attempted before. A wide array of quantitative data has been harvested and applied systematically across the study area, building on and extending existing well-established individual methodologies. In consequence, as well as providing a study of Surrey and presenting a methodological approach to a sub-regional study, an overarching aim is to show the value of a detailed sub-regional study in developing national narratives of the population and economic history of early modern England. At times it challenges or refines these national narratives. Such critiques include the scale of the 1550s mortality crisis, the ‘two Englands’ hypothesis of Appleby in the context of the 1590s dearth, the shifts over time between arable and pastoral agriculture, the origins of London apprentices and the nature of the female mortality advantage in times of mortality crises. In other cases, it adds support to such narratives including in regard

⁵ J. D. Marshall, *The Tyranny of the Discrete: a discussion of the problems of local history in England* (Aldershot, 1997), pp. 3-4.

to patterns of migration and to the extent of labouring as an occupation in the early eighteenth century.

While there is a plethora of types, causes and consequences of an area's demographic and economic variations which could be considered, the particular focus of this study is the geographical context of such variation. This spatially-based approach relates to a range of studies which have sought to gain, as Phythian-Adams put it, an 'understanding of *all* the sorts and conditions of men and women, and above all, with the geographically and culturally differentiated ways in which they have lived associatively in separate corners of this land ... whilst yet remaining members of the same nation'.⁶ Scholars have employed a range of spatially-based approaches to, as Phythian-Adams again put it, 'unravelling localized realities on the ground'.⁷ The various concepts of 'pays', 'country', 'cultural province', 'place' and 'farming region' have all been suggested as providing valuable perspectives to the understanding of communities in the early modern period.⁸ Differences between areas could have profound cultural, economic and demographic consequences. Everitt, for example, described differences between predominantly arable and predominantly wood-pasture societies, observing 'the way they affected not only agricultural practice but almost every aspect of human life in the sixteenth and seventeenth centuries: social structure, demographic development, settlement history, manorial organization, styles of building, distribution of wealth, religious mores and many other matters'.⁹

⁶ C. Phythian-Adams, 'Editorial Foreword', in C. Phythian-Adams (ed.), *Societies, Cultures and Kinship, 1580-1850: Cultural Provinces and English Local History* (London, 1996b), p. xii.

⁷ Ibid.

⁸ M. Overton, *Agricultural Revolution in England: the transformation of the agrarian economy, 1500-1850* (Cambridge, 1996a), pp. 50-1; D. Hey, *The Grass Roots of English History: local societies in England before the Industrial Revolution* (London, 2016); Phythian-Adams, 'Introduction: an Agenda for English Local History'; Marshall, *Tyranny of the Discrete*; J. Thirsk et al. (eds.), *The Agrarian History of England and Wales* (Cambridge, 1967), Vols. 4 and 5.

⁹ A. Everitt, 'River and Wold: Reflections on the historical origin of regions and pays', *Journal of Historical Geography*, 3 (1977), p. 2.

Underdown linked differences in popular allegiances in the Civil War period to regional differences in popular culture, differences which he linked also to variations in geographical and agricultural characteristics in the ‘chalk’ (arable) and ‘cheese’ (wood-pasture) areas in south-west England.¹⁰ Spufford compared economic, social and religious aspects of village life in three contrasting communities in Cambridgeshire.¹¹ Some studies have concentrated on a particular area seen as having unifying characteristics, including those by Chambers on the Vale of Trent, Skipp on the Forest of Arden, Porter on the Forest of Bowland and Zell on Wealden Kent.¹² While it is not the intention to criticise any of these particular studies it is worth considering that studies of this type risk a circularity of argument: a particular locality is regarded as in some way distinctive or different, it is studied, and distinctive features are identified. Avoiding such potential determinism is a further theme of this study by allowing the evidence of the various sources it uses to speak for itself to suggest geographic areas of similarity and difference, identifying connections and separations within the parts of its study area.

Approach

The area covered by this study is the historical rather than the modern county of Surrey and within that it excludes the handful of parishes in the far north-east of the county which contemporaries viewed as *de facto* part of London (the several parishes of Southwark and the parishes of Newington, Lambeth, Bermondsey and Rotherhithe

¹⁰ D. Underdown, *Revel, Riot, and Rebellion: popular politics and culture in England 1603-1660* (Oxford, 1985).

¹¹ M. Spufford, *Contrasting Communities : English villagers in the sixteenth and seventeenth centuries* (Cambridge, 1979).

¹² Chambers, *The Vale of Trent*; Skipp, *Crisis and Development: an ecological case study of the forest of Arden, 1570-1674*; J. Porter, 'A Forest in Transition: Bowland 1500-1650', *Transactions of the Historic Society of Lancashire and Cheshire*, 125 (1974); Zell, *Industry in the countryside*.

(Redrith)). Although one of the geographically smaller English counties, covering about 30 miles by 40 miles, early modern Surrey encompassed a wide range of soils and topographies and it also included both areas closely connected to London and its influences and those which, although not geographically distant, were in the early modern period in practice poorly connected to the capital.

The study has a parish-level perspective, comparing and contrasting the experiences of the 140 or so parishes of non-metropolitan Surrey. The time period of the study, the mid-sixteenth to the mid-eighteenth century, is a lengthy period enabling a longitudinal as well as a cross-sectional perspective to be taken. And the focus of the study is on the lives of the ‘ordinary’ people rather than on the elites or other specific groups, providing a valuable addition to the understanding of a county which, while not uniquely poorly served, is lacking in relevant socio-economic or demographic historical studies.

Providing a framework to the study is a common methodological approach, an emphasis on sources capable of being treated quantitatively. Until relatively recently quantitative methods could be used only to look in detail at a small area such as a single parish or a small group of parishes or, in order to look regionally or nationally, it was necessary to use more aggregate level data or employ sampling techniques. The scale of archival material now available in digital form combined with more readily accessible computing power means the potential of quantitative approaches has developed greatly in recent years, making a quantitative-based study of an area as extensive as a county now possible in ways not, until recently, practicable. Taking such a considerable study area avoids the limitations of the study of a single place, which, as Marshall described, ‘may indeed produce suggestive discoveries and ideas,

but ... will not yield more than a thumbnail sketch of what is likely to happen in the wider and surrounding society'.¹³

Quantitative approaches have undoubted limitations. For example they restrict the questions which can be addressed, providing insight into only those limited aspects of people's lives which can be quantified; as a result they simplify historical realities providing limited ability to explore the complexities and interactions of individual lives and are not suited to illuminating the nuances of experience within those lives; they risk divorcing an historical study from its context and creating distance between the historian and the experiences of real people; they can appear to present an unduly exact picture which in reality the sources do not justify - even within their own terms historical sources amenable to quantification contain bias and errors in the same way as qualitative sources do; and of course they need to be combined with historical insights in order to interpret them effectively. They do though have advantages especially if, as in this study, use is made of sources such as parish registers which are widely available geographically and temporally and whose form does not differ substantially between areas or over time. A particular advantage of making use of such sources is that they provide a focus on those who formed the great majority of the population but for whom often only limited evidence of their lives survives.

The methodology used in this study could be characterised as a 'big data' approach. It is a term used sometimes to refer to studies for which there is 'complete' data, or at least evidence from large datasets, and the resources to analyse it: in other words where there is not a need for sampling to make the analysis feasible. In this meaning this study makes use of the surviving parish registers for non-metropolitan Surrey

¹³ Marshall, *Tyranny of the Discrete*, p. 82.

between their start in the late 1530s until the end of this study in the 1750s, registers which contain approaching six hundred thousand records of baptisms, marriages and burials. But the term ‘big data’ has a more specific meaning too, the use of a body of data which exists for one purpose but which can be used to illuminate a question other than that for which it was collected or created. In other words, it provides unwitting evidence. In a demographic context in this study, as others have done, analysis of the timing of deaths and who was affected in a mortality crisis is used to indicate the likely immediate cause of death. But it is an approach which can also use demographic data to illuminate non-demographic questions. In this study, two economic questions are considered in this way: one uses the approach of Kussmaul to explore the changing nature of Surrey’s agriculture; the other considers the differing patterns of baptisms and burials over time in different parishes, using them to suggest something of parishes’ changing economic circumstances.¹⁴

Historiographical contexts

This section considers the historiographical background to this study – firstly the demographic profile of England in the early modern period and its link with economic change, secondly the influence of locality on these factors and finally it reflects on the value of quantitative, especially ‘big data,’ approaches to local history.

National population change

Quinquennial estimates of the population of England from 1541 to 1871 were established in the 1970s and 1980s by the Cambridge Group for Population Studies (CamPop) led by Wrigley and Schofield through techniques which they described as

¹⁴ A. Kussmaul, *A General View of the Rural Economy of England 1538-1840* (Cambridge, 1993).

back-projection.¹⁵ They modelled the components of demographic change using the fairly accurate decadal population totals available from the nineteenth century national Census combined with evidence of births, marriages and deaths from nineteenth century Civil Registration records and from a sample of 404 parish registers, some of which dated back to the start of parish registers in 1538, for the pre-nineteenth century period.

The resultant population estimates were on the whole well received and have not been substantially superseded since their publication. A check of their overall findings was provided by the subsequent Cambridge Group research published in *English Population History from Family Reconstitution, 1580-1837*, a micro-historical study which used family reconstitution on a sample of 26 parishes.¹⁶ Its authors described that sample as ‘haphazard’ but felt it ‘shared many of the characteristics that would have been displayed by a group of parishes drawn by a random sampling procedure from the 10,000 ancient parishes of England’.¹⁷ Moreover they felt the findings of this study largely confirmed their earlier findings, providing ‘reassuringly similar results’.¹⁸

Nevertheless, there have been concerns, Houston commenting that both methods and results ‘have provoked criticism, scepticism and sometimes even hostility’.¹⁹ Oeppen extended his work on the algorithm, back projection, used by Wrigley and Schofield suggesting on the one hand the merit of using an alternative and mathematically

¹⁵ Wrigley and Schofield (eds.), *Population History of England*, see for example p. 7.

¹⁶ Wrigley (ed.), *English Population History from Family Reconstitution*.

¹⁷ *Ibid.*, pp. 40-1.

¹⁸ E. A. Wrigley, ‘Explaining the Rise in Marital Fertility in England in the ‘Long’ Eighteenth Century’, *The Economic History Review*, 51 (1998), p. 435.

¹⁹ R. A. Houston, *The Population History of Britain and Ireland 1500-1750* (Basingstoke, 1992), p. 13.

sounder algorithm, inverse projection, but on the other that doing so did not materially affect the resultant population estimates, concluding that ‘the published results for England are largely unaffected by the apparently radical changes’.²⁰ Disquiet has also included concerns as to the limitations of parish register data including Razzell’s trenchant criticisms of the limitations of both baptism and burial registers as records of births and deaths.²¹ In response, revisiting his findings in 2004, Wrigley explored the implications of such a lack and concluded his population calculations were broadly supported by later analyses and describing the ‘impossibility of accepting the combination of assumptions made by Razzell’.²² More recently Griffin wrote that ‘[m]ost aspects of Wrigley and Schofield’s account have withstood the test of time extremely well’.²³

As well as estimating the country’s population, Wrigley and Schofield suggested the broad mechanism by which the population was controlled in the early modern period, supporting a version of the Malthusian model of pre-industrial population. The Malthusian model suggests nuptiality, fertility, population size, food prices, real wages, and mortality were linked in a network of positive and preventative checks by which population was kept in balance with its economic resources, especially its food supply. The positive check is the increase in mortality in response to a population rise: the increased population results in rising food prices and consequent fall in real income, changes which increase poverty making people susceptible to higher

²⁰ J. Oeppen, 'Back Projection and Inverse Projection: members of a wider class of constrained projection models', *Population Studies*, 47 (1993), p. 245.

²¹ P. E. Razzell, 'The Evaluation of Baptism as a Form of Birth Registration through Cross- Matching Census and Parish Register Data: A Study in Methodology', *ibid.* 26 (1972); P. E. Razzell, *Essays in English Population History* (London, 1994); P. Razzell, C. Spence, and M. Woollard, 'The evaluation of Bedfordshire burial registration, 1538-1851', *Local Population Studies*, 84 (2010) P. Razzell, 'An Evaluation of the Reliability of Anglican Adult Burial Registration', *ibid.* 77 (2006).

²² E. A. Wrigley, *Poverty, Progress, and Population* (Cambridge, 2004), p. 434.

²³ E. Griffin, 'A Conundrum Resolved? Rethinking Courtship, Marriage and Population Growth in Eighteenth-Century England', *Past & Present*, 215 (2012), p. 126.

background mortality and also more vulnerable in times of famine and disease. The preventative check is the decline in fertility in response to a rising population: the increased population causes rising food prices and a fall in real incomes, a fall which results in a lack of economic opportunities so forcing people to postpone marriage or never to marry thus resulting in the birth of fewer children. Influencing the operation of this model was the cultural expectation in early modern England that couples would not start procreative sexual relations until they married and that they did not marry until they were able to be socially and economically independent.²⁴

Wrigley and Schofield argued that, while both influences were present, the preventative check was the more important. More specifically they described England's experience in the period 1551 to 1751 as one in which strategically fertility was the more influential factor but tactically mortality crises were more powerful.²⁵ In addition, from the early seventeenth century emigration, which had not previously been sufficient to affect the population total, became a factor: from 1630 to 1699 they estimated about 380,000 people left the country, emigrating particularly to America.²⁶ Summarising their argument, Schofield wrote

[W]e argued that changes in population growth rates were largely determined by changes in fertility and that the latter, in turn, were almost entirely determined in changes in nuptiality. Since nuptiality appeared to have responded to changes in the standard of living, it [nuptiality] emerged as the critical variable in a Malthusian "preventative check" cycle, whereby English population growth rates in the past adjusted to an ever-changing balance between population and resources.²⁷

²⁴ Wrigley and Schofield (eds.), *Population History of England*, p. 158.

²⁵ *Ibid.*, p. 245.

²⁶ *Ibid.*, p. 185.

²⁷ R. Schofield, 'English Marriage Patterns Revisited', *Journal of Family History*, 10 (1985), p. 2.

Unease about the causality between population change and economic change has been expressed ever since publication.²⁸ Concerns have included the long and variable time lags Wrigley and Schofield identified between wage changes and the supposed consequential nuptiality changes, the possibility that the causality of the association between population change and economic change may have been the other way round from that proposed by Wrigley and Schofield - that population change caused economic change - and the role of non-economic factors in influencing both economic conditions and population levels. The validity of the measure of the economy used by Wrigley and Schofield, the Phelps Brown and Hopkins index of wages and prices, has also been criticised, Flinn describing the index as 'a terribly frail foundation for the very substantial superstructure erected on them'.²⁹

The nature and strength of non-economic influences on population numbers has been the subject of much debate. Hatcher's criticisms were severe. He pointed to the very different relations between population and real wages in the medieval and early modern periods, describing the simple Malthusian framework as 'woefully inadequate'.³⁰ He suggested other, exogenous, factors were important explanatory factors in the changes in population growth:

Developments in the productiveness of England's agriculture, the efficiency of her transport and distribution systems, the size and diversity of her industrial activity, the operation of her Poor Law, the scale and nature of migration and much, much more besides, impacted in a significant way on the numbers who were born, married and died as well as on aggregate and per capita output.

²⁸ M. W. Flinn, 'The Population History of England, 1541-1871', *The Economic History Review*, 35 (1982); R. Lee, 'Population Homeostasis and English Demographic History', *The Journal of Interdisciplinary History*, 15 (1985); P. E. Razzell, *Population and Disease: transforming English society, 1550-1850* (London], 2007).

²⁹ Flinn, 'The Population History of England, 1541-1871' (1982), p. 456.

³⁰ J. Hatcher, 'Understanding the Population History of England 1450-1750', *Past & Present*, (2003), p.129.

Patterns of births, marriages deaths and migration helped to shape society and economy, and were themselves shaped by society and economy.³¹

Briggs et al. too have drawn attention to a range of non-economic influences on nuptiality. While agreeing that changing real incomes ‘were fundamental to the process of marriage and family formation’, they felt that ‘such demographic decision-making in the past cannot be viewed as a straightforward or fluid process in which individuals or groups responded in an unconstrained fashion to changing economic indicators and opportunities’ and they identified the influence of the English poor law as particularly significant.³² Wrightson pointed to the importance of changing nuptiality patterns in the rural wage-labouring population, a group he identified as growing substantially in the seventeenth century and one which took a different, more pessimistic, view of marriage.³³

One aspect of this debate is a need for geographical disaggregation, a concern, for example, discussed by Hindle who commented ‘much more attention needs to be paid to local and regional factors, especially the development of labour markets, in the operation of marriage patterns’.³⁴ Geographical differences are of particular relevance as the sources used by Wrigley and Schofield have limitations in terms of their coverage of the country. The population totals for the earliest years rely on the registers of just 45 out of the total of about 10,000 parishes in England and in consequence, the national population estimates for earlier dates are inevitably subject to more uncertainty than later ones.³⁵ More generally there is some doubt as to the

³¹ Ibid.

³² Briggs, Kitson, and Thompson, 'Introduction', p. 13.

³³ K. Wrightson, *Earthly Necessities: economic lives in early modern Britain 1470-1750* (London, 2002), pp. 225 -6.

³⁴ S. Hindle, 'The Problem of Pauper Marriage in Seventeenth-Century England: The Alexander Prize Essay', *Transactions of the Royal Historical Society*, 8 (1998b), p. 73.

³⁵ Wrigley and Schofield (eds.), *Population History of England*, p. 57.

representativeness of the parishes used as they were spread irregularly across the country resulting in some counties contributing many parishes to the total of 404, such as Bedfordshire with 28 parishes and Kent with 29, while Cornwall and Westmorland contributed none.³⁶

Local perspectives

These debates make clear the need for better understanding of demographic, economic and other factors at a more disaggregate level, including within a geographically more local context. Concern that their findings may conceal a diverse range of local experiences was remarked on by Wrigley and Schofield (see above) as it has been by others. Anderson commented that ‘movements in the “average” indicators may reflect very different, and possibly conflicting, compositional trends. The aggregate could be little more than a statistical artefact’.³⁷ Hatcher’s concerns were similar:

[b]efore the course of English population can be satisfactorily explained it is of prime importance to discover the extent to which what was happening to the average was also happening to the regions, places and individuals from which it is derived.³⁸

Locality was at the heart of people’s lives. As Hey discussed, people had particular connections with their ‘countries,’ that is the areas they saw themselves as belonging to. A ‘country’ was smaller than a county but larger than the parish and was an area with shared characteristics such as farming type, local industries and topography and given cultural and social coherence by the presence of ‘core families’ of long standing.³⁹ He pointed, for example, to Richard Gough’s use in his early eighteenth

³⁶ Ibid., p. 41.

³⁷ M. Anderson, 'Historical Demography after The Population History of England', *The Journal of Interdisciplinary History*, 15 (1985), p. 604.

³⁸ Hatcher, 'Understanding Population History of England' (2003), p. 128.

³⁹ Hey, *Grass Roots*; M. Hailwood, 'The Grass Roots of English History: Local Societies in England before the Industrial Revolution, by David Hey', *The English Historical Review*, (2017).

century history of his native parish of Myddle of phrases to describe people such as 'He was a person well reputed in his country' or 'She did much good in the country'.⁴⁰

Examples of geographic-based differences in demographics include those highlighted in relation to nuptiality and illegitimacy by Hill in a handloom weaving community of Culcheth in Lancashire in the eighteenth century where local experiences differed substantially from the national average.⁴¹ In consequence Hill commented 'how little meaning any figures of the mean age of women at first marriage in a community have, if divorced from an understanding of its economic priorities, a knowledge of local custom and marriage practice, attitudes to illegitimacy and pre-marital pregnancy'.⁴² A study of bastardy rates by Laslett and Oosterveen highlighted regional differences, the West and North West having higher bastardy rates than other parts of the country.⁴³ Adair too considered illegitimacy patterns, identifying two separate courtship regimes, a 'highland' and a 'lowland' one, the two areas 'delineated by a line drawn roughly between Hull and Exeter', concluding that the 'physical geography of the country imposed certain constraints on agrarian organisation, and had knock-on effects on social and demographic structures' and that the consequent cultural differences were linked with the particular economic circumstances such as population pressure, unemployment, and land scarcity.⁴⁴ Endogamy of marriages was explored by Snell in 69 parishes from eight counties between 1700 and 1837. This identified regional differences and showed endogamy as relatively high in Norfolk

⁴⁰ Hey, *Grass Roots*, p. 2.

⁴¹ B. Hill, 'The Marriage Age of Women and the Demographers', *History Workshop Journal*, 28 (1989).

⁴² *Ibid.*, p. 143.

⁴³ P. Laslett and K. Oosterveen, 'Long-Term Trends in Bastardy in England: A Study of the Illegitimacy Figures in the Parish Registers and in the Reports of the Registrar General, 1561-1960', *Population Studies*, 27 (1973), pp. 273 ff.

⁴⁴ R. Adair, *Courtship, Illegitimacy and Marriage in Early Modern England* (Manchester, 1996), pp. 2, 226.

especially but also in Dorset and Oxfordshire but much lower in parishes in Derbyshire and Lancashire. Snell suggested high endogamy ‘appears to be linked to the decline of service (an institution that had structured high youth mobility), relatively stagnant labour markets, low wages, high structural and seasonal unemployment, and perhaps resulting plebeian cultures that were hostile to interloping competitors’.⁴⁵

A number of local studies have considered the interactions between economic and demographic factors. Chambers studied the Vale of Trent in Nottinghamshire and Derbyshire.⁴⁶ The study area comprised a fairly compact group of parishes but it had a range of economic activities - agricultural, industrial and urban. He noted a correlation in the movement of the area’s economic and demographic conditions, identifying three main phases within his study period: between about 1690 and 1720 there was both economic and demographic expansion; then between about 1720 and 1740 there was ‘a period of deceleration on the economic side and, for certain years, of actual retreat on the demographic side’; in the third period, between about 1740 and 1800, there was very substantial growth both economically and demographically.⁴⁷ In considering the direction of causality Chambers emphasised the demographic conditions as supporting economic change rather than the other way round. He commented for example:

[a] sustained improvement in labour supply may, for instance, have contributed to the success of the framework knitting industry in its struggle with hand knitting of cheap worsted hose at the end of the seventeenth century. At any rate, cheap labour was certainly among the attractions which drew

⁴⁵ K. D. M. Snell, 'English Rural Societies and Geographical Marital Endogamy, 1700-1837', *The Economic History Review*, 55 (2002), p. 282.

⁴⁶ Chambers, *The Vale of Trent*.

⁴⁷ *Ibid.*, p. 3.

capital from London ... and it is not without significance that [industry] took root most firmly in the villages to the west of the county where an abundance of waste land had already attracted unusually large village populations.⁴⁸

Skipp considered the interplay between population growth and economic and social change in the Forest of Arden in the east Midlands between 1570 and 1649, a period in which this group of five parishes experienced about a 50 per cent increase in population associated with both agrarian change and a marked expansion in industrial activity.⁴⁹ He suggested a two-way link between demographic and economic change in this area, that 'population pressure was the instigator of economic growth' (both agrarian and industrial in this group of parishes) but also that 'although the demographic input clearly provided the stimulus for development, its successful pursuit was probably no less dependent on economic inputs'.⁵⁰ Even economically apparently similar localities could have different demographic experiences, emphasising the need to look below the surface at the detail. A range of demographic differences were, for example, identified by Hudson and King between two Yorkshire towns, Sowerby and Calverley, in the eighteenth and early nineteenth centuries.⁵¹ Both were textile towns and Hudson and King described them as 'both experiencing rapid proto-industrial expansion'. Nevertheless, they differed in their agrarian structures and institutional histories, their manufacturing, local governance and poor relief.⁵² Their study found numerous demographic differences between the two towns including in infant mortality, fertility, nuptiality, illegitimacy and in the demographic experiences of different subgroups within their populations.

⁴⁸ Ibid., pp. 3-4.

⁴⁹ Skipp, *Crisis and Development: an ecological case study of the forest of Arden, 1570-1674*, p. 9.

⁵⁰ Ibid., p. 65.

⁵¹ P. Hudson and S. King, 'Two Textile Townships, c. 1660-1820: A Comparative Demographic Analysis', *Economic History Review*, 53 (2000).

⁵² Ibid., p. 710.

Closer to Surrey, Dobson noted substantial variations in mortality in the seventeenth century between different geographical areas within Kent but she found that these did not necessarily translate directly into population levels. She identified the cause of the mortality differences as being rooted in the terrain – ‘upland chalky landscapes and well drained soils’ being the key characteristics of ‘healthy’ parishes and ‘low-lying, badly drained areas with stagnant marshes, sluggish rivers or overcrowded urban conditions’ of the most ‘unhealthy’. But ‘unhealthy’ parishes, because of the nature of their economy, tended to offer greater economic opportunities resulting in higher populations boosted by in-migration.⁵³ Also in Kent, Zell considered connections a century earlier, in the sixteenth century, between economic opportunities and demographic characteristics in relation to rural industry in the Kentish Weald, a wood-pasture area between the North and South Downs.⁵⁴ High population densities existed in parishes with rural industries and relatively low densities in predominantly agricultural parishes. He concluded that ‘[r]ural industry, it seems, encouraged population growth only so long as there was a reliable and expanding demand for its products’.⁵⁵

These examples illustrate both the presence of local demographic and economic differences between different geographical areas and something of the complexity of the possible linkages and causalities connecting them, suggesting how local studies have much to offer historians trying to understand the early modern economy and population. This forms a key theme of this study in which it is suggested that Surrey

⁵³ M. Dobson, 'Population 1640-1831', in A. Armstrong (ed.), *The Economy of Kent, 1640-1914* (Woodbridge, 1995), p. 28.

⁵⁴ Zell, *Industry in the countryside*, pp. 52 ff, esp. p. 60.

⁵⁵ *Ibid.*, p. 85.

was a county of contrasting geographical landscapes and that these differing landscapes influenced the demographic and economic experiences of its people.

Quantitative methods

Although making use of both qualitative and quantitative approaches to the questions it seeks to answer, this study's emphasis is on the quantitative. Quantitative approaches are becoming increasingly common as a result of both the availability of transcripts of records in digital form and the power of computers to analyse such quantities of data. The origins of such quantitative approaches, while having their roots in the nineteenth century and before that with the political arithmeticians of the late seventeenth century, lie to a large extent in the 1960s and 1970s when increasing interest in social history combined with growth of computing power to make accessible some of the insights which were hidden in such seemingly mundane sources as parish registers.⁵⁶ However as discussed above, quantitative-based approaches have substantial limitations, restricting the topics which can be considered and the questions which can be asked within those topics, and historians have not always been altogether comfortable with quantitative approaches to history.⁵⁷ Hudson, for example, commented that '[q]uantitative history is frequently accused of attempting to be more precise and free of subjectivity than the nature of historical evidence and the processes of historical research can possibly allow'.⁵⁸ And while supporting the use of quantitative methods, Tosh also cautioned of the need to test its

⁵⁶ P. Hudson, *History by Numbers: An Introduction to Quantitative Approaches* (London, 2000), pp. 3ff; J. Hoppit, 'Political Arithmetic in Eighteenth-Century England', *Economic History Review*, 49 (1996), pp. 516ff.

⁵⁷ J. Baker, 'A History of History through the Lens of Our Digital Present', in J. W. White and H. Gilbert (eds.), *Laying the Foundation: Digital Humanities in Academic Libraries* (West Lafayette, 2016).

⁵⁸ Hudson, *History by Numbers*, p. xix.

reliability and to use the ‘same qualities of judgement and flair as any other kind of evidence’.⁵⁹

But, especially in more recent years, such methods have come increasingly to be appreciated for what they do offer. Hudson commented on the usefulness of quantitative evidence as being ‘usually less elitist and more representative than are qualitative data’⁶⁰ and that

[g]reater quantification can help to make best use of the documentation from the past particularly where that documentation deals with large numbers and with ordinary people ... The more qualitative approaches of social and cultural history which investigate what it was like for people living these experiences on the ground can then be placed properly in context.⁶¹

Sometimes quantitative sources can address questions other than what they at first sight appear to contain, what might be called indirect or unwitting evidence. Kussmaul expressed this well in the introduction to her study of the economy of early modern England:

A pile of Anglican marriage registers may seem a strange perch from which to survey change over time and space in the economy, but at least the information drawn from the registers seems to work, in suggesting dominant economic patterns.⁶²

Kussmaul made effective use of an unwitting ‘big data’ approach by using marriage registers to identify patterns and changes in the economic orientation of parishes in terms of three main types of work – arable farming, pastoral farming and rural industry. In a study with a different interest but with a similar unwitting ‘big data’

⁵⁹ J. Tosh, *The Pursuit of History* (Harlow, 2010), p. 138.

⁶⁰ Hudson, *History by Numbers*, p. 6.

⁶¹ *Ibid.*, p.7.

⁶² Kussmaul, *General View*, p. 7.

approach Kitson used baptism records to uncover attitudes to the religious reforms of the sixteenth century.⁶³ He explored the rate of change of religious conformity in different parts of the country through the consideration of the timing of baptisms in relation to Sundays and other holy days. He found strong regional differences, with parishes exhibiting a range of responses from enthusiastic adoption in some to complete disregard in some religiously conservative areas in Lancashire and Cheshire.

Outline of thesis

Two further chapters complete the introductory part of this thesis. Chapter 2: Sources and Methods describes the main sources and methodologies used and Chapter 3: Study Area introduces early modern Surrey, using existing secondary sources to outline its main characteristics in terms of factors such as its geographies, its economies, its towns and its transport. Following this introductory section are five research-based chapters after which the final chapter outlines the study's conclusions.

The size and distribution of non-metropolitan Surrey's population is considered in Chapter 4: Population. This explores the levels of population by parish across the county and identifies how they changed over time. It suggests that most of non-metropolitan Surrey experienced population growth and that this involved what might be termed evolutionary rather than revolutionary changes in its population numbers. It also suggests that population growth and population density was greatest in places closer to London or along the Thames. Linking the findings of this chapter and the next, the population growth in many parishes was consistent with it being the result of 'natural' population growth, in other words an excess of births over deaths and in

⁶³ P. M. Kitson, 'Religious Change and the Timing of Baptism in England, 1538-1750', *The Historical Journal*, 52 (2009).

much of the county this combined with some net out-migration to limit the scale of the population rise. Net in-migration was, though, a factor in population growth in parishes closer to London.

The economy of non-metropolitan Surrey is considered initially in Chapter 5: Economy. This starts with an outline of the wealth and poverty of Surrey's different geographical areas, noting the tendency for the south of the county to be poorer and the presence of wealthy individuals further north. This is followed by a consideration of some of the area's broad economic trends making use of an indirect, 'big data' approach: this uses an exploration of patterns of baptisms and burials over time to suggest economic differences between areas. The distinctions between areas suggested by this approach differ from those suggested in relation to levels of wealth and poverty, pointing to something of the complexity of any consideration of an area's economy. In most parishes there seems to have been relatively stable economic conditions based on the presence of a regular surplus of births over deaths and net out-migration throughout the two centuries of the study, out-migration which limited the effect on parish populations of their excess of births over deaths. But in two areas comparison of the patterns of baptisms and burials suggests markedly different experiences. In the north-east of the county, where connections to London would have been strongest, there is evidence, based on the patterns of net natural population change, of economic vibrancy. In contrast in the south-west of the county from the mid-seventeenth century there may have been economic stagnation probably linked with problems of the cloth trade which was centred in that area. By the early eighteenth century there is evidence of a boost to Guildford's economy provided by the Wey Navigation which transformed access by water for goods to and from London. The chapter then considers the broad occupational structure of non-

metropolitan Surrey's men around 1700, highlighting especially the large (though not atypical) numbers of labourers, about a third of the male working population. It also suggests that, while Surrey was a site of rural industries, they constituted only a modest part of the county's economy. Finally, some consideration is given to Surrey's market towns. None was particularly large nor particularly affluent when considered on a national perspective. Their populations ranged from a few hundred to a couple of thousand. Some changed little over the period but others grew substantially taking on a wider range of roles.

The following chapter, Chapter 6: Agriculture, focusses on the main economic activity of the county. Topographical and soil differences between parishes in different parts of Surrey are discussed along with differences in farm types. Changing patterns of farming across Surrey in the two centuries under investigation are identified, using both the direct evidence of probate inventories and other records of agriculture and the indirect, 'big data' evidence of the main types of farming in each parish as indicated by the seasonality of its marriages, based on the ideas of Kussmaul.⁶⁴ Substantial agricultural change is identified, initially by the end of the sixteenth century a move from mixed farming towards a degree of specialisation in either arable or, more often, pastoral farming, and then by the early eighteenth century a change in specialisation towards greater arable farming in the west of the county, a change which seems to have resulted in greater affluence for its yeomen farmers and also greater economic differentiation between them and small farmers.

Chapter 7: Migration explores the movements of people into and around non-metropolitan Surrey. At an aggregate level, there is evidence from a range of sources

⁶⁴ Kussmaul, *General View*.

of a considerable degree of movement. The main focus of this chapter, though, is on groups of people for whom there are reasonable numbers of records of some aspects of their movements, namely the poor, apprentices, and those marrying in Surrey. Despite the differences in their motivations, the main areas of movement of all three groups within Surrey are shown to have been similar, focussed mainly within the roughly ten-mile radius of a day's travel, the area within which most regular contacts would have been made. The particular patterns of movement seem to have been affected also by three factors: a tendency for people to have been influenced by their locality, moving more within their home geographical and agricultural area than beyond it; the influence of transport routes which tended to increase distances travelled; and the influence of the market towns of Surrey which resulted in somewhat longer distance movement. Movement of people into Surrey from elsewhere tended to be from relatively local areas: poor people arriving in Surrey from elsewhere were mainly from the south and west of England rather than further afield, a similar pattern to those who travelled in the reverse direction from the south-east of England (including Surrey) to other parts of the country; those who married in Surrey and were not from Surrey itself were often from nearby parts of adjacent counties although they did also include people from all parts of England. In both groups there was only limited difference in the movement of men and of women. Both in terms of movement of the poor and of those marrying, the Weald emerges as a more distinct area, contacts tending to remain within the Wealden area. As well as such movements into and around Surrey, one category of movement out of Surrey is considered, that of apprentices to London. Apprentices seem to have gone to London from all parts of Surrey. They were more likely to do so from places with stronger connections to London such as towns and places along the Thames. Two towns in particular,

Kingston and Guildford, stand out as sending disproportionately large numbers of apprentices to London compared to their populations. Rural areas were somewhat less likely, even allowing for their population size, to send apprentices to London.

Finally, Chapter 8: Mortality is concerned with the ends of people's lives, both their patterns of mortality in normal times and those in times of crisis. In the first part of this chapter, non-metropolitan Surrey is found not to have marked geographical variations in its background levels of mortality, in contrast to some other south-eastern counties as investigated by Dobson.⁶⁵ The seasonality of background mortality is also explored. Parishes in all parts of the county showed a spring peak in burials. However, in Thames-side parishes a late summer peak in burials also occurred, probably influenced by higher levels of child mortality at that time of year resulting from their susceptibility to gastro-intestinal diseases such as dysentery which were prevalent at that time of year and particularly affected children, and in the earlier part of the period also by the presence of plague. There was also a small but consistent difference in the seasonality of male and female burials in all areas: male deaths tended to be somewhat higher than female deaths in the spring and female deaths higher than male deaths in the autumn. The reasons are unclear but may be related to the seasonality of child deaths combined with women's closer proximity to children especially when they were unwell.

The second part of this chapter explores mortality crises, finding a range of experiences in terms of the severity, locations and timings of crises. Mortality crises occurred during outbreaks of plague, in times of harvest failure and on other occasions with causes that are less clearly identifiable. Plague outbreaks, which were often

⁶⁵ M. J. Dobson, *Contours of Death and Disease in Early Modern England* (Cambridge, 1997).

contemporaneous with outbreaks in London, were most devastating in Surrey's towns and in some of its Thames-side parishes. The scale and timing of outbreaks varied between towns, at their worst resulting in the deaths of around a fifth of their population. Some rural areas were also affected with locally devastating consequences. There is evidence of high mortality in the 1550s and examination of this crisis points to the possibility that the resultant population fall was above the five percent suggested by Wrigley and Schofield and may have been closer to twice that figure. The harvest failures of the 1590s affected most strongly the south of the county where analysis of the characteristics of that mortality suggests the immediate cause of death may often have been typhus. Plausibly the emphasis on pastoral farming in this area, its declining industries and its relative poverty made its population particularly vulnerable. Other crises identified include an apparently widespread outbreak of disease or diseases around 1640 and two outbreaks whose causes are less certain but were probably a mix of diseases in the 1720s and 1740s. As part of this discussion it is suggested that a female mortality advantage may have been present not only in dearth-related crises but also in a disease-led crisis not related to famine.

2: Sources and Methods

This chapter provides an overview of the main sources and methodological approaches used in this study.

Sources

Parish registers

Parish registers are made use of both for the demographic evidence they contain and for the economic evidence they suggest (for the latter see Chapter 5: Economy and Chapter 6: Agriculture). From 1538 the law required each parish to keep a written record of the ceremonies of baptism, marriage and burial performed in the parish. These survive in modest numbers from that date but in greater numbers over time, increasing from about the time of the accession of Elizabeth in 1558 and increasing further with the introduction of a second copy of the registers, the Bishop's Transcripts, in 1598. The disruptions of the Civil Wars and the changes in the requirements of parish registers during the Interregnum between 1649 and 1660 when they became civil rather than religious records resulted in the survival of substantially fewer registers for these periods. From the eighteenth century the rise in Nonconformity reduced the proportion of life events recorded in Anglican registers.⁶⁶

Parish registers, while a good proxy for the vital events of birth, marriage and death, are imperfect records. There have been concerns as to the scale of their limitations though, as discussed in Chapter 1: Introduction, some of those expressed by Razzell have been refuted by Wrigley. Wrigley nevertheless warned of the 'frailty' of

⁶⁶ Wrigley and Schofield (eds.), *Population History of England*, pp. 24-9, 89ff.; The National Archives *The Parish: administration and records*, <<https://media.nationalarchives.gov.uk/index.php/the-parish-administration-and-records/>>, accessed 20 Oct 2019.

Anglican parish registers as a source for demographic information.⁶⁷ At best, and they were not always at their best, they were intended as records of events solemnized by an Anglican ceremony and not as a complete record of births, marriages and deaths in the parish. In consequence most such events were recorded, but not all: for example, the deaths of those not buried in an Anglican churchyard were not recorded and nor were marriages entered into informally. The timings of the ceremonies documented were, mostly, closely linked to the timing of the vital event they recorded. Burial generally occurred within a few days of death and the marriage register recorded the ceremonies performed. Over much of the period baptism was usually within days of the birth of the child but by the eighteenth century the gap between birth and baptism could extend to several months making baptism records less reliable as records of dates of birth.⁶⁸

The accuracy of parish registers as records of ceremonies relied on the competence of the parish clerk in recording the events and, where the surviving document is a copy of the original, on the accurate copying of the records. For this study extensive use is made of modern transcripts of Surrey's parish registers and this provides a further source of error. It is inevitable transcription may on occasion introduce errors resulting from the difficulty of reading some records and the risk from time to time of mis-recording even the most legible entries. Razzell et al. found some modern transcriptions to be of high quality. They considered transcription errors in Bedfordshire parish registers. Comparing a sample of burials in the transcriptions created by the Bedfordshire Family History Society with the original registers for

⁶⁷ E. A. Wrigley, 'How Reliable is Our Knowledge of the Demographic Characteristics of the English Population in the Early Modern Period?', *The Historical Journal*, 40 (1997a), p. 575; E. A. Wrigley, 'Rickman revisited: the population growth rates of English counties in the early modern period', *Economic History Review*, 62 (2009).

⁶⁸ Wrigley and Schofield (eds.), *Population History of England*, p. 96.

1538-1851 they concluded those transcriptions were ‘of a very high quality, with virtually no entries in the original registers missing from the digital transcript and few or no misspellings of names or other register items’.⁶⁹ Errors they noted included transcripts occasionally recording a burial twice, with each giving one of the deceased’s alias names. Their comparison of the original registers with the returns for 20 parishes used by Wrigley and Schofield found these too matched well, though that they were ‘slightly less reliable’ than the Bedfordshire Family History Society transcriptions.

Such limitations of parish registers are likely to have resulted in the introduction of a certain amount of ‘noise’ into the records, due either to the failings of the parish clerk or of the transcriber. However the ‘big data’ approach which this study takes to the use of parish registers has the benefit, as Cukier and Mayer-Schoenberger, in a non-historical context described, of reducing somewhat the ‘preference for highly curated and pristine data and instead ... a bit of inaccuracy can be tolerated, because the benefits of using vastly more data of variable quality outweigh the costs of using smaller amounts of very exact data’.⁷⁰

In total the databases used in this study of non-metropolitan Surrey contained about 250,000 burials, 70,000 marriages and summary information on about 280,000 baptisms. These databases were in the main developed from transcriptions undertaken by West Surrey Family History Society (hereafter WSFHS) which, despite their name, produces transcripts for all of Surrey of the parish registers held by Surrey History

⁶⁹ Razzell, Spence, and Woollard, 'The evaluation of Bedfordshire burial registration, 1538-1851' (2010), p. 52.

⁷⁰ K. Cukier and V. Mayer-Schoenberger, 'The Rise of Big Data: How It's Changing the Way We Think About the World', *Council on Foreign Relations*, (2013), p. 29.

Centre, images of which are also accessible via Ancestry.⁷¹ The form in which the transcripts had been created was not suitable for the analyses used here so it was necessary to undertake a quite lengthy process of restructuring them, making them fully digital and suitably formatted.⁷² In terms of the quality of the WSFHS transcripts, comfort was available from several sources. Initial support was taken from the known calibre of other work by those undertaking and overseeing the transcriptions.⁷³ Further comfort was gained by taking a mainly random sample of a little over a hundred individual records and comparing the transcript with the original register.⁷⁴ No errors of substance were noted. It was also evident that the WSFHS transcriptions were considerably more accurate than those provided by Ancestry.⁷⁵

The burial and marriage records included in the databases used in this study were detailed records of the great majority of all those recorded in the parish registers in the relevant time period. The records of the majority of baptisms were somewhat briefer due to the limitations of available transcriptions. Around 80,000 detailed baptism records were available from WSFHS transcriptions. These were supplemented by creating an additional database of summary annual totals of baptisms for many of the parishes for which full transcripts were not available, a total of about 200,000 baptisms: the Cambridge Group's study of 404 English parishes provided monthly summary transcripts for baptisms in 13 Surrey parishes; as well, annual summaries were created, some from transcripts and some directly from images

⁷¹ Ancestry *Surrey parish registers*, <www.ancestry.co.uk>, accessed various dates from 2015. I am grateful for the assistance of WSFHS and Tim Wilcock in providing access to their datasets of parish register transcriptions.

⁷² I am grateful for the technical assistance of Miguel de Braganca and Dan Thompson.

⁷³ In particular Cliff Webb, who undertook some and oversaw more of the work by WSFHS, has authored numerous publications of transcripts of early modern documents.

⁷⁴ *Surrey parish registers*.

⁷⁵ *Ibid.*

of the original registers, for the majority of parishes whose records started before 1640, plus a few with later start dates.⁷⁶

Towards the end of the period, the rise in Nonconformity resulted in increasing numbers of vital events not being recorded in Anglican registers. At a national level Wrigley and Schofield estimated that by 1745, to take account of the increasing numbers of Nonconformists and their increasing unwillingness to take part in Anglican ceremonies, there was a need to apply inflation factors to Anglican parish register totals of 1.0184 for baptisms and 1.0086 for burials.⁷⁷ In regard to Surrey, the effect was modest. Robinson commented that in the eighteenth century the Congregationalists, Presbyterians, Baptists and Quakers ‘were all represented in Surrey but none was very strong,’ and that, although John Wesley preached in several Surrey towns, ‘Surrey was never a strong Methodist county’.⁷⁸ In 1675, out of non-metropolitan Surrey’s population of about 34,000 people aged 16 or more, the Compton Census recorded about sixteen hundred people, or about five per cent as not conforming, though this is likely to be an underestimate given the motivations of its creators.⁷⁹ Robinson also wrote that ‘Roman Catholicism continued to be weak in Surrey in the eighteenth and early nineteenth centuries’, and the Compton Census recorded fewer than a hundred Catholics in Surrey’s non-metropolitan parishes.⁸⁰ On the whole it has not been possible to fill the resultant gaps in Surrey’s records; the

⁷⁶ R. Schofield, *Parish Register Aggregate Analysis: The Population History of England database and introductory guide* (Colchester, 1998); *Surrey parish registers*, West Surrey Family History Society, WSFHS Surrey parish registers transcripts (CDs 2-4, 8, 10, 12, 13, 15, 18, 26, 28, 30, 32, 33, 39, 42, 44).

⁷⁷ Wrigley and Schofield (eds.), *Population History of England*, p. 94.

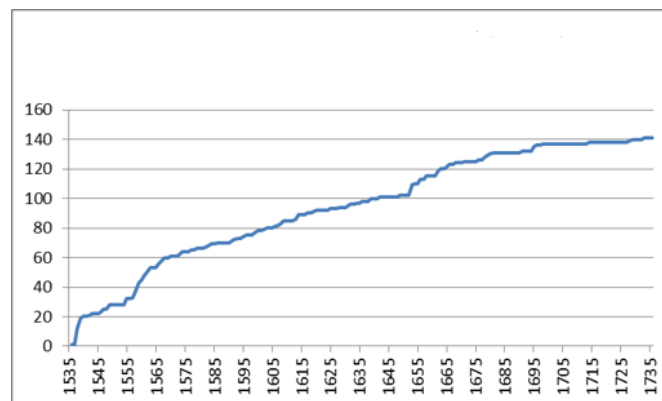
⁷⁸ D. Robinson, *Pastors, Parishes and People in Surrey* (Chichester, 1989), pp. 20-1, 23.

⁷⁹ M. Clapinson and A. Whiteman (eds.), *The Compton Census of 1676: a critical edition* (London, 1986), p. 71, though it seems likely within the diocese of Winchester as a whole a little over three quarters of returns were of people over the age of 16, most of the remainder seem likely to have included children also, see p. lxix. See also Chapter 4: Population.

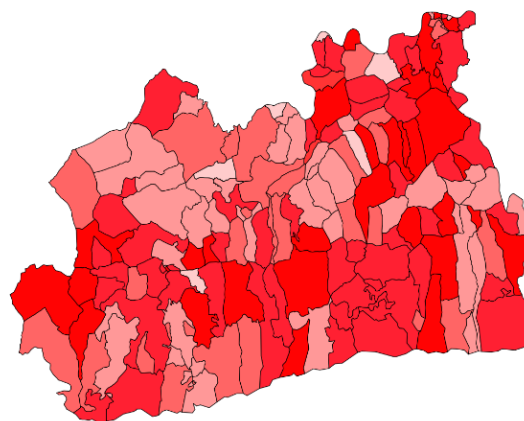
⁸⁰ Robinson, *Pastors, Parishes and People in Surrey* p. 23; Clapinson and Whiteman (eds.), *Compton Census*, p. 71.

exception is the inclusion of about a hundred eighteenth century Nonconformist burial records, mostly from Dorking and Guildford.

Surrey's parish registers survive in only small numbers from the early years of registration but their survival increases over time (Figure 1), with about half extant from the mid-Elizabethan years, and three quarters by the mid-seventeenth century, though a number are incomplete for the period of the Civil Wars and the Interregnum. Geographically, the start dates of parish register are spread across the county. Those from the south of the county have tended to survive from earlier than those from the north but there are pockets of early survival and of late survival from most parts of the county (Figure 2).



*Figure 1 Survival of non-metropolitan Surrey parish registers
(numbers of registers' start dates by year)*



*Figure 2 Start dates of non-metropolitan Surrey parish registers
(darkest colour is pre-1550, lightest is post-1700)*

Wills and probate inventories

Probate inventories and wills are made use of mainly in this study's consideration of agriculture (Chapter 6: Agriculture) and of towns and occupations (Chapter 5: Economy). Publications by Herridge and by Holman and Herridge and several works by Webb provided much information.⁸¹ In addition to her published work, transcriptions of a great many further inventories had been made by Herridge but they remained unpublished at her death. These were deposited with the Surrey History Centre (hereafter SHC).⁸² The catalogues of the Prerogative Court of Canterbury (hereafter PCC), the Hampshire Record Office (hereafter HRO) and SHC provided further information.

Probate inventories were intended to record the personal moveable property of a deceased person. Taken shortly after the death they generally included and provided values for the deceased's moveable goods and chattels costed according to their second-hand or selling prices. Nationally, most survive from between about 1580 and 1720.⁸³ Inventories have significant limitations in what they reveal about people's economic activity. They were made mostly by people who were of above average prosperity, older and male. They did not record all the assets the deceased person owned at the time of death as they were not concerned with fixed or 'real property'. Nor did they record property given away shortly before death. The values recorded, especially before the late seventeenth century, though, seem likely to be broadly

⁸¹ D. M. Herridge (ed.), *Surrey Probate Inventories, 1558-1603* (Woking, 2005); J. Holman and M. Herridge (eds.), *Index of Surrey Probate Inventories: 16th-19th centuries* (Epsom, 1986); C. Webb, *Archdeaconry Court of Surrey: An Abstract of Filed and Unregistered Wills 1559, 1595-1649* (unpublished, 1998); C. Webb, *Archdeaconry Court of Surrey An Abstract of Filed and Unregistered Wills 1572-1581* (unpublished, 1999); West Surrey Family History Society, WSFHS Surrey Will abstracts (CDs 3,8, 34-7).

⁸² SHC Z/378 Surrey Probate Inventories: Transcripts 16th C. -19th C. .

⁸³ N. Goose, N. Evans, and T. Arkell (eds.), *When Death Do Us Part: understanding and interpreting the probate records of early modern England* (Oxford, 2000), p. 8.

reliable. Shepard described net moveable wealth as ‘a benchmark of credit and status’ and commented ‘(m)en and women were skilled at calculating the cash equivalents of moveable property in order to determine both its exchange value and its worth as security for credit’.⁸⁴

The use of inventories to explore farming activities presents additional difficulties. They included crops in the barn and in the field and livestock on the farm. But they omitted ‘crops’ not seen as needing human intervention, the principle being that those created or improved by man were included but those which were ‘part of nature’s bounty’ were not. Hay and felled timber were expected to be included but growing grass and trees were not. Crops which were planted or sown in ploughed land and harvested by cutting were included, but crops which were pulled (such as flax or hemp), root crops which were dug, clover and improved grasses which were sown but regarded as grass may not have been. Orchards were not included as, although they were planted, the trees were regarded as provided by nature.⁸⁵ Despite these limitations, inventories are of considerable value in exploring patterns of agriculture and have been used in a wide range of studies.⁸⁶

Making use of probate inventories to study Surrey’s agriculture is compromised by their ‘desultory’ survival.⁸⁷ The major loss is their failure to survive from the Archdeaconry Court of Surrey, the archdeaconry which covered most of Surrey.

⁸⁴ A. Shepard, *Accounting for Oneself: worth, status, and the social order in early modern England* (Oxford, 2015), pp. 304-5, 308.

⁸⁵ Goose, Evans, and Arkell (eds.), *When Death Do Us Part*, p. 33; 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 & Present*, 141 (1993), pp. 50-1.

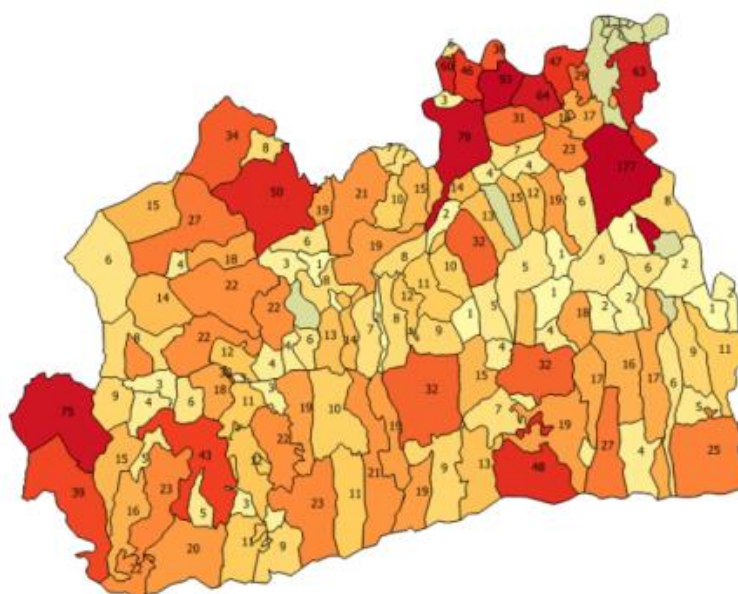
⁸⁶ for example Campbell and Overton, ‘Six Centuries of Norfolk Farming’ (1993); P. Glennie, ‘Continuity and Change in Hertfordshire Agriculture 1550-1700: I - Patterns of Agricultural Production’, *The Agricultural History Review*, 36 (1988b); P. Glennie, ‘Continuity and Change in Hertfordshire Agriculture 1550-1700: II - Trends in Crop Yields and Their Determinants’, *The Agricultural History Review*, 36 (1988a).

⁸⁷ Herridge (ed.), *Surrey Probate Inventories, 1558-1603*, p. xvii.

Those that survive are in a variety of holdings. Most are in HRO in the records of the Consistory Court of Winchester, either the court of the bishop or that of his commissaries which operated while the archdeaconry courts were inhibited, normally during the months of March, April and May, as well as a few from parishes close to Hampshire in the records of the Archdeaconry Court of Hampshire. Some are in the records of the PCC at the National Archives (hereafter TNA). Those of the Peculiar of Croydon are held at Lambeth Palace Archives (hereafter LPA), and a very few are in the records held by SHC. In all about 2,240 inventories survive for parishes in non-metropolitan Surrey.⁸⁸ A database was created of these to include the deceased's name, parish, occupation and date of the inventory. Reflecting the particular interests of this study, the total value of the inventory of those involved in farming or living in towns was also recorded. For inventories from the Elizabethan period more detailed summaries of the farming activities of the deceased was also tabulated.

As a result of their erratic survival, inventories from non-metropolitan Surrey are spread unevenly both spatially and temporally. Some parishes have many more surviving inventories than others, even allowing for the different population sizes of different parishes, and a few appear to have no surviving inventories at all (Figure 3). Temporally, the majority of inventories (Figure 4) survive from the later seventeenth century, during which there are around 270 inventories per decade. At other times the number of inventories is nearer to 100 per decade. There are very few from the Civil War/Interregnum periods.

⁸⁸ Holman and Herridge (eds.), *Index of Surrey Probate Inventories: 16th-19th centuries*.



*Figure 3 Non-metropolitan Surrey inventories by parish
(numbers are those of extant inventories, the darker the colour the more inventories)*

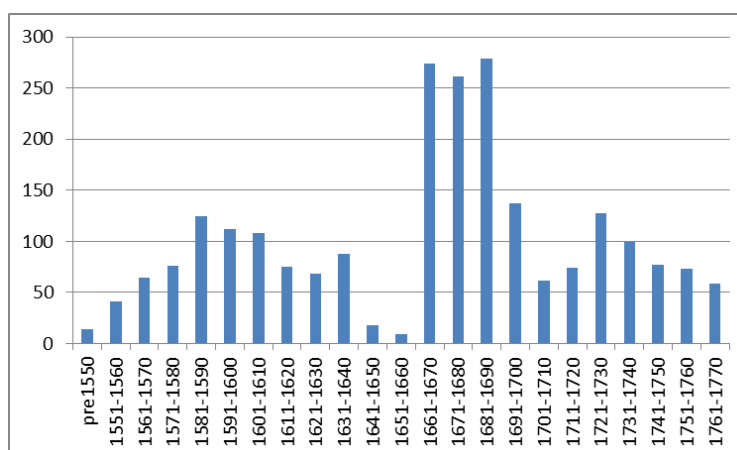


Figure 4 Non-metropolitan Surrey inventories by decade

The survival of probate inventories varies considerably by month of the year. Of the 443 inventories from the Elizabethan period for example, most were from April and May (Figure 5), the period during which the commissary court operated in lieu of the archdeaconry court.⁸⁹

⁸⁹ Herridge (ed.), *Surrey Probate Inventories, 1558-1603*, p. xvi.

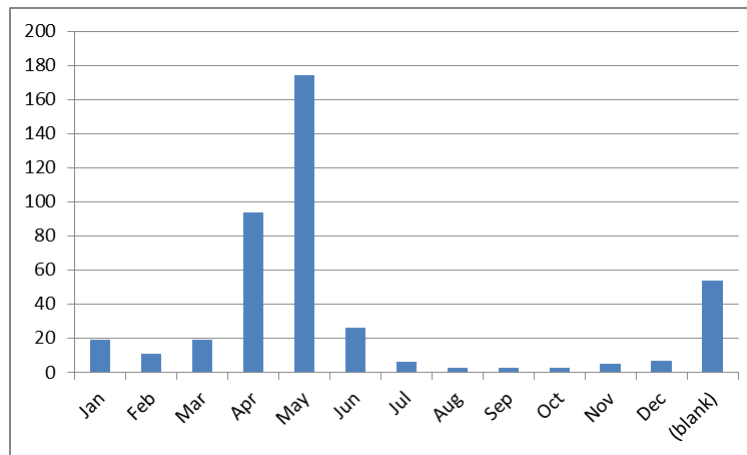


Figure 5 Month of Elizabethan inventories, non-metropolitan Surrey

These accidents of survival of Surrey's inventories have consequences for their use. Crucially, disproportionate numbers survive from earlier in the period for some parts of the county while elsewhere most survive from later in the period. Attempting to construct a comparison of agriculture between different geographic areas based solely on surviving inventories is therefore seriously compromised and risks comparing inventories from different time periods; similarly, comparisons between different time periods are likely to involve comparing inventories from different geographic areas.

Other sources

A range of other sources, both quantitative and qualitative, have also been used. The main ones are summarised below. Fuller details of sources and uses to which they are put are provided in the relevant chapter(s).

Sources of measures of wealth and poverty used in Chapter 5: Economy include lay subsidies from 1334 and 1524, the 1664 Lady Day hearth tax, poor relief from early nineteenth century Parliamentary reports (combined with the National Census) and probate inventories; evidence of economic differences between areas is explored using parish registers; and occupations are considered using information contained in parish registers c. 1700 and wills and probate inventories. Some of Surrey's London

connections (Chapter 7: Migration) are considered using apprentice records from London's guilds and from the Lord Mayor's Court in conjunction with population estimates (derived from the sources described above). Sources for other types of migration include church court depositions, parish registers (to investigate marriage horizons) and poor law records (parish records of settlement examinations and removals and poor law apprenticeships), quarter session and Privy Council records. Additional apprenticeship information was obtained from some town records and from the national records of duties paid for apprenticeships from 1711. Background mortality (Chapter 8: Mortality) is considered using burial records combined with descriptions by contemporaries and information in eighteenth century Bishop's Visitations returns. The study of mortality crises uses especially parish burial records. Within this, the timing and characteristics of the deaths recorded are used to suggest causes for some of the mortalities. Also used are comments regarding the presence of plague or of grain shortages in parish registers, records from the Loseley archives, wills, and letters to Surrey JPs from the Privy Council.

Methodologies

Particular quantitative techniques have been applied in the use of some sources. Three key ones are described here. Further details are given in the relevant chapter(s).

Population

No contemporary source directly recorded the populations of parishes before the start of the National Census in 1801 but there are several which can be used to estimate populations by applying appropriate conversion factors. Burial registers and baptism registers were used to estimate population by parish over seven 30-year periods between 1541 and 1750. In addition, several fiscal or religious sources were used to

provide further estimates of population. Combining these sources provides a check on the validity of the individual sources and also an opportunity to explore population change over time. The analyses are reported in Chapter 4: Population. The sources used, and the conversion factors applied, were:⁹⁰

- 1548 chantry certificates⁹¹ (population estimate = communicants + 25% to allow for those under 10 years)
- 1603 diocesan return list of communicants (the 1563 diocesan return for Diocese of Winchester, which includes Surrey, has not survived)⁹² (population estimate = communicants plus 35-50% undercount plus 35% underage)
- 1641-2 protestation returns⁹³ (population estimate = return x 1.66 to allow for those under 18 years x 2 to allow for women as well as men)
- 1664 hearth tax⁹⁴ (population estimates = number hearths x 4.3-4.75 to allow for possible household sizes)
- 1675 Compton census⁹⁵ (population estimate = communicants x 1.5⁹⁶)
- 1725 Bishop's visitation⁹⁷ (questions asked included size of population, answers were usually in round numbers and likely to be approximate)

⁹⁰ conversion factors used were those suggested in N. Goose and A. Hinde, 'Estimating Local Population Sizes at Fixed Points in Time: Part II - Specific Sources', *Local Population Studies*, 78 (2007) and in T. Arkell, 'Multiplying Factors for Estimating Population Totals from the Hearth Tax', *ibid.* 28 (1982).

⁹¹ R. A. Christophers, 'Social and Educational Background of the Surrey clergy, 1520-1620 (unpublished Ph.D. thesis, University of London, 1975).

⁹² A. Dyer and D. M. Palliser, *The Diocesan Population Returns for 1563 and 1603* (London, 2015).

⁹³ H. Carter, 'The Surrey Protestation Returns, 1641-2', *Surrey Archaeological Collections*, 59 (1962).

⁹⁴ British Academy, British Academy Hearth Tax Project, University of Roehampton.

⁹⁵ Clapinson and Whiteman (eds.), *Compton Census*.

⁹⁶ More detail on the likely ranges of populations are given in T. Arkell, 'A method for estimating population totals from the Compton census returns', in K. Schurer and T. Arkell (eds.), *Surveying the people: the interpretation and use of document sources for the study of population in the later seventeenth century* (Oxford, 1992b).

⁹⁷ W. R. Ward, *Parson and Parish in Eighteenth-century Surrey: replies to bishops' visitations* (Surrey Record Society; Guildford, 1994).

- 1788 Bishop's Visitation⁹⁸ (questions asked included size of population, answers were usually in round numbers and likely to be approximate)
- 1801 National Census⁹⁹
- Population estimates from the numbers of births for 30-year time periods 1541-1570, 1571-1600, 1601-1630, 1631-1660, 1661-1690, 1691-1720 and 1721-1750. Converted into population estimates based on the average Crude Birth Rate (CBR) for the period of 33 births per thousand population.¹⁰⁰
- Population estimates from the number of deaths per year for 30-year time periods 1541-1570, 1571-1600, 1601-1630, 1631-1660, 1661-1690, 1691-1720 and 1721-1750. Converted into population estimates based on the average Crude Death Rate (CDR) for the period of 27 deaths per thousand population.¹⁰¹

Reassurance as to the broad-scale reliability of these various population estimates is provided by comparing the various estimates for specific parishes. Figure 6 shows these for two parishes, Bletchingley and Effingham. Each shows a plausible series of population estimates, though they also illustrate the existence of differences between estimates emphasising the value of not relying on a single source.

⁹⁸ Ibid.

⁹⁹ P. Ell et al., Great Britain Historical Database: Census Data: Parish-Level Population Statistics, 1801-1951 UK Data Service. [data collection]. <http://doi.org/10.5255/UKDA-SN-4560-1> accessed 6 October 2016.

¹⁰⁰ Wrigley and Schofield (eds.), *Population History of England*, pp. 528 ff.

¹⁰¹ Ibid.

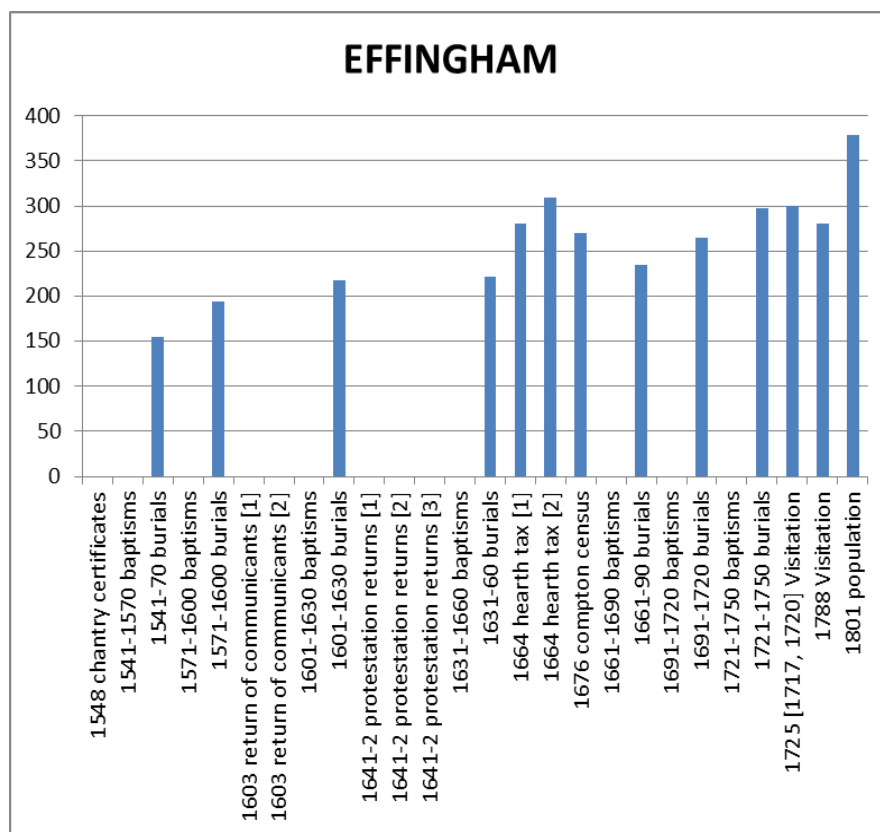
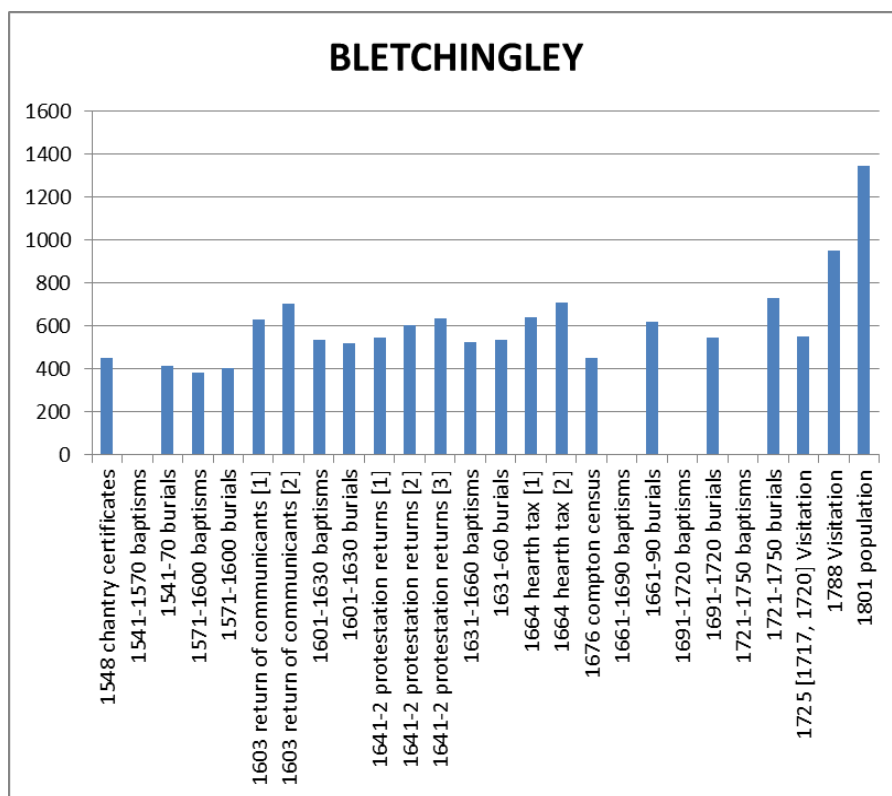


Figure 6 Population estimates for individual parishes

Estimating population numbers in this period is, nevertheless, not straightforward as none of the sources described above captured all their target population. In the parish of Duffield in Derbyshire, Falvey identified contradictory results from the use of various early-modern ecclesiastical returns and suggested the explanation was probably the numbers of recent incomers and squatters in more remote and dispersed areas of settlement where they may have been overlooked by tax assessors and ecclesiastical enumerators¹⁰². Ferguson discussed the use of the hearth tax for estimating population and similarly showed it was the more marginal members of the population who were less likely to be included. In a study of the parish of Woking in Surrey she identified that there were ‘clearly significant numbers of people missing from Woking hearth tax lists’ in consequence of the failure of the hearth tax necessarily to record some of the poor, a finding also in line with that of Arkell in the Warwickshire hearth tax.¹⁰³

Sometimes there are other reasons for the failure of a particular source for a particular parish to provide a credible basis for estimating population. In Surrey there is occasionally a parish where one source seems implausibly out line with others. For example the rector’s estimate of the population the parish of Horne in 1725 (Figure 7), ‘[t]he number of souls in the parish is 120 or thereabouts’, is unlikely to be accurate as it differs substantially not only with earlier and later estimates from other sources but also with the estimate of a later curate in 1788 who estimated the population more

¹⁰² H. Falvey, 'Searching for the Population in an Early-Modern Forest', *Local Population Studies*, 81 (2008).

¹⁰³ C. Ferguson, 'The Hearth Tax and Poor in Post-Restoration Woking', in T. Dean, G. Parry, and E. Vallance (eds.), *Faith, Place and People in Early Modern England : essays in honour of Margaret Spufford* (Woodbridge, 2018a), esp. pp. 114, 126; T. Arkell, 'Warwickshire's Surviving Hearth Tax Documents', in T. Arkell and N. Alcock (eds.), *Warwickshire Hearth Tax Returns: Michaelmas 1670, with Coventry Lady Day 1666* (London, 2010), pp. 38-9.

plausibly as ‘about 250’.¹⁰⁴ It is possible one cause of confusion was that Horne had until 1705 been a chapelry of the neighbouring parish of Bletchingley, although it ‘had to some extent led a separate existence before the Act of 1705’.¹⁰⁵ The situation was possibly compounded by the employment of a curate and the death of the rector William Jones in 1728, not long after the completion of the 1725 return.¹⁰⁶

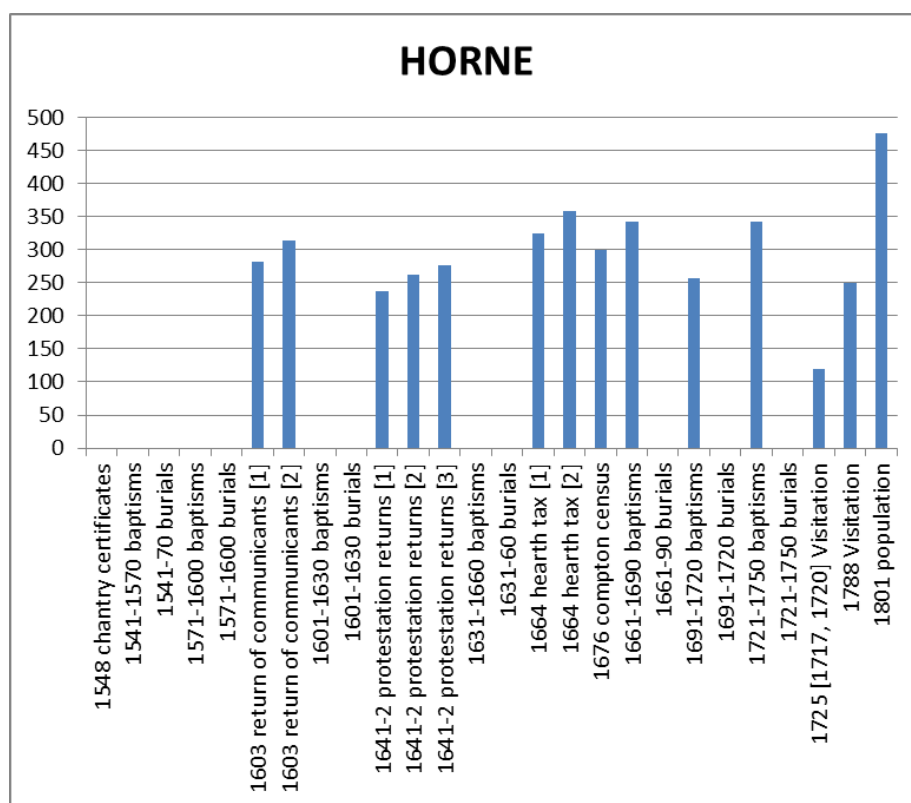


Figure 7 Horne: example of a poor population estimate

It is not uncommon for local studies to use one or two sources to estimate a parish’s population but comparisons of population estimates at the scale of those in this study offers a broader picture. They provide a useful validation of the broad consistency of the range of population estimators available to the researcher while also underlining the need not to regard any individual source as providing more than an approximate estimate of an area’s population.

¹⁰⁴ Ward, *Parson and Parish*, pp. 35, 115.

¹⁰⁵ H. E. Malden (ed.), *The Victoria History of the County of Surrey* 4 vols. (Westminster, 1902) Vol. 4 p. 291.

¹⁰⁶ Ward, *Parson and Parish*, p. 35.

Agriculture

In Chapter 6: Agriculture, particular use is made of Kussmaul's identification of a link between marriage seasonality and the main types of agriculture practiced, her key observation being that in mainly pastoral areas marriages were more likely to be in spring while in mainly arable areas they were more likely to be in autumn. The number of non-metropolitan Surrey's surviving marriage records is initially modest, reflecting the survival of parish registers as discussed above. About a hundred marriage records a year survive from 1560, rising to about five hundred by the early eighteenth century, though dipping in the Interregnum. Over time increasing numbers of marriages were by licence rather than by banns (Figure 8). In the earlier part of the period marriages by licence were more likely to be marriages of the better off but marriages in the Interregnum were by licence and the method became increasingly common thereafter, used in the majority (about two thirds) of marriages in Surrey in the early eighteenth century.

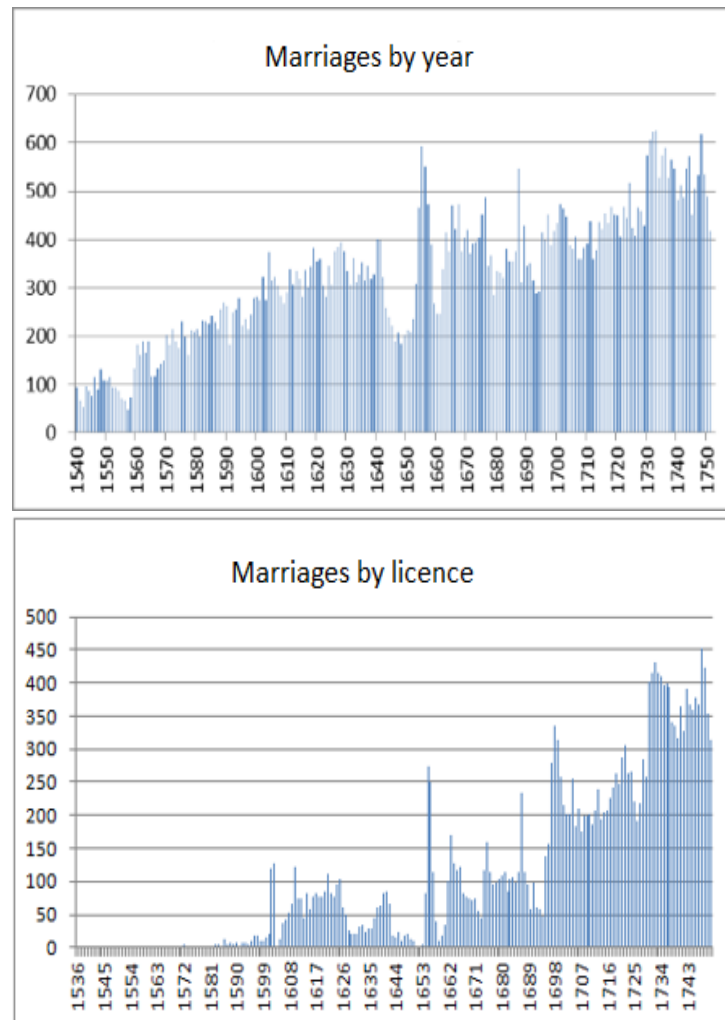


Figure 8 Numbers of marriage records in non-metropolitan Surrey by year and numbers by licence

The methodology used to calculate marriage seasonality for Surrey parishes follows closely that of Kussmaul.¹⁰⁷ There are three stages to Kussmaul's methodology. The first is to convert the numbers of marriages each month to an index to take account of the distorting effects of the differing numbers of days in each month. The second stage is to take account also of the changes over time of religious influences on the timing of marriages by adjusting for the reduction of marriages in Lent and Advent. The result of these first two stages is to produce indexes of the size of the Spring and Autumn peaks (referred to as SPR and AUT). The indices SPR and AUT were

¹⁰⁷ Kussmaul, *General View*, Ch. 3.

calculated so as to take the value 100 if weddings were spread evenly over all the days in the year. An index of 200 for a particular month would indicate twice as many as the expected number of weddings, an index of 50 would indicate half the expected number.¹⁰⁸

The third - and most problematic - stage is to assess the relative sizes of the Spring and Autumn peaks and categorise a parish as having 'arable-type' marriages, ie an Autumn peak, 'pastoral-type' marriages, ie a Spring peak, or as being 'non-seasonal' ie Spring and Autumn peaks are similar. To do this involves two phases – firstly, measuring the difference between the Spring Index (SPR) and the Autumn Index (AUT) and secondly deciding how to categorise that difference. As Kussmaul acknowledged, some of the decisions had an 'arbitrary' element, and Humphries expressed concerns about how this division into seasonal types was achieved.¹⁰⁹

Intuitively, the three seasonal types are:

- X-type = small difference between SPR and AUT (categorised as non-seasonal)
- A-type = high AUT, low SPR (categorised as arable-type)
- P-type = high SPR, low AUT (categorised as pastoral-type)

More specifically, see Figure 9, the criteria Kussmaul used to distinguish between these three seasonal types were:

- X-type: either SEAS less than 50 (SEAS is the length of arc (a), in other words it is the distance of the observation from (100, 100)) or either AUT less than

¹⁰⁸ Ibid., pp. 48ff. (SPR refers to Apr, May, June, July; AUT refers to Sep, Oct, Nov).

¹⁰⁹ Ibid., p. 62; J. Humphries, 'Review: Kussmaul *A General View*', *The Journal of Economic History*, 51 (1991).

100 and SPR less than 150 or SPR less than 100 and AUT less than 150 (lines (b))

- A-type: AUT is greater than SPR (and not X-type) (vector (c) represents where $AUT=SPR$)
- P-type: SPR is greater than AUT (and not X-type)
- An additional type, H-type, was initially specified by Kussmaul but later dropped and subsumed into the A- and P-types.

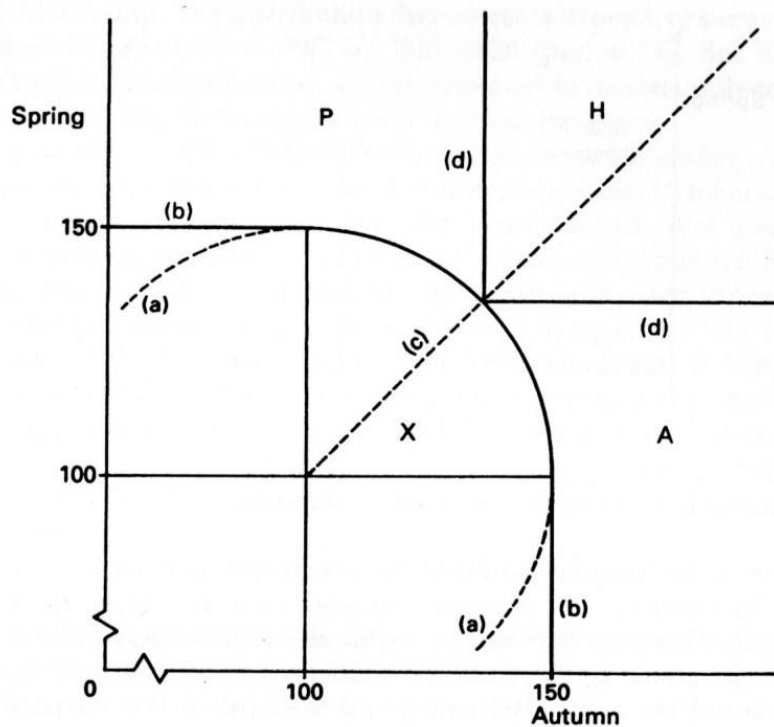


Figure 9 Defining seasonal types (Kussmaul)¹¹⁰

However, in the light of concern about the difficulties of deciding on the points at which to define the boundaries between these three parish-types, some variations of the method are also considered in this study.

¹¹⁰ Reproduced from Kussmaul, *General View*, Fig. 3.8, pp. 62-3.

Variant 1 – the original method ('Kussmaul's rule'). This method applied Kussmaul's approach. The map of Surrey parishes' marriage seasonality for the period 1661-1740 using Kussmaul's original method is shown below (Figure 10).

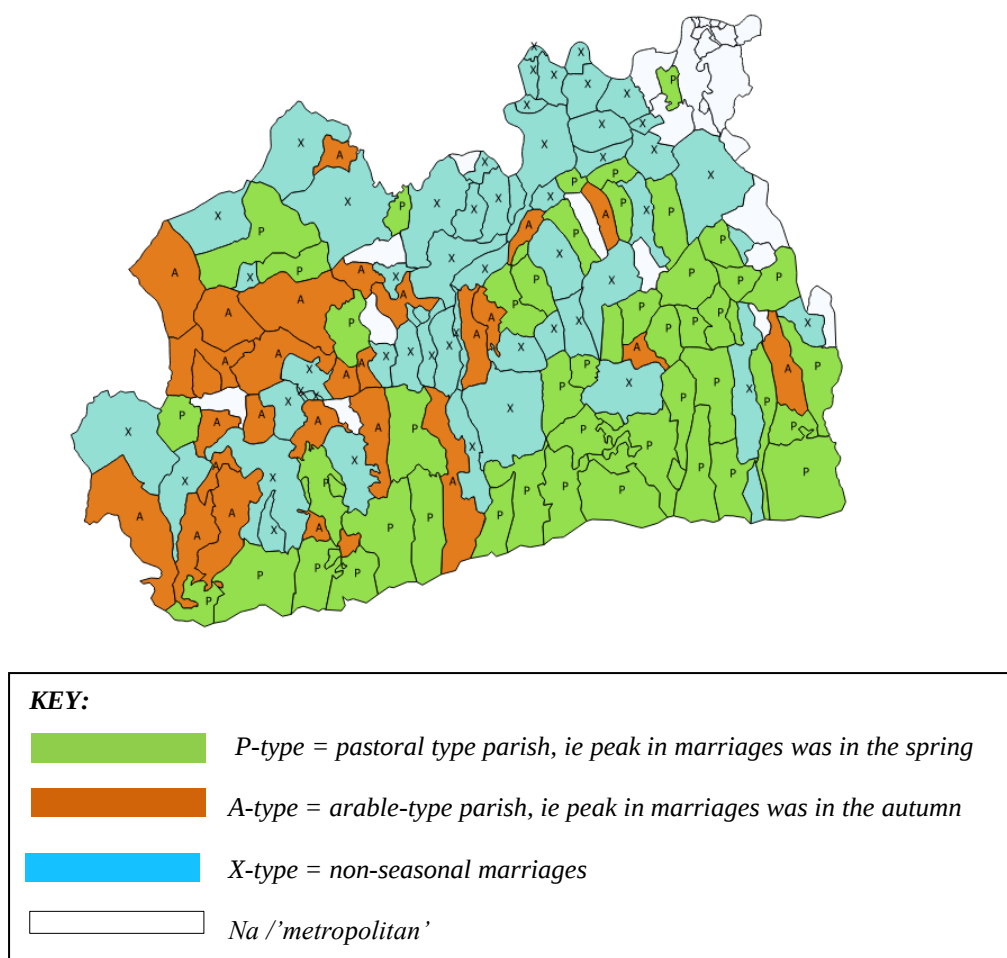


Figure 10 Peak marriage season by parish, 1661-1740 (Variant 1)

Variant 2 ('alternative rule'). One variant considered was to use Kussmaul's approach but to make an adjustment to the rule for distinguishing seasonal from non-seasonal parishes. Instead of the approach used by Kussmaul the peak months were compared by taking the *ratio* of the Spring Index and the Autumn Index. If the ratio was between 0.9 and 1.1, in other words the Autumn Index was within 10 per cent of the Spring Index, then the parish was classified as non-seasonal. If the ratio was greater it was classified as seasonal with its seasonality depending on which of the Spring or Autumn Index was greater. This produced similar results to the original (Variant 1)

method, but with the difference that it put fewer parishes into the non-seasonal category.¹¹¹

Variant 3 ('Composite rule'). Consideration of the results of using Variant 2 suggested it would be prudent to take account of the differences it suggested by amalgamating it with Variant 1. This resultant variant, Variant 3, was calculated as follows. If both Variant 2 (alternative rule) and Variant 1 (Kussmaul's original method) classified a parish as seasonal then it was classed in Variant 3 as 'strongly seasonal'. But if one classified it as seasonal and the other as non-seasonal then the parish was classed as 'moderately seasonal'. As can be seen by comparing Figure 10 and Figure 11, applying this adjustment changed the classification of many of the parishes which had been classified by Variant 1 (Kussmaul's original method) as non-seasonal to a classification as moderately seasonal. In a very few parishes the change was from 'seasonal' to 'moderately seasonal'. Interestingly those parishes which Variant 3 classified as moderately seasonal were overwhelmingly parishes whose surrounding parishes were of the same seasonality under Kussmaul's original rule. In other words, 'strongly arable' and 'moderately arable' parishes tended to cluster together, as did 'strongly pastoral' and 'moderately pastoral'.

¹¹¹ A map of Variant 2 is not shown as it is incorporated into the Variant 3 map.

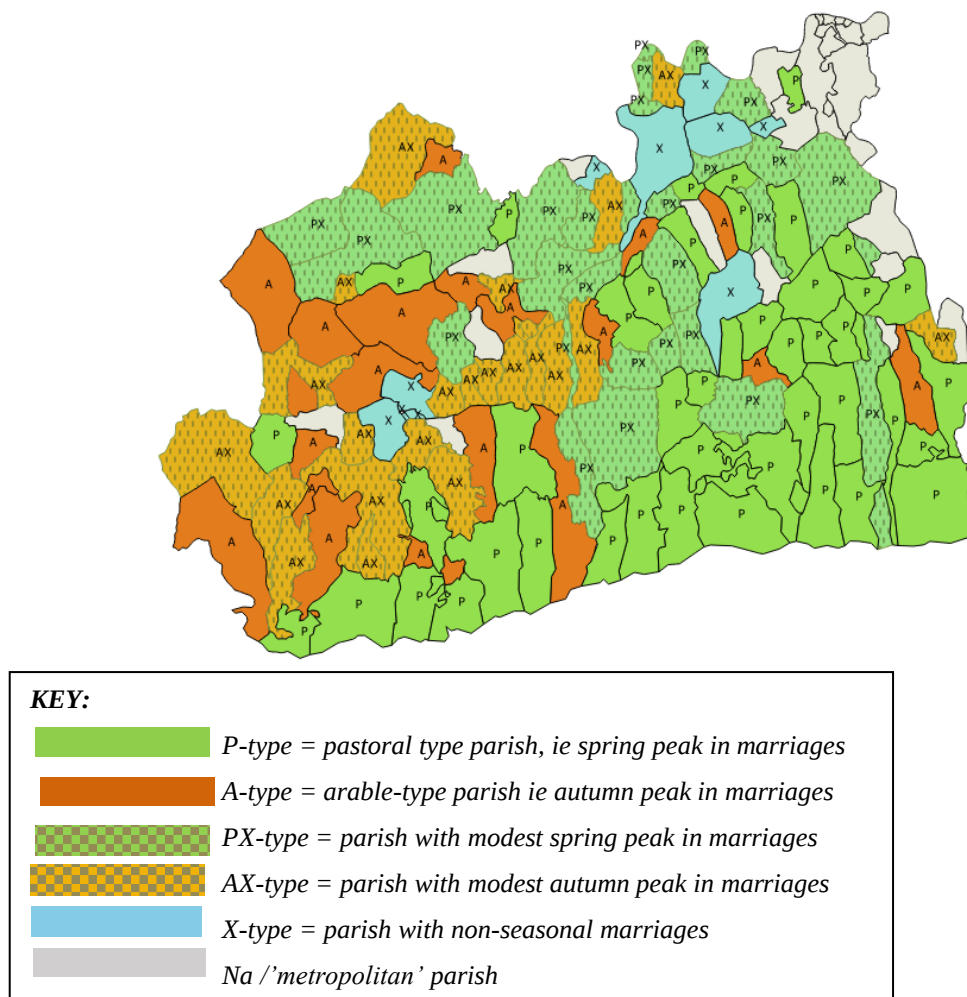


Figure 11 Marriage seasonality by parish, 1661-1740 (Variant 3)

Variant 4 ('crude comparison'). As a final comparison, one other index was tried, a much simpler categorisation of parishes. It simply took the month in which the highest number of marriages occurred and defined the parish's seasonality as the season of that month. In other words, it made no adjustments for length of months or for religious influences on marriage month. If the largest number of marriages occurred in April, May, June or July then the parish was labelled as a 'Spring' (pastoral) parish, while if the peak number of marriages occurred in September, October or November, then the parish was labelled as an 'Autumn' (arable) parish. If the peak month for marriages was another month, then the parish was described as 'Other'. The categorisation of parishes based on Variant 4 was (see Figure 12) only modestly

different from those based on the more complex calculations. In most parishes the classification into arable-type, pastoral-type or non-seasonal remained the same whichever method was used, differing only (where relevant) in the strength of seasonality.

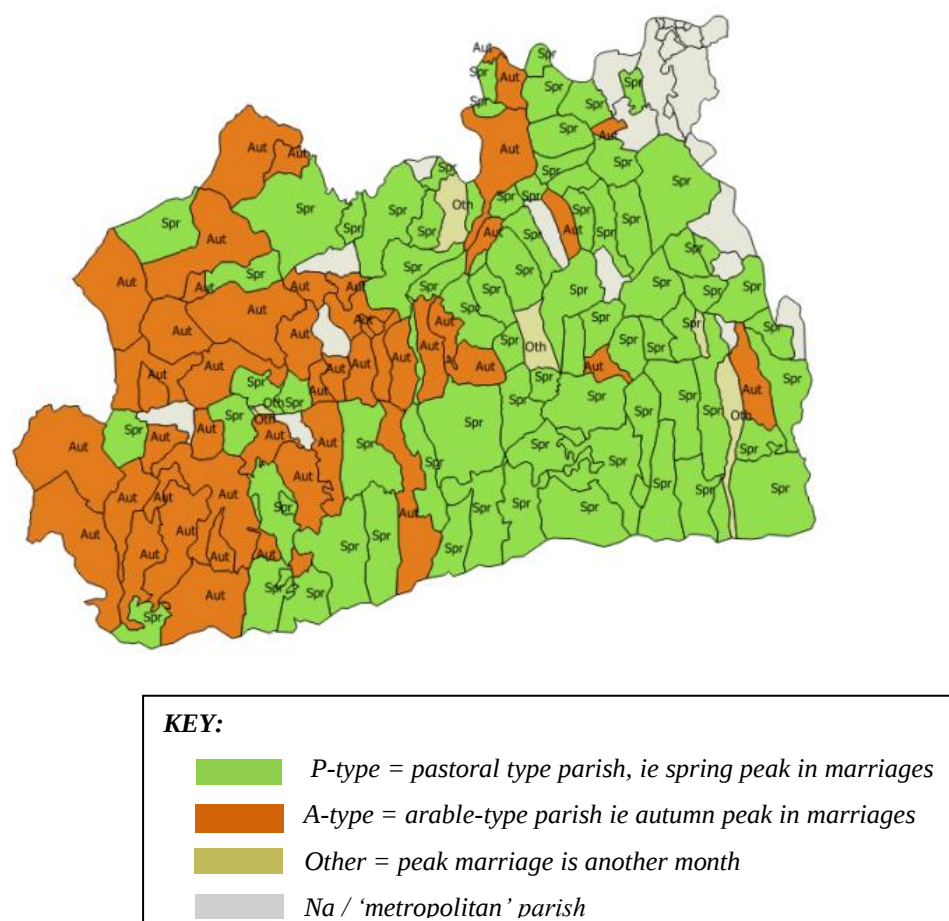


Figure 12 Peak marriage season by parish, 1661-1740 (Variant 4)

This exploration of the methodology of marriage seasonality in Surrey parishes provides a complementary approach to that of Kussmaul whose concern was to identify national patterns and trends in agriculture. This more local analysis has explored the experiences of contiguous parishes, extending the methodology to provide understanding of agricultural change within a much smaller area. It has shown that adjacent parishes on similar soils do tend to show similar marriage seasonalities and also that seasonality is not strongly influenced by the details of the

measure used. Taken together, these provides strong support for the robustness of the approach pioneered by Kussmaul.

Following this exploration of alternative means of measuring the seasonality of marriages, it was decided to use the Variant 3 (Composite rule) for subsequent analyses of Surrey parishes. It was felt to provide a more nuanced view of marriage seasonalities than the other approaches considered as it enabled a sense of the strength of seasonalities to be included.

Mortality crises

The times when the numbers of deaths rose suddenly and substantially for a short period of time, periods of crisis mortality, are considered in Chapter 8: Mortality. This section describes the process used to identify years which stand out as ‘unusual’ in the sense of burials being markedly high compared to what might normally be expected.

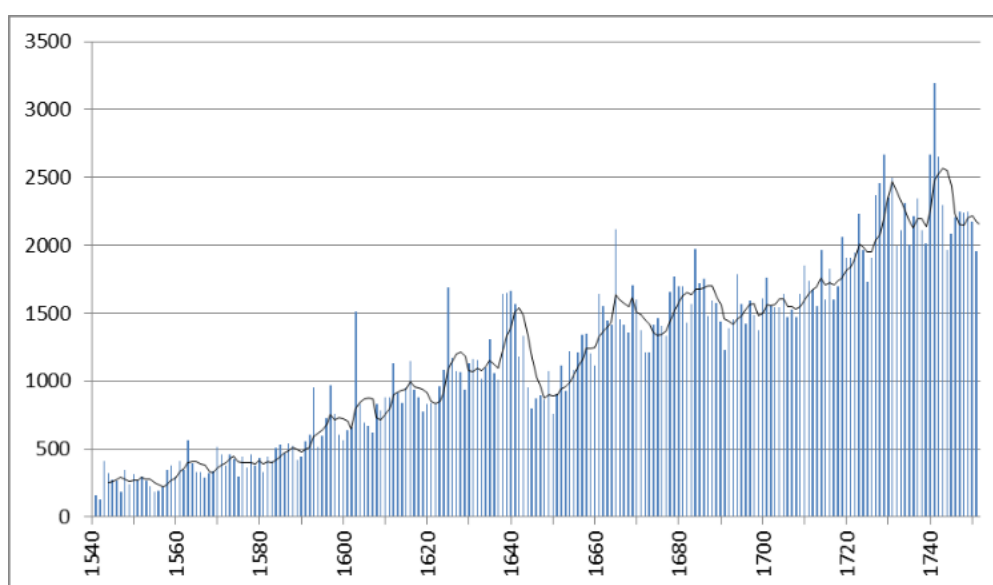


Figure 13 Number of non-metropolitan Surrey burials per year (plus trend line of 5 year moving average)

The numbers of burials in surviving parish registers is shown in Figure 13. The increasing numbers of parishes for which records survive is evident. Also clear is that

in some years the numbers of burials were unusually high, suggesting a mortality crisis. Identifying a mortality crisis involves determining what ‘normal’ or trend levels of mortality were and then assessing whether burials in a particular period were sufficiently above that trend level as to be regarded as a crisis. Different studies have made use of different criteria.¹¹² The numbers of years used for calculating the trend or average numbers of burials in normal times have included 11 years, 25 years, and 51 years.¹¹³ Identifying crisis years then involves determining when burials exceeded a set threshold above such ‘normal’ years. Some have taken this as annual burials being twice, or three times their normal level.¹¹⁴ Taking a statistically more rigorous approach Wrigley and Schofield defined a crisis as when a single monthly total was at least 3.36 standard errors above the forecast trend for that month (a demanding threshold which corresponds to the probability of it occurring by chance being less than 1 in 10,000), or two or more consecutive months at least 2.05 standard errors above trend (each of which if independent corresponds to the probability of it occurring by chance of less than 1 in 100).¹¹⁵ Connor and Hinde considered the particular problem of identifying crises in parishes with only a few burials per year and suggested using a Poisson distribution for parishes with less than 20 burials a year, a distribution which tends to the Normal distribution for larger values.¹¹⁶

The approach used in this study is to compare each year’s total burials with the 21-year moving average of burials, where the average is centred on the year in question

¹¹² A. Hinde, 'A Review of Methods for Identifying Mortality 'Crises' Using Parish Record Data', *Local Population Studies*, 84 (2010).

¹¹³ Dobson, *Contours*, p. 195; D. Connor and A. Hinde, 'Mortality in Town and Countryside in Early Modern England', *Local Population Studies*, 89 (2012), p. 59; M. J. Dobson, *A Chronology of Epidemic Disease and Mortality in Southeastern England, 1601-1800* (Historical geography research series; London, 1987), pp. 7-9.

¹¹⁴ A. B. Appleby, *Famine in Tudor and Stuart England* (Liverpool, 1978), p. 116; P. Slack, *The Impact of Plague in Tudor and Stuart England* (Oxford, 1990), p. 81.

¹¹⁵ Wrigley and Schofield (eds.), *Population History of England*, pp. 647-8.

¹¹⁶ Connor and Hinde, 'Mortality in Town and Countryside' (2012).

but omits that year from the calculation. This seems a reasonable compromise between the need for a long enough timescale to reduce the effect of short-term fluctuations in mortality and a short enough timescale to avoid the loss of too many years for which poor data means the average cannot be calculated and the distortions possible due to changing population numbers. The calculations were made based on the (new-style) calendar year. Comparison with the results based on harvest years commencing in October and with those of harvest years commencing in July (used by Wrigley and Schofield) gave similar results, though not unexpectedly there were some differences in the relative scale of the crises identified due to the different year-end dates sometimes dividing a crisis between two years and hence reducing its apparent scale.

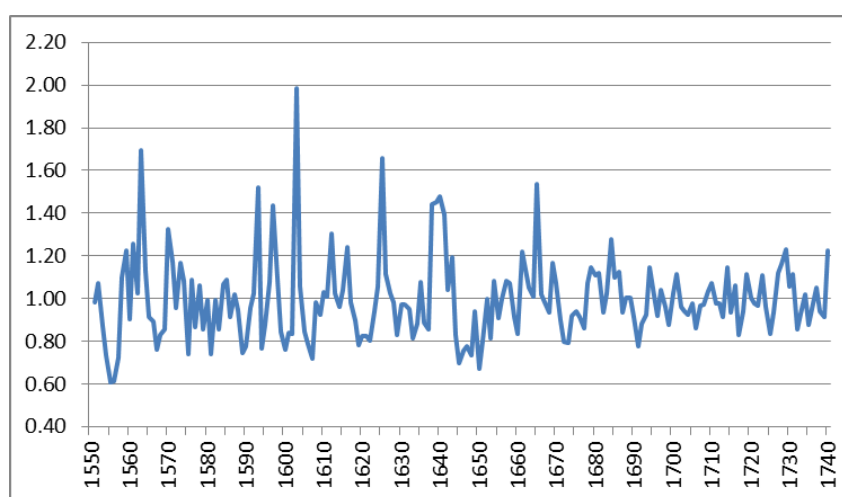


Figure 14 Ratio of year's burials compared with 21 year moving average (excluding central year)

Several features of mortality patterns in non-metropolitan Surrey are apparent (Figure 14). First, there were fewer crises in the later part of the period compared to the earlier part: most occasions when burials in non-metropolitan Surrey differed markedly from average occurred in the hundred years before the mid-seventeenth century. There are 16 years in 1551-1670 when burials were at least 20 percent above average, while in 1671-1745 there were 2 such years. In other words, 13 per cent of years in the first

part of the period experienced a crisis but 3 per cent in the second part. This is consistent with studies which have concluded that the positive Malthusian check was much reduced after the mid-seventeenth century, including Wrigley and Schofield who found the mean deviation of annual crude death rates fell from 17.1 per cent in 1550-74 to 8.3 per cent in 1700-24.¹¹⁷

There were a couple of occasions – in the 1550s and the 1640s - when burials fell unusually low, below 75 per cent of their average levels. There are clear reasons why deaths should from time to time rise suddenly but there is no clear mechanism that might cause such falls. On both occasions it is likely the fall resulted from a failure in the process of record-keeping. In the former period, as is discussed further in Chapter 8: Mortality, it seems the scale of the mortality crisis, combined perhaps with the relative newness of the requirement to keep such records, contributed. In the latter period the disruption of the Civil Wars was doubtless the cause.

The second part of identifying a mortality crisis is to establish a threshold number of burials above normal which, if exceeded, is taken as indicating a mortality crisis. A threshold of burials 40 per cent above normal seems a reasonable pragmatic choice. This was the threshold used by Dobson in her study of the neighbouring counties of Kent, Sussex and Essex. On this basis there were 10 years when Surrey experienced major mortality crises, namely 1563, 1593, 1597, 1603, 1625, 1638-41 and 1665. In 1729 and in 1740 burials were at least 20 per cent above trend but they were part of an extended period of high mortalities, 1729-31 and 1739-42. Several other individual years had mortalities between 20 per cent and 40 per cent above the average, namely

¹¹⁷ M. Kelly and C. Ó Gráda, 'The Poor Law of Old England: Institutional Innovation and Demographic Regimes', *Journal of Interdisciplinary History*, 41 (2011), pp. 341-2; R. M. Smith, 'Geographical Aspects of Population Change in England 1500-1730', in R. A. Dodgshon and R. A. Butlin (eds.), *An Historical Geography of England and Wales* (London, 1990), p. 155.

1561, 1570, 1612, 1616, 1661, and 1684. In addition, the indication of a breakdown in record keeping in the late 1550s suggests there was a major crisis at this time too. All the years identified as crisis years are listed in Table 1. Anticipating the findings of Chapter 8: Mortality, the main cause of those crises identified as major are included.

Year(s)	Scale of crisis (major = 40+% above trend, minor = 20-40% above trend)	Type of crisis
Late 1550s	major	dearth-related plus disease
1561	minor	
1563	major	plague
1570	minor	
1593	major	plague plus
1597	major	dearth-related
1603	major	plague
1612	minor	
1616	minor	
1625	major	plague
1638-41	major	disease
1661	minor	
1665	major	plague
1684	minor	
1729	minor	part of extended period of high mortality
1740	minor	part of extended period of high mortality

Table 1 Mortality crises in Surrey

This is similar in many ways to the national picture. The comparison is slightly awkward as the Surrey figures are for new-style calendar years while Wrigley and Schofield used a ‘harvest year’ from July to June but, as discussed above, the identification of crises in Surrey was not especially dependent on which type of year was used. There were rises in the numbers of Surrey wills proved at the PCC during

all these major crises, underlining the strength of the crises and suggesting their broad socio-economic impact. All but one of the major crises in the period mirror those observed nationally.¹¹⁸ The exception is 1563 when Surrey experienced a crisis and there was an outbreak of plague in London but there does not seem to have been a national crisis. There are, unsurprisingly, more differences in the lesser crises. The minor crises in Surrey in 1561, 1570, 1612, 1616, 1661 and 1684 do not seem to have been part of major national crises and conversely national crises identified by Wrigley and Schofield in the 1587/8, 1623/4, 1657/8 and 1680/1 harvest years do not seem to have had more than a modest effect in Surrey.

¹¹⁸ Wrigley and Schofield (eds.), *Population History of England*, pp. 333-4.

3: Study Area

Surrey as a study area

A sub-regional study area such as non-metropolitan Surrey provides the opportunity to explore a diversity of localities. It is large enough to include different geographic, social, and economic conditions but small enough to provide a manageable area for study. As a preliminary it must be acknowledged that the boundaries of any county, and Surrey is no exception, are artificial constructs, not necessarily respecting physical or human geography. Blair concluded that Surrey's boundaries, both county and hundreds, had relevance in the medieval period, influenced by earlier manorial or episcopal estates, and were in existence by the eleventh century.¹¹⁹ Surrey's northern border was its geographically most well-defined, being formed by the river Thames. However the failure by the early modern period of Surrey's boundaries to reflect the economic and social realities is most evident in this same part of the county where several parishes formed part of the rapidly growing and densely populated suburb of London south of the Thames.¹²⁰ Phythian-Adams identified Surrey's eastern and southern borders as following quite closely the boundaries of major drainage basins and in consequence he placed Surrey as forming the south-east corner of one of his 'cultural provinces', areas which were 'spatially greater in compass than that occupied by any one local society, yet of sufficiently limited geographical extent as still to represent a meaningful context for its inhabitants' (Figure 15).¹²¹ Surrey's western boundary is its least clear-cut, much of it running through poor heathland.

¹¹⁹ J. Blair, *Early Medieval Surrey: Landholding, Church and Settlement before 1300* (Stroud, 1991), pp.12-4.

¹²⁰ It was not until the late nineteenth century that the county's boundaries were adjusted to reflect this reality.

¹²¹ Phythian-Adams, 'Introduction: an Agenda for English Local History', p. 9.

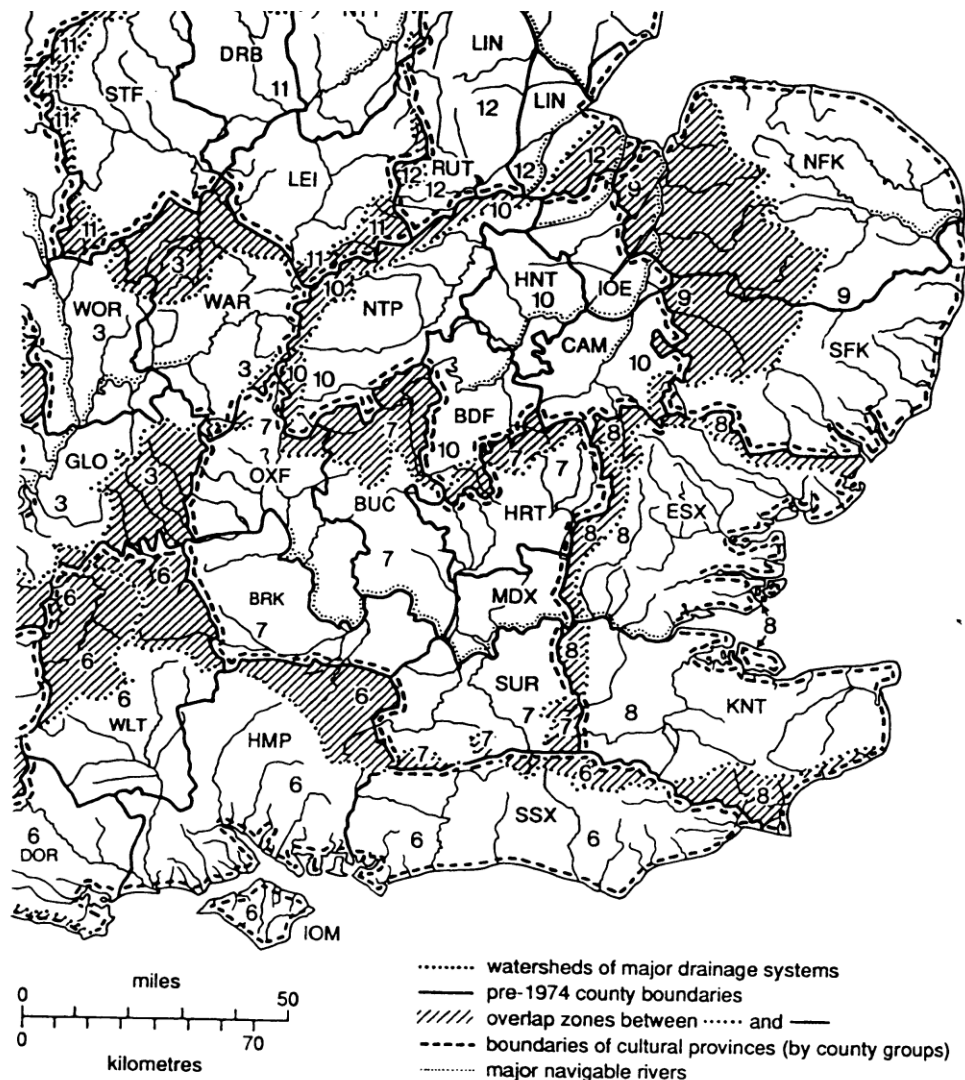


Figure 15 Phythian-Adam's 'cultural province' containing Surrey¹²²

Although Surrey was a relatively small county, it was geographically far from homogeneous. Two early nineteenth century writers on Surrey described the variety of Surrey's landscapes. William Cobbett, a local man, wrote in 1822 (though allowance needs to be made for Cobbett's tendency to hyperbole):

This county of Surrey presents to the eye of the traveller a greater contrast than any other county in England. It has some of the very best and some of the very worst lands, not only in England but in the world.¹²³

¹²² reproduced from C. Phythian-Adams, 'Local History and Societal History', *Local Population Studies*, 51 (1993), p. 37.

¹²³ W. Cobbett, *Rural Rides*, ed. I. Dyck (London, 2001), p. 4.

Marshall described in 1818 how these varied lands of Surrey were examples of more widely spread topographies:

Surrey has not an entire District within its outlines. Its Northern Vale Lands form part of the Vale of London. Its Heathlands, on its western confine, unite with those of Berkshire, Hampshire, and Sussex. Its Chalk Hills are a portion of the Eastern Chalk Hills of the Southern Counties. And its Southern Vale Lands were evidently cast, by Nature, in the same mold with similar lands in Sussex; - together forming one of the most extensive vales in the kingdom: bearing the popular name of the Weald or “Wild” of Sussex.¹²⁴



Figure 16 Map of Surrey, 1769¹²⁵

As this contemporary map illustrates (Figure 16), parishes in the far north-eastern corner of Surrey were increasingly a *de facto* part of the urban area of London by the eighteenth century. It was a trend which had existed for some time. The densely

¹²⁴ W. Marshall, *The Review and Abstract of the County Reports to the Board of Agriculture*, 5 vols. (London, 1818), Vol. 5, p. 353.

¹²⁵ P. Russell, *England Displayed*, 2 vols. (London, 1769), Vol. 1, p. 221.

populated Surrey parishes closest to London, namely the several parishes of Southwark and the parishes of Newington, Lambeth, Bermondsey and Rotherhithe (Redrith), were, for example, included in the seventeenth and eighteenth century London Bills of Mortality along with the parishes of London.¹²⁶ London was unique. It was by far the largest city in the country, growing rapidly from about 50-60,000 people in the 1520s to 200,000 in 1600, 400,000 in 1650 and 575,000 in 1700. In 1600 it contained about 8 per cent of the English population and by 1700 it contained 11 per cent of the by then larger national population.¹²⁷ It attracted many migrants, perhaps one in six of the adult national population at the end of the seventeenth century had visited capital at some time in their lives.¹²⁸ Moreover Londoners' family lives differed from those elsewhere in the country, differences such as the lack of near relatives living close at hand and the existence of larger households including lodgers, servants, apprentices and other kin. It resulted, Wrigley concluded, in 'the encouragement which city life gives to what Weber called "rational" as opposed to "traditional" patterns of action and the tendency for contract to replace custom'.¹²⁹

This thesis is concerned to understand something of the worlds of the people in the majority of Surrey, that is the inhabitants of its non-metropolitan area which was a mixture of rural parishes with economies based on agriculture, sometimes including a certain amount of industry, and market towns. It is beyond its scope to explore the very different metropolitan parts of Surrey. Aspects of these have been studied by

¹²⁶ J. Graunt, *London's dreadful visitation: or, a collection of all the Bills of mortality for this present year: beginning the 27th of December 1664. and ending the 19th. of December following* (London, 1665); 'Bills of Mortality', *Gentleman's Magazine*, (from 1731).

¹²⁷ K. Wrightson, *English Society, 1580-1680* (London, 1982), p. 128.

¹²⁸ P. Clark, 'Migration in England during the Late Seventeenth and Early Eighteenth Centuries', *Past & Present*, 83 (1979), pp. 57, 77.

¹²⁹ E. A. Wrigley, 'A Simple Model of London's Importance in Changing English Society and Economy 1650-1750', *ibid.* (1967), especially pp. 50-1.

others. Boulton studied Boroughside in Southwark and discussed the challenges it presented, including the difficulties resulting from its large population size, high population turnover and the coverage of its records.¹³⁰ The metropolitan parishes of Surrey have also formed part of wider studies of London such as those of the plague by Slack and by Kelly et al..¹³¹

Previous studies of Surrey

Surrey's geography affected its demography and its economy and this is a major theme of this study. In taking this approach it differs from most previous studies of Surrey. A few academic studies have considered aspects of its historical geography but most have been concerned with its religion, elites, administration, crime, county or national politics.¹³² Earlier histories of Surrey include, from the early twentieth century, the Victoria County History and, from the early nineteenth century, a gentry-written and gentry-focussed county history by Manning and Bray.¹³³ A number of more recent histories of Surrey have included a certain amount of socio-economic and demographic discussion of it in the early modern period.¹³⁴ Studies of particular parts

¹³⁰ J. Boulton, *Neighbourhood and Society: a London suburb in the seventeenth century* (Cambridge, 1987), pp. 6-7.

¹³¹ Ibid.; Slack, *Impact of Plague*; M. Kelly, 'Living Standards and Plague in London, 1560-1665 UCD WP13/08 (unpublished, 2013).

¹³² G. J. Fuller, 'A geographical study of the development of roads through the Surrey-Sussex weald to the south coast during the period 1700-1900 (unpublished thesis, University of London, 1951); G. J. Fuller, 'The Development of Roads in the Surrey, Sussex Weald and Coastlands between 1700 and 1900', *Transactions and Papers (Institute of British Geographers)*, 19 (1953); C. R. Jervis, 'Land Use and Rural Life in South-west Surrey: a survey of the human and historical geography of the Rural Districts of Guildford and Hambledon (unpublished M. Sc. thesis, London School of Economics, 1954); J. D. Young, 'Economic History of Woodlands in South East England 1700-1914 (unpublished Ph. D. thesis, University of Reading, 1985); G. J. Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change (unpublished M. Phil. thesis, University of Reading, 1969); J. M. Beattie, *Crime and the Courts in England, 1660-1800* (Oxford, 1986).

¹³³ Malden (ed.), *VCH Surrey*; O. Manning, *The History and Antiquities of the County of Surrey* ed. W. Bray, 3 vols. (Wakefield, 1974).

¹³⁴ P. Brandon, *A History of Surrey* (London, 1977); P. Brandon and B. Short, *The South East from AD 1000* (London, 1990); D. Turner, *Surrey* (London, 1988); P. Brandon, *The North Downs* (Chichester, 2005); J. Janaway, *Surrey: a county history* (Newbury, 1994).

of Surrey include that of Ferguson whose micro-study of the Surrey parish of Woking considered the treatment of the poor and the relationship between the administration of hearth tax and poor relief at the local level, finding a broadly compassionate approach to the application of the poor law. The study also underlined the complexity of using and interpreting the sources involved. Subsequent work has extended this study to consider the hearth tax exemption figures and poor law records, where they survive across non-metropolitan Surrey, revealing a tapestry of local variation between parishes and the absence of some of the poor from hearth tax records.¹³⁵ Current early modern research in progress includes that by Crosby whose study of the development of markets between the fourteenth and the nineteenth centuries includes some of western Surrey, Partridge who is considering religious diversity in north-west Surrey, Bradford Gibson who is undertaking a prosopographical study of the magistrates of the Assize Home Circuit (which included Surrey), considering in particular their responses to accusations of witchcraft and Woollcombe whose exploration of the operation of the poor law includes an area of northern Surrey.¹³⁶

Geography

The historical county of Surrey was relatively small, around 40 miles by 30 miles, and existed in this form until boundary changes in the late nineteenth century both added to and subtracted from its area.

Surrey contains a diverse geology of several contrasting bands of sedimentary rock mostly running east-west across the county (Figure 17). The major bands are Wealden

¹³⁵ Ferguson, 'The Hearth Tax and Poor in Post-Restoration Woking'; C. Ferguson, 'Behind the hearth tax exemption figures for Surrey: a tapestry of local variation', *Economic History Conference* (Keele, 2018b).

¹³⁶ Alan Crosby, Lee Partridge (Oxford), Liz Bradford Gibson (Bristol), Kate Woollcombe (Oxford); personal communications, as yet unpublished work.

Clay, Greensand, Chalk, and London Clay. In addition, there is a substantial area of Bagshot Sands in the north-west of the county and various other narrower bands and outcrops including alluvial deposits and river gravel along the valleys of the Thames and the few rivers that flow through Surrey. The topography of Surrey also varies, ranging in height from near sea level in the Thames Valley to well over 500 feet (152 metres). At their highest the North Downs reach 885 feet (270 metres) while the highest point in Surrey, and close to the highest in the whole of south-east England, is Leith Hill on the nearby Greensand Ridge at 965 feet (294 metres).

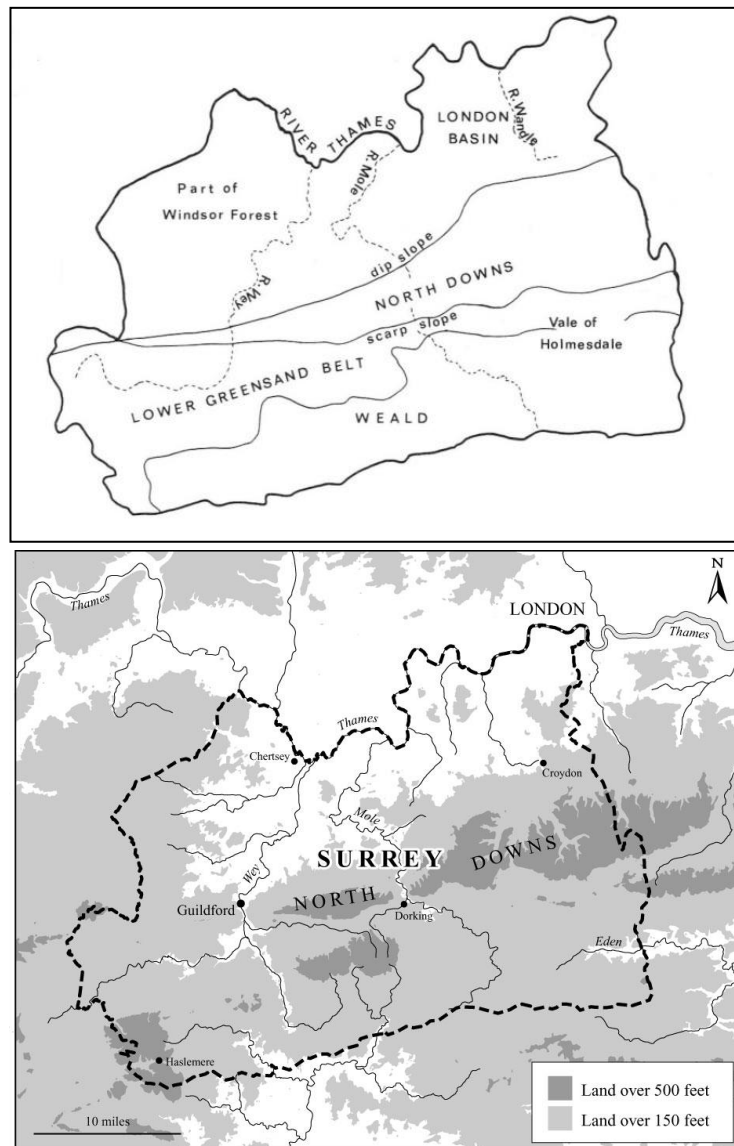


Figure 17 (a) Geographical regions and (b) topography of Surrey ¹³⁷

¹³⁷ reproduced from Blair, *Early Medieval Surrey*, p. 5; BA Hearth Tax Project.

Surrey was divided into 13 hundreds and (the exact number depending on the date) about 140 parishes (Figure 18). For details, see Appendix. The royal hunting ground of Windsor Forest (Figure 19) included land in about a dozen parishes in the north-west of Surrey.¹³⁸ Some was disparked by the sixteenth century, such as Portnall Park in Egham while some remained into the seventeenth century.¹³⁹ In January 1642 a jury found that by that date the whole of Surrey lay outside the boundaries of Windsor Forest and was no longer subject to forest law.¹⁴⁰



Figure 18 Parishes and hundreds of historical Surrey¹⁴¹

¹³⁸ Parishes of Chobham, Frimley, Horsell, Pirbright, Pyrford, Worplesdon, Windlesham, Egham, Thorpe, Chertsey, Byfleet, Woking, and Ash; Brandon, *A History of Surrey*, p. 38, Illustration V (between pp. 64 and 65); J. Norden (1607), Map and Reference Table of Forests around Windsor, from "A Description of the Honour of Windesore" John Norden 1607; also S. Thurley, 'The Impact of Royal Landholdings on the County of Surrey', in J. Cotton, G. Crocker, and A. Graham (eds.), *Aspects of archaeology and history in Surrey: towards a research framework for the county* (Guildford, 2004), esp. p. 157.

¹³⁹ Brandon, *A History of Surrey*, p. 62.

¹⁴⁰ J. Gurney, 'Gerrard Winstanley and the Digger movement in Walton and Cobham', *Hist. J.*, 37 (1994), p. 784.

¹⁴¹ BA Hearth Tax Project; see also Appendix.



Figure 19 Norden map of Windsor Forest, 1607 ¹⁴²

Settlements

The locations of Surrey's settlements and the forms of its parishes were influenced by the county's topography. Manors and parishes on the northern (dip) slope of the Downs, the southern (scarp) slope, and into the Weald and Greensand often ran north-south providing them with access to a variety of soils.¹⁴³ Access to water was of course important, resulting in settlements on riversides and on the line of springs which rise along the northern edge of the chalk.

Non-metropolitan Surrey contained no large towns. At the end of the medieval period only Guildford, Kingston and to a lesser extent Farnham could, Turner has suggested,

¹⁴² Norden, 'Windsor Forest'.

¹⁴³ Blair, *Early Medieval Surrey*, pp.22, 33.

really be called towns.¹⁴⁴ By the seventeenth century Guildford and Kingston remained the principal towns, each with around 500 households, followed by Farnham with around 300 households.¹⁴⁵ Surrey's towns were relatively thinly spread, probably a response to the extent of uncultivable land within the county: in 1673 their density was less than that in most English counties, averaging the 14th largest hinterlands in terms of square miles per town out of 53 counties (more thinly spread towns were all in counties in the north of England or in Wales).¹⁴⁶

Surrey's towns provided places to buy and sell agricultural produce for the use of local residents and also to sell agricultural produce to the London markets. Surrey had fewer markets than might be expected, presumably reflecting both the distribution of its towns and also the proximity of London as a place to buy and sell. Dyer estimated the number of recorded markets in Surrey as only 6 in 1588 rising to a maximum of 10 in 1690, considerably fewer than most counties. Different towns in Surrey had different market specialties: corn was traded especially in Croydon, Dorking, Farnham, Guildford and Reigate, malt and poultry in Dorking, and cloth in Godalming.¹⁴⁷ Dorking was, according to Defoe 'of all the markets in England famous for poultry; and particularly for the fattest geese, and the largest capons'.¹⁴⁸ By the eighteenth century Farnham was described by Defoe as 'the greatest corn-market in England, London excepted' and also had a substantial trade in hops.¹⁴⁹ Towns towards

¹⁴⁴ Turner, *Surrey*, p. 16.

¹⁴⁵ Brandon, *A History of Surrey*, p. 123; see also Chapter 4: Population and Chapter 5: Economy.

¹⁴⁶ J. Schofield, 'What Did London Do for Us? London and Towns in its Region, 1450-1700', in G. C. Jonathan Cotton, And Audrey Graham (ed.), *Aspects of Archaeology and History in Surrey: Towards a Research Framework for the County* (Guildford, 2004), p. 196; A. Dyer, 'Small Market Towns 1540-1700', in D. M. Palliser et al. (eds.), *The Cambridge Urban History of Britain*, Vol. 2 (Cambridge, 2000), pp. 430-1.

¹⁴⁷ Brandon and Short, *The South East from AD 1000*, p. 163.

¹⁴⁸ D. Defoe, *A Tour Through the Whole Island of Great Britain*, ed. P. Rogers (Harmondsworth, 1971), p. 163.

¹⁴⁹ M. O'Connell, *Historic Towns in Surrey* (Guildford, 1977), p. 19.; Defoe, *Tour*, p. 155.

the south-west of the county (Guildford, Godalming, and Farnham) were involved in the production and sale of cloth as were some more rural parts of the area, most notably Wonersh, despite legislation prohibiting this, and leather trades were present in Guildford, Godalming and Reigate and also in rural areas.¹⁵⁰ Some towns had administrative roles: Surrey was part of the Assize Home Circuit and the Assizes and Quarter Sessions were held at Reigate, Guildford, Kingston, Croydon, and sometimes at Southwark and Dorking.¹⁵¹

The economies of some towns, especially the larger ones, changed over time: for example, Kingston profited from the growth in the Thames barge trade and Guildford suffered from the decline in the cloth trade in the early seventeenth century, as did Godalming, though Guildford benefitted from the growth of the coaching trade and Wey barge trade in the seventeenth and eighteenth centuries, and Godalming from the development of framework knitting.¹⁵² Richmond and especially Epsom had developed as resort towns by the early eighteenth century. Defoe described Epsom in the summer as ‘full of company’ and seeming ‘wholly adapted to pleasure’ and Richmond as having been ‘before a most agreeable retreat for the first and second rate gentry [now filled] with a great deal of the best company in England ... This town and the country adjacent, increase daily in building’.¹⁵³

¹⁵⁰ G. Crocker (ed.), *Surrey's Industrial Past* (Guildford, 1999), pp. 43-5.

¹⁵¹ H. Jenkinson (ed.), *Quarter Sessions Records with Other Records of the Justices of the Peace for the County of Surrey*, ed. S. Surrey Record (Kingston, 1931), p. 28.

¹⁵² P. Andrews, 'Kingston - Saxon Royal Estate to Post-Medieval Market Town: the Contribution of Archaeology to Understanding Towns in Surrey', in G. C. Jonathan Cotton, And Audrey Graham (ed.), *Aspects of Archaeology and History in Surrey: Towards a Research Framework for the County* (Guildford, 2004), p. 180; O'Connell, *Historic Towns in Surrey*, p. 32; Crocker (ed.), *Surrey's Industrial Past*, pp. 47ff..

¹⁵³ Defoe, *Tour*, pp. 168-9, 173.

Transport

The area's main transport routes are shown in Figure 20. Surrey had few navigable rivers (Figure 21). Water transport costs were much lower than land costs for heavy or bulky goods such as grain and wood - wheeled transport was possibly 12 times more expensive than road transport - so improvement in water transport could bring considerable benefits.¹⁵⁴ Transport by water, initially mainly limited to the Thames which had been navigable since medieval times, improved with the opening of the Wey Navigation in 1653 though it was effectively re-opened about 20 years later. It was a managed, canalised, river created from the river Wey which greatly improved access to markets between Guildford (later, in the mid-eighteenth century, Godalming) and London, transporting timber, flour, paper, and gunpowder from Surrey to London and coal from London to Surrey.¹⁵⁵ The river Mole was poor for transport as it is meandering and prone to flooding.¹⁵⁶ The river Wandle was not made navigable, perhaps because of the steep fall over its short length, only nine miles, and its extensive use by mills.¹⁵⁷

¹⁵⁴ E. A. Wrigley, 'Urban Growth in Early Modern England: Food, Fuel and Transport', *Past & Present*, 225 (2014), p. 89.

¹⁵⁵ Brandon and Short, *The South East from AD 1000*, p. 166; S. R. Jones, 'Bargemen of the Wey Navigation, 1650s to 1750s (unpublished MSc thesis, University of Oxford, 2013).

¹⁵⁶ Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 18.

¹⁵⁷ M. S. Guiseppi, 'The River Wandle in 1610', *Surrey Archaeological Collections*, 21 (1908).

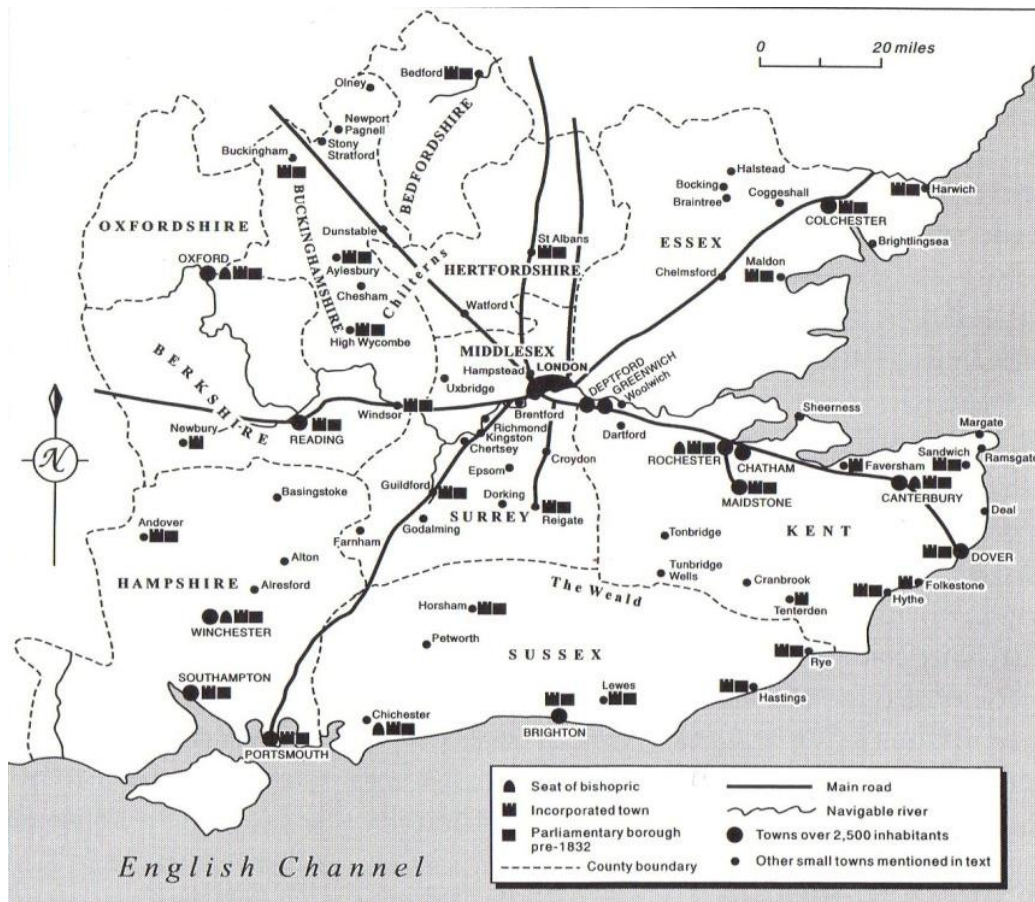


Figure 20 Towns, major roads and navigable waterways in South-East, c.1670¹⁵⁸

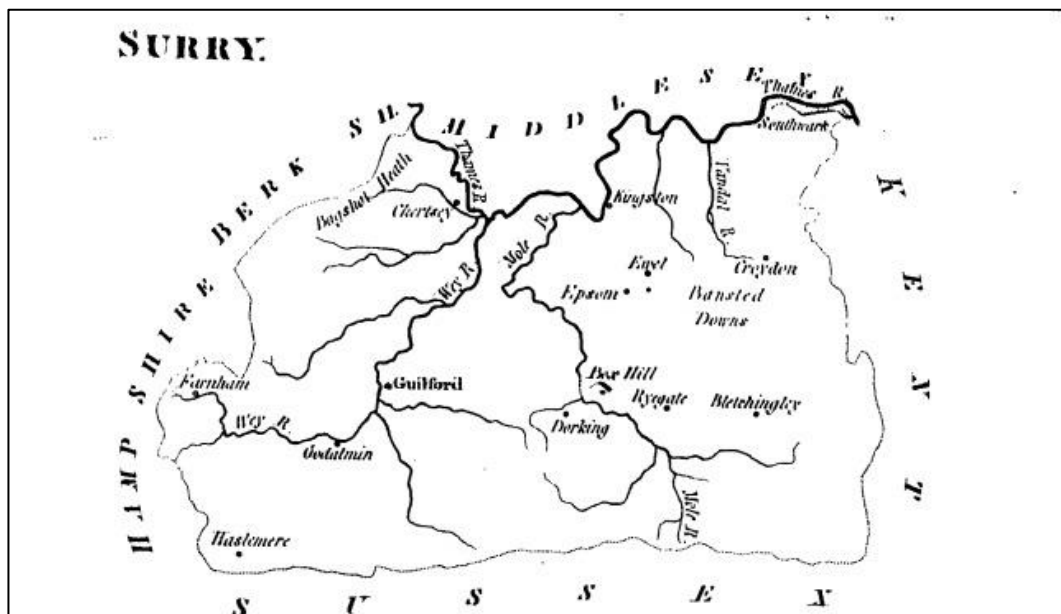


Figure 21 Rivers of Surrey, 1800¹⁵⁹

¹⁵⁸ reproduced from C. W. Chalklin, 'Area Surveys 1540-1840: 2(b) - England: South-East', in D. M. Palliser et al. (eds.), *The Cambridge Urban History of Britain* (Cambridge, 2000), Vol. 2, p. 58.

¹⁵⁹ reproduced from J. Aiken, *England Delineated* (4th edn.; London, 1800), opposite p. 249.

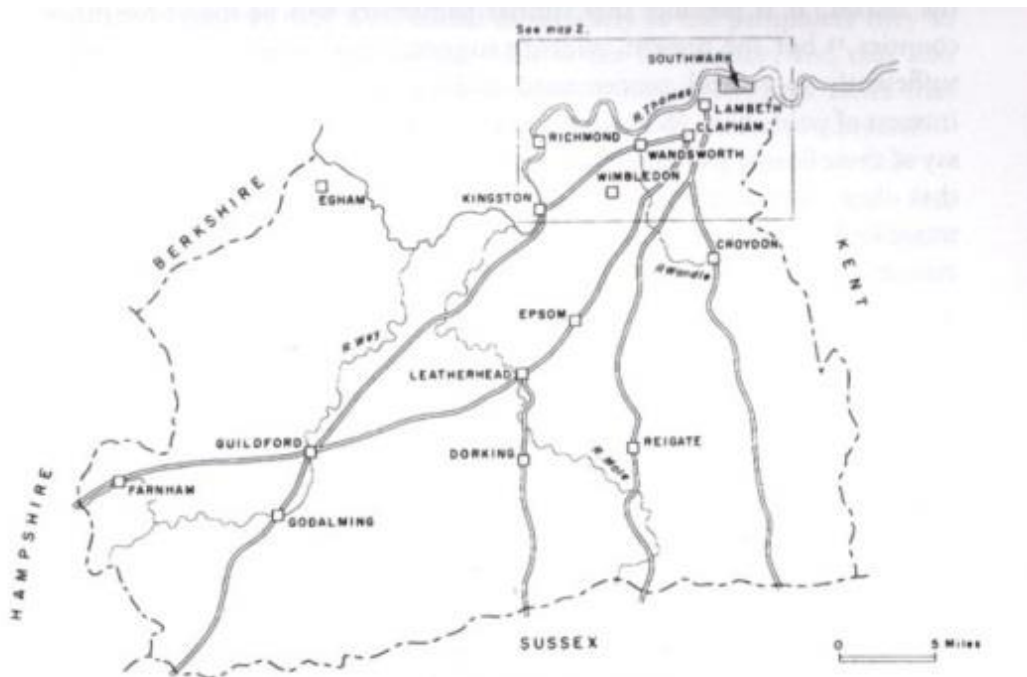


Figure 22 Major roads in Surrey, eighteenth century¹⁶⁰

Roads connected London and Surrey's main towns (Figure 22). The main London to Portsmouth road ran through Surrey (via Guildford) and inns in Southwark were the headquarters of provincial carriers to various parts of Surrey in the early seventeenth century. In 1637 *The Carriers Cosmographie* recorded that:

A carter from Reygate in Surrey doth come every thursday (or oftner) to the Falcon in Southwark ... On Thursdaies the Carriers ... from Darking and Ledderhead doe come to the Greyhound in Southwarke ... To the Queenes head in Southwarke doe come the Carriers ... from Godstone and Linvill [sic, Lingfield?] in Surrey, they are there to be had wednesdaies, thursdaies and fridaies ... To the George in Southwarke come every thursday the Carriers from Gilford, Wanursh, Goudhurst and Chiddington [sic, Goudhurst and Chiddingstone in Kent?] in Surrey.¹⁶¹

Surrey's roads, though, were often not good. In the sixteenth century Wealden ironworks were singled out for their damaging effects on roads, and as late as 1815 a

¹⁶⁰ reproduced from Beattie, *Crime and Courts*, p. 26.

¹⁶¹ J. Taylor, *The Carriers Cosmographie* (London, 1637).

main road to Dorking was so narrow it was said it was not possible to carry a coffin abreast and that it had to be slung on a pole.¹⁶² Generally land transport, reflecting the topography, was easier east-west than north-south, the relatively high ground of the North Downs and the Greensand providing dry east-west routes. By-roads running down the chalk escarpments or from the Greensand uplands were hollowed into deeply rutted tracks along which the saddle horse was normally the only practical means of transport.¹⁶³ In the south of the county the deepest clays were impassable in wet weather and a sixteenth century map of this area referred to the area's 'foule ways' while in the early nineteenth century Cobbett described the road from Ewhurst as 'the deepest clay that I ever saw ... the clay is *bottomless* [Cobbett's italics]'.¹⁶⁴

The bad condition of roads affected the area's economy. Defoe wrote in 1727 how in the Low Weald 'corn was cheap at the barn because it cannot be carry'd out and dear at the market because it cannot be brought in'.¹⁶⁵ The poor conditions of roads near Epsom emptied it of visitors over the winter.¹⁶⁶ Much of the road improvements undertaken in the first half of the eighteenth century focussed on London.¹⁶⁷ Brandon and Short described turnpiking in Surrey as having a dramatic effect, resulting within a century in the replacement of its previous dearth of roads with a network of trunk roads to London and cross-country connections, starting with the ten miles between Reigate and Crawley, Sussex, in 1696.¹⁶⁸ Young noted the economic effect of the turnpiking of a road slightly further south in the Sussex Weald: 'It was no sooner

¹⁶² Brandon and Short, *The South East from AD 1000*, p. 166; Malden (ed.), *VCH Surrey* Vol. 4, p. 435.

¹⁶³ Brandon and Short, *The South East from AD 1000*, p. 247.

¹⁶⁴ SHC 6729/11/9 Correspondence of Mores of Loseley. My thanks to Liz Bradford Gibson for this reference; Cobbett, *Rural Rides*, p. 124.

¹⁶⁵ quoted in Brandon and Short, *The South East from AD 1000*, p. 249.

¹⁶⁶ *Ibid.*, p. 247.

¹⁶⁷ Wrigley, 'Urban Growth' (2014), p. 93.

¹⁶⁸ Brandon and Short, *The South East from AD 1000*, p. 249.

completed than rents rose from 7/- to 11/- per acre'.¹⁶⁹ But not all Surrey's roads were of high quality: Young wrote in 1769 of Surrey's turnpike roads that it was 'a prostitution of language to call them turnpikes'.¹⁷⁰

Economy

Agriculture was the main activity of rural Surrey. The agriculture of Surrey was more pastoral than arable (Figure 23). The most fertile soils lay along the Thames Valley and in a narrow valley, the Vale of Holmesdale, below the scarp slope of the Downs and it was only in these areas that in the medieval period manors achieved around two-thirds arable use of land.¹⁷¹ Sheep pastured on the Downs and elsewhere provided wool for Guildford Blue, a kersey cloth which was an important part of the area's economy in the sixteenth century. Cattle reared or fattened on the grass of the Weald were sold locally or transported for sale to London butchers.¹⁷²

¹⁶⁹ A. Young, *General View of the Agriculture of the County of Sussex* (London, 1808) p. 418.

¹⁷⁰ reported in Malden (ed.), *VCH Surrey* Vol. 4, p. 437.

¹⁷¹ P. Gray, *Farmsteads and Farm Buildings in Surrey: a preliminary survey* (Surrey, 1998), pp. 7-8; Brandon, *A History of Surrey*, p. 40.

¹⁷² Brandon and Short, *The South East from AD 1000*, pp. 172, 203; Crocker (ed.), *Surrey's Industrial Past*, p. 45; B. M. Short, 'The South-East: Kent, Surrey, and Sussex', in J. Thirsk (ed.), *The Agrarian History of England and Wales Vol. V.I 1640-1750: Regional Farming Systems* (Cambridge, 1984), pp. 270ff.

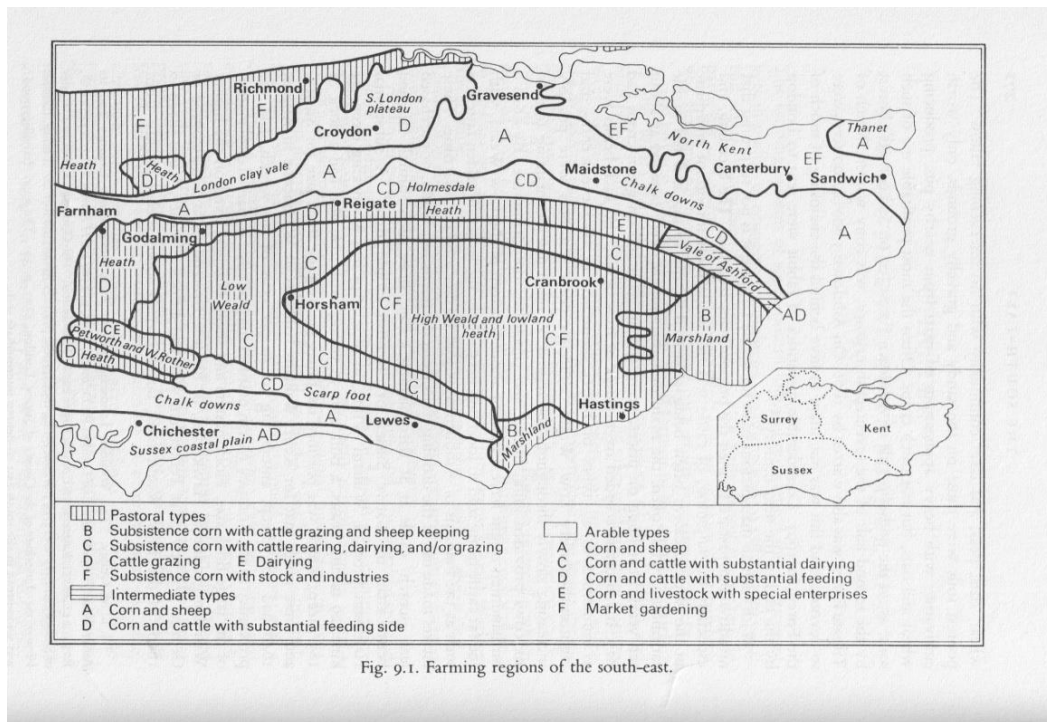


Figure 23 Farming regions of south-east England, 1640-1750¹⁷³

Surrey's agriculture expanded over the period of this study, taking in and improving land which had previously been forest, park, or other marginal land.¹⁷⁴ Market gardening developed in the late sixteenth century in the gravel flood plain of the Thames, using the river both to transport produce to London and to bring dung (animal and human) from London to manure the soil.¹⁷⁵ By the early eighteenth century the northern part of Surrey was providing London with substantial amounts of produce including milk, meat and vegetables.¹⁷⁶ Some of the agricultural innovations of the period, water meadows and the use of clover, were developed in Surrey by Sir Richard Weston of Sutton Place, a few miles north of Guildford.¹⁷⁷ Another innovation, hops,

¹⁷³ reproduced from Thirsk et al. (eds.), *The Agrarian History of England and Wales*, Vol. V.I, p. 272.

¹⁷⁴ Brandon, *A History of Surrey*, p. 62.

¹⁷⁵ M. Thick, 'Market Gardening in England and Wales', in J. Thirsk (ed.), *The Agrarian History of England and Wales Vol. V.II 1640-1750: Agrarian Change* (Cambridge, 1985), p. 510; Short, 'The South-East: Kent, Surrey, and Sussex', p. 291.

¹⁷⁶ R. Hunt, *Hidden Depths: an archaeological exploration of Surrey's past* (Guildford, 2002), pp. 65-6.

¹⁷⁷ Brandon and Short, *The South East from AD 1000*, p. 172; J. Thirsk, 'Agricultural Innovations and their Diffusion', in J. Thirsk (ed.), *The Agrarian History of England and Wales*, Vol. V.II (1985), p. 541; A. R. Michell, 'Sir Richard Weston and the Spread of Clover Cultivation', *The Agricultural History Review*, 22 (1974).

became a major crop in the Farnham area in the eighteenth century and were grown also in the south-east of the county.¹⁷⁸

Although agriculture was the mainstay of Surrey's economy in the early modern period, industry was also significant. Brandon described Surrey as 'a great workshop of England'.¹⁷⁹ Three factors were of particular relevance – the presence of raw materials, the availability of water for power and the proximity of London. Additionally, the poorish quality of much of Surrey's agriculture would have meant there were people seeking opportunities to supplement or replace their agricultural earnings and, since much agriculture was pastoral, they would have had more opportunity for by-employment than if they had been working in the more labour-intensive arable. As Short expressed it, '(t)he combination in south-east England of wood-pasture landscapes, poor soils for farming and available resources of water power, charcoal and minerals, helped to create an environment in which proto-industrialisation could flourish at this time'.¹⁸⁰ Surrey's industrial activities included the cloth trade, iron and glass in southern parishes in the sixteenth century, extractive industries, woodland industries, and, especially from the seventeenth century, river-based industries along the Tillingbourne in central Surrey and along the Wandle in the north-east.¹⁸¹

Cloth making was based especially towards the south-west of the county as Figure 24, which shows the parishes of people involved in the cloth trade who made wills before 1650, illustrates. Although Surrey was not one of the country's dominant kersey

¹⁷⁸ Brandon, *A History of Surrey*, p. 90 ; Brandon and Short, *The South East from AD 1000*, pp. 130, 156; P. Bowden, 'Agricultural Prices, Wages, Farm Profits and Rents', in J. Thirsk (ed.), *The Agrarian History of England and Wales, Vol. V.II* (1985a), p. 98.

¹⁷⁹ R. Blome, *Britannia* (London, 1673), p. 219; Brandon, *A History of Surrey*, p. 51.

¹⁸⁰ B. Short, *The South East* (London, 2006), p.131.

¹⁸¹ Crocker (ed.), *Surrey's Industrial Past*; Brandon, *A History of Surrey*, pp. 51 ff..

producing areas, the making of kersey (a relatively coarse type of cloth) was a significant contributor to its economy into the seventeenth century, providing employment in the various stages of its production. Surrey's cloth industry declined in the seventeenth century in response to the development of new fabrics and greater competition from elsewhere. In Godalming framework knitting developed in place of clothmaking.¹⁸²

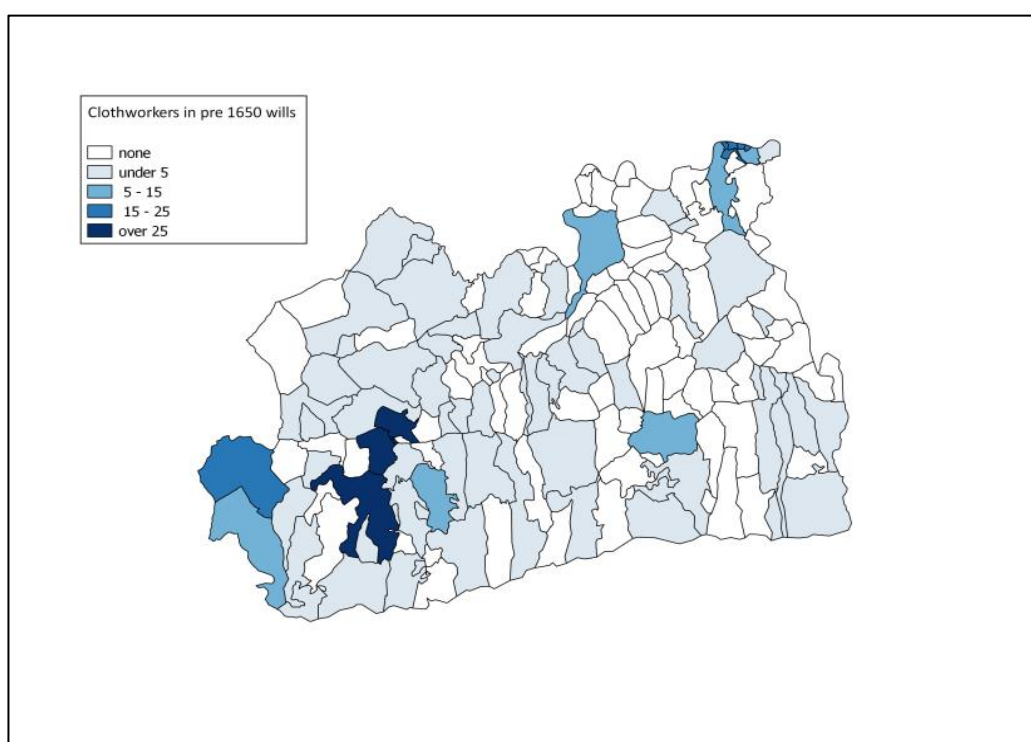


Figure 24 Clothworkers making wills, pre-1650¹⁸³

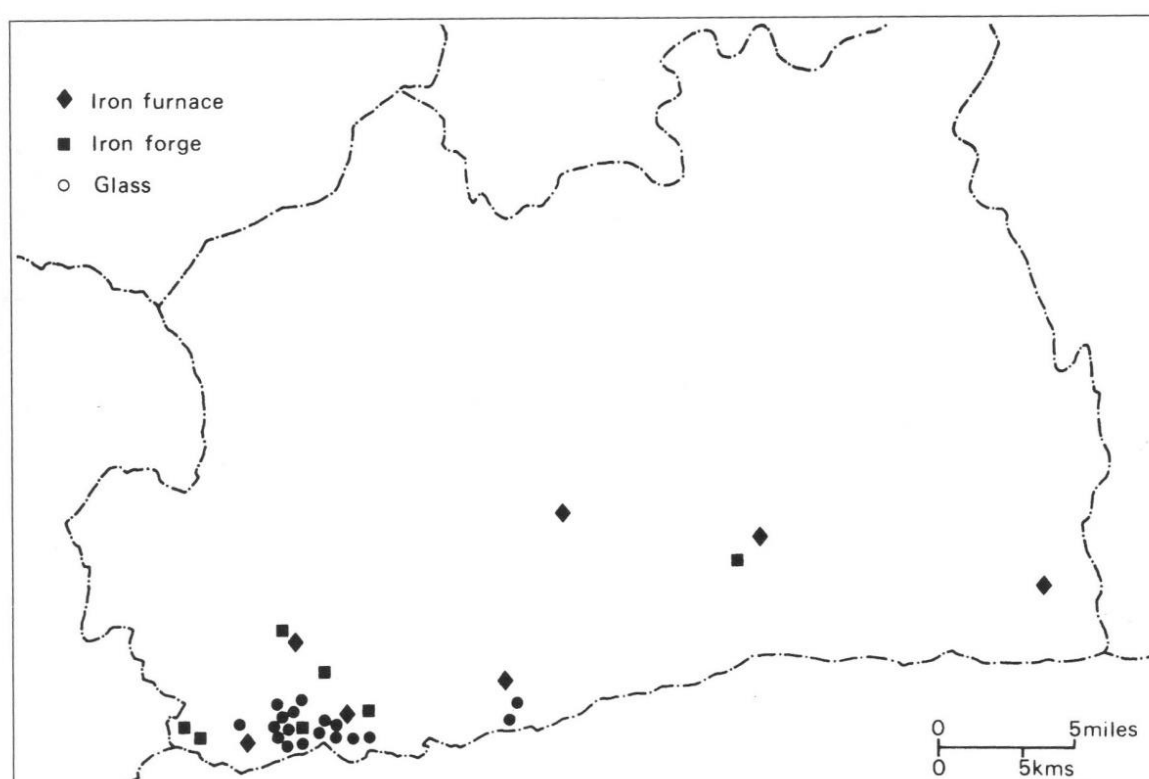
Iron and glass were produced in the south of the county (Figure 25). Their production relied on the local availability of their raw materials plus a ready supply of wood for charcoal to fuel their activities. The iron industry, which had expanded in the sixteenth century, declined in the seventeenth affected by competition from elsewhere, problems with fuel and water supplies and the exhaustion of some sites.¹⁸⁴ Glass

¹⁸²Short, *The South East*, pp. 130-1. Crocker (ed.), *Surrey's Industrial Past*, pp. 45 ff..

¹⁸³C. Webb (ed.), *Union Index of Surrey Probate Records which Survive from Before the Year 1650* (London, 1990) (occupations clothier, clothworker, dyer, weaver, shearman).

¹⁸⁴ Crocker (ed.), *Surrey's Industrial Past*, pp. 1, 25; Short, *The South East*, p. 129.

manufacture took place in the sixteenth century in the far south-west of county, around Chiddingfold. There was also small-scale glass works slightly further north, around Albury Heath.¹⁸⁵ Glass making too declined in the early seventeenth century in the face of competition from elsewhere.¹⁸⁶



*Figure 25 Iron and glass workings in early modern Surrey*¹⁸⁷

Mills on Surrey's rivers powered a range of manufacturing activities. The Wey was the site of mills for corn, for fulling cloth and for papermaking.¹⁸⁸ The Tillingbourne, which lies south of the Downs and runs west to east meeting the Wey a little south of Guildford, was heavily used. Speed's seventeenth century map illustrates its numerous mills (Figure 26) and John Evelyn commented in 1676: 'I do not remember to have seen such Variety of Mills and Works upon so narrow a Brook, and in so little

¹⁸⁵ Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 142.

¹⁸⁶ Short, *The South East*, p. 129; Brandon, *A History of Surrey*, pp. 57-8.

¹⁸⁷ reproduced from Brandon, *A History of Surrey*, p. 55.

¹⁸⁸ Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 231; Crocker (ed.), *Surrey's Industrial Past*, pp. 29-30, 44, 61 ff..

a Compass; there being Mills for Corn, Cloth, Brass, Iron, Powder etc'.¹⁸⁹ Neither a particularly long nor wide river and with only a modest fall, the Tillingbourne's position in terms of its distance from London, its accessibility by means of the chalk gaps of the Wey and Mole and its nearness to transport routes and well-established commercial centres at Guildford and Dorking made it attractive for industries that were either legally prohibited in the immediate surroundings of London or which were by their nature better suited to a more rural environment.¹⁹⁰ The local gentry Evelyn family dominated the production of gunpowder there for more than sixty years, having the royal monopoly on gunpowder-making.¹⁹¹ Describing a concentration of 18 gunpowder mills on the Tillingbourne within the parish of Chilworth, Aubrey also hinted at the hard working conditions: 'a little Commonwealth of Powdermakers, who are black as Negroes'.¹⁹² Paper manufacture, an industry which owed much to the increasing demand for paper, particularly from London, took place on the Tillingbourne influenced, as it was on the Wey, by access to its raw materials of timber, linen scrap, leather, parchment scrap and other fibre wastes.¹⁹³ Other uses of the Tillingbourne included grain mills, textile mills, leather tanning, hammers for wire manufacture, saw milling, and knife grinding.¹⁹⁴ The River Wandle too was a heavily used river. It flows for about nine miles north from its source near Croydon to its confluence with the Thames at Wandsworth. Its fall, 124 feet in nine miles, made it unsuitable for navigation. In 1610 there were 24 corn mills on the Wandle grinding a

¹⁸⁹ Guildford Borough Council (2011), 'Chilworth Gunpowder Mills: conservation management plan' (Guildford) p. 6.

¹⁹⁰ Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 183.

¹⁹¹ Crocker (ed.), *Surrey's Industrial Past*, p. 57.

¹⁹² J. Aubrey, *The Natural History and Antiquities of the County of Surrey* (London, 1719), Vol. 4, p. 56.

¹⁹³ Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 231; Crocker (ed.), *Surrey's Industrial Past*, pp. 61 ff...

¹⁹⁴ Crocker (ed.), *Surrey's Industrial Past*; Brandon, *A History of Surrey*, p. 51; Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 233.

third of Surrey's corn supplied to London. Most of its mills were geared to the London market, including, as well as corn, the manufacture or processing of paper, snuff, leather, oil, and gunpowder. During the eighteenth century it became home to calico-printing and bleaching industries.¹⁹⁵



Figure 26 Speed map (extract) showing some of the mills along the Tillingbourne¹⁹⁶

Wooded areas existed especially on the clay soils of the Wealden south. They were a source of timber and were also used for coppicing. Uses for timber included house building and ship building. Charcoal was an important product of coppicing, both for local domestic and industrial use and for sale to urban areas, especially London. Other products from coppicing included hurdles, brooms and poles. Sales of timber and

¹⁹⁵ Malden (ed.), *VCH Surrey*, Vol. 4, p. 432; Guiseppi, 'The River Wandle in 1610' (1908), pp. 170-1.; J. S. Hodgkinson, 'Iron Production in Surrey', in G. C. Jonathan Cotton, And Audrey Graham (ed.), *Aspects of Archaeology and History in Surrey: Towards a Research Framework for the County* (Guildford, 2004), p. 241.

¹⁹⁶ J. Speed, N. Nicolson, and A. Hawkyard (eds.), *Britain's Tudor Maps: county by county* (London, 2016).

charcoal from the Weald declined in the seventeenth century with the decline in local industries and the growth of sea coal.¹⁹⁷

Extractive industries existed in various parts of Surrey.¹⁹⁸ The Greensand Ridge contained Fuller's Earth at Nutfield and Bletchingley, essential to the making of the area's kersey cloth.¹⁹⁹ Stone was quarried for building and firestone, which was resistant to heat, for firebacks.²⁰⁰ Chalk from the Downs was used to treat the acid soils which lay either side of it. There were chalk pits or quarries along the scarp slope of the Downs often with tracks connecting them to villages in the south. In general, kilns for processing chalk were located where the liming was needed rather than where it was extracted because of the difficulty of transporting the treated lime and the additional cost of transporting the fuel needed.²⁰¹ Marl pits for the extraction of clay lay along the dip slope of the Downs. Marling involves spreading clay containing lime carbonate onto the soil, a process which restores nutrients needed to grow crops.²⁰²

London

An important influence on Surrey was its proximity to and connections with London, the largest city in the country and, as described above, one which was expanding rapidly. Along with adjacent Westminster it affected regional patterns of mobility, was England's largest manufacturing centre, the seat of the Court, of Parliament and

¹⁹⁷ Jervis, 'Land Use and Rural Life in South-west Surrey: a survey of the human and historical geography of the Rural Districts of Guildford and Hambledon', p. 50; Cobbett, *Rural Rides*, p. 10; Short, *The South East*, pp. 129-30, 279, 309; Brandon, *A History of Surrey*, p. 56.

¹⁹⁸ Crocker (ed.), *Surrey's Industrial Past*, pp. 4ff.

¹⁹⁹ E. Lord, 'Communities of Common Interest: the Social Landscape of South-East Surrey, 1750-1850', in C. Phythian-Adams (ed.), *Societies, Cultures and Kinship, 1580-1850 : Cultural Provinces and English Local History* (London, 1996), p. 133.

²⁰⁰ Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 143; Lord, 'Communities of Common Interest: the Social Landscape of South-East Surrey, 1750-1850', p. 133.

²⁰¹ Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', pp. 144-6.

²⁰² Ibid., p. 146.

of the law courts and, as Wrigley has discussed, was influential on the country's social and economic development.²⁰³ Mortality was high in London and there was need and space for migrants to replenish its population. Large numbers of people moved to London, either temporarily or permanently. Hey's description of the movement of people in the seventeenth century from Myddle in Shropshire to London was probably not untypical. He wrote that '[m]en and women from all sections of [the] community went to the capital in search of fortune or excitement or to escape from trouble at home'.²⁰⁴ Of about 91 families in Myddle at the time of the 1672 hearth tax returns, at least '15 families had at least one member who, at one time or another, had lived in London'.²⁰⁵ By the mid-eighteenth century only a minority of London's population, around a third or a quarter, were London-born.²⁰⁶ Those who subsequently left London often took up residence in neighbouring counties.²⁰⁷

Surrey sent a range of agricultural products to London including grain, poultry, market garden produce and hops. Market garden produce and dairy produce both went to London especially from parishes close to London or bordering the Thames. The metropolitan livestock trade included Surrey, though it tended to draw from a larger area.²⁰⁸ There was also trade in wood, timber and charcoal from Surrey to London, Wealden timber being frequently sold to the government for shipbuilding, or to Londoners to erect houses.²⁰⁹ Everitt has suggested, though, that the influence of

²⁰³ Wrigley, 'Simple Model' (1967).

²⁰⁴ R. Gough and D. Hey, *The History of Myddle* (Harmondsworth, 1981), p. 18.

²⁰⁵ D. Hey, *An English Rural Community: Myddle under the Tudors and Stuarts* (Leicester, 1974), p. 192.

²⁰⁶ J. A. Sharpe, *Early Modern England: a social history 1550-1760* (London, 1987), p. 85.

²⁰⁷ Clark, 'Migration in England during the Late Seventeenth and Early Eighteenth Centuries' (1979), p. 77.

²⁰⁸ A. Everitt, 'The Marketing of Agricultural Produce', in J. Thirsk (ed.), *The Agrarian History of England and Wales* (Vol. IV; Cambridge, 1985), pp. 507-11; Brandon and Short, *The South East from AD 1000*, p. 163.

²⁰⁹ Everitt, 'The Marketing of Agricultural Produce', p. 550.

London's market on the area was more limited before the later seventeenth century. He commented on the comparative lack of specialisation of markets in non-Thames-side Surrey and other southern counties, maybe due to a greater tendency of people to deal privately rather than at markets.²¹⁰ He wrote that in the period 1500-1640, 'outside the immediate vicinity of London few save yeomen and gentlemen were in a position to take advantage of the expansion of metropolitan demand; while for every commercially-managed farm there were perhaps a hundred peasant holdings still cultivated in the traditional manner'.²¹¹ The more limited availability of water transport in the sixteenth century would also have restricted Surrey's ability to supply grain to London. Between the mid-seventeenth and the mid-eighteenth centuries London's domestic trade expanded enormously, helped by more navigable waterways and improvements to roads on which waggons were replacing packhorses.²¹²

Demographics

Relatively little is known about the demographic characteristics of Surrey in the early modern period. Lord considered marriages in south-east Surrey in the period 1750-1850 and Saxby looked at Surrey marriages by licence in 1748.²¹³ Bignall explored mortality crises in Guildford, identifying plague crises in 1593, 1603 and 1644.²¹⁴ Humphreys considered two mortality crises in Dorking identifying that in the late 1550s as being a result of harvest failures and resulting in deaths due to famine or disease exacerbated by malnutrition; in contrast he concluded the high mortality in

²¹⁰ Ibid., p. 495.

²¹¹ Ibid., pp. 515-6.

²¹² C. W. Chalklin, *The Rise of the English Town, 1650-1850* (Cambridge, 2001), p. 5.

²¹³ Lord, 'Communities of Common Interest: the Social Landscape of South-East Surrey, 1750-1850'; M. Saxby, 'Marriage Horizons in Surrey and Nottinghamshire', *Local Population Studies*, 91 (2013).

²¹⁴ J. R. Bignall, 'Epidemics in Tudor and Stuart Guildford', *Surrey Archaeological Collections*, 74 (1984).

1563 was the result of plague.²¹⁵ Wrigley and Schofield included 13 Surrey parishes in their sample of 404 parishes. On the one hand this was a relatively high (compared to some counties) number of parishes but on the other they were spread unevenly across Surrey's varied landscapes. During the largest mortality crisis in the early modern period, that of 1557-9, their study included only three Surrey parishes, all in the far east of county. Of these they categorised one, Carshalton, as experiencing a crisis but not the other two (Beddington and Limpsfield). Similarly their evidence of the 1596-8 crisis in Surrey is limited: they suggest only one of the by then seven parishes in observation had a crisis, Reigate, the only town in the sample.²¹⁶ With such a small and geographically restricted sample, conclusions as to the full extent of mortality crises in Surrey are inevitably limited.

²¹⁵ R. Humphreys, 'Mortality Crises in Sixteenth-Century Dorking', *Local Population Studies*, 39 (1987).

²¹⁶ Wrigley and Schofield (eds.), *Population History of England*, pp. 671-2. Parishes were Abinger, Beddington, Carshalton, Limpsfield, Nutfield, Reigate, Wimbledon.

4: Population

Introduction

This chapter is concerned with one of the most fundamental aspects of non-metropolitan Surrey's life, the distribution of its population across its parishes. It explores the parishes' population levels and how these changed over the period of the study. It finds an increase in population in many, but not all, parishes. Parishes with only small growth tended to be in the west of the county on sandy soils and in the south on clay soils. Those with modest growth were in these areas too and also on the chalk Downs in the centre of the county. In an area towards the south-west which was a centre for cloth-making, parishes experienced population growth until the mid-seventeenth century followed by a decline. And in parishes in the north along the Thames and close to London population growth was substantial.

Surrey's population in a national context

At a national level there is broad agreement as to the approximate number of people in England in the early modern period and how it changed over time (Figure 27). Having remained at about 2.5 million for some considerable time following the Black Death in the mid-fourteenth century, the population in the late fifteenth or early sixteenth century began to grow, reaching about 3 million in the 1550s and continuing to grow rapidly throughout most of the sixteenth century to about 4 million by the end of the century and 5.2 million by the middle of the seventeenth century, more than double its 1500 level. After declining a little in the mid-seventeenth century to 4.9 million, it increased slowly to 5.1 million by about 1700. In the eighteenth century the population grew again, reaching 5.8 million by about 1750.

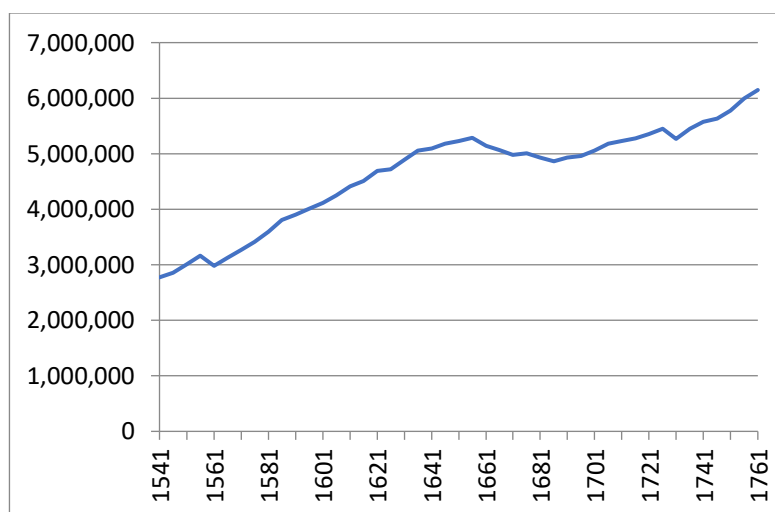


Figure 27 Estimated population of England and Wales, 1541-1761 ²¹⁷

Such national population estimates reflect a range of experiences over different environments within the country. In 2007 Wrigley commented that, ‘[a]though much attention has been given in recent years to tracing the history of national population trends, regional and local growth rates have been comparatively neglected’.²¹⁸ In consequence he produced what he described as ‘an attempt to provide new and more trustworthy estimates of English county populations for the period 1761-1801’, improving those previously made by Rickman in the early nineteenth century, calculations he subsequently extended back to 1600.²¹⁹ These suggest Surrey (that is, all Surrey including its metropolitan parishes) contained 86,000 people in 1600, only modestly more than its estimated 75,000 population in about 1290, and that its population nearly doubled to 151,000 by 1750. Its population growth was above the national rate and similar to that of Middlesex (London) underlining the significance of the growth of London to Surrey’s population (Figure 28). As well as population numbers, the Cambridge Group for the History of Population and Social Structure

²¹⁷Ibid., Table A3.1; Oeppen, ‘Back Projection and Inversie Projection’ (1993).

²¹⁸ E. A. Wrigley, ‘English County Populations in the Later Eighteenth Century’, *The Economic History Review*, 60 (2007), p. 35.

²¹⁹ *ibid.*, p. 35; Wrigley, ‘Rickman revisited: the population growth rates of English counties in the early modern period’ (2009).

(hereafter CamPop) has also considered the density of population of the counties of England from 1600 (Figure 29). This shows Surrey as a whole having a relatively high population density compared to other counties, being one of the more densely populated in each of 1600, 1700, and 1750.

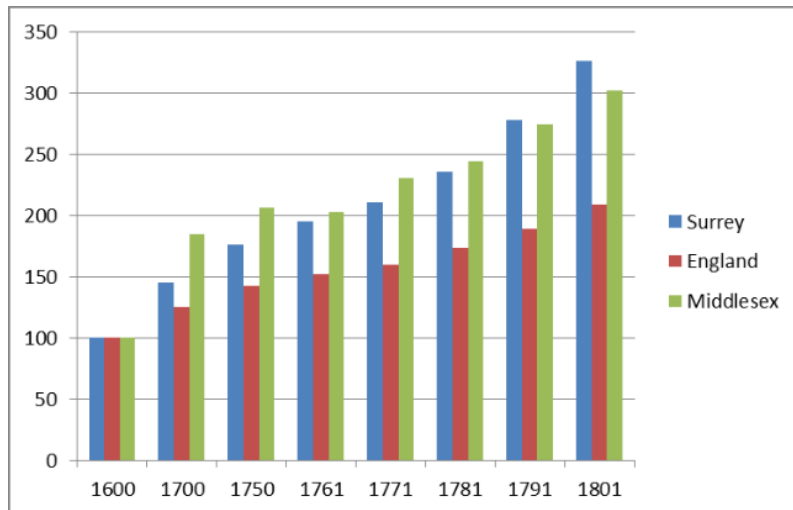


Figure 28 Population growth of Surrey, England and Middlesex (all normalised to 100 at 1600) ²²⁰

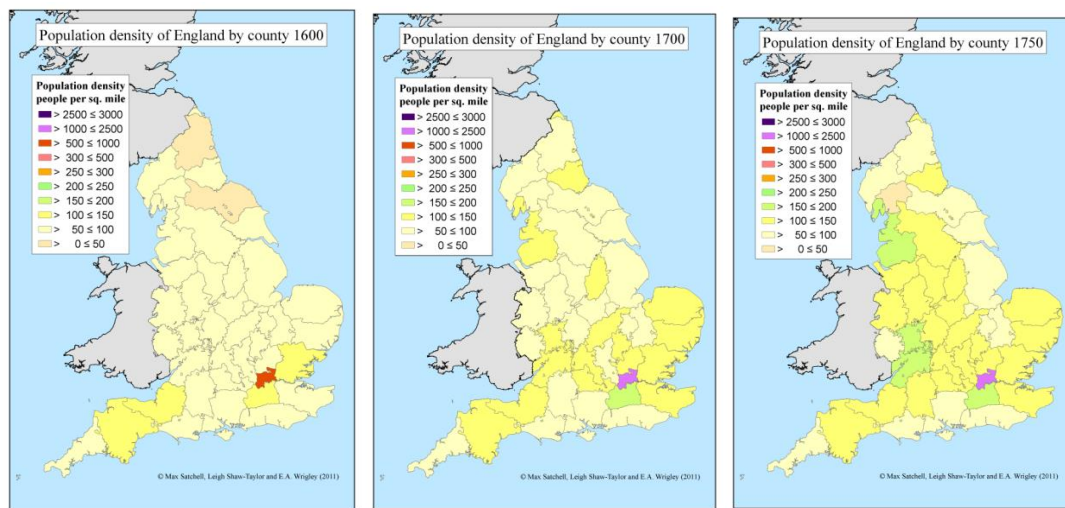


Figure 29 Population densities by county, 1600, 1700, 1750 ²²¹

But these estimates of population numbers and of population densities give a misleading impression of Surrey due to the concentration of population in the north-

²²⁰ Wrigley, 'English County Populations in the Later Eighteenth Century' (2007); Wrigley, 'Rickman revisited: the population growth rates of English counties in the early modern period' (2009).

²²¹ reproduced from University of Cambridge *Cambridge Group for the History of Population and Social Structure*, <<https://www.campop.geog.cam.ac.uk/>>, accessed various dates from 10 October 2013

east of Surrey close to London (Figure 30).²²² In the late seventeenth century it seems likely that well over half of Surrey's population was in its metropolitan area. Non-metropolitan Surrey's population was about 50,000 based on the Compton census's figure of 34,216 communicants in 1673 in two of Surrey's three deaneries (Ewell and Stoke) combined with a conversion factor of 1.5, or about 45,000 using the somewhat lower conversion factor (1.31) used by Brandon and Short.²²³ The comparable figures for the third of Surrey's deaneries, the Deanery of Southwark, suggests it had a population of about 66,000 to 75,000. The expansion of London into Surrey had been occurring for some time and by the early eighteenth-century Defoe described it as resulting in 'several villages, formerly standing, as it were, in the country, and at a great distance, now joined to the streets by continued buildings'.²²⁴ By 1801 Brixton Hundred contained well over half the population of Surrey but covered less than a tenth of the area of the county (Figure 31).

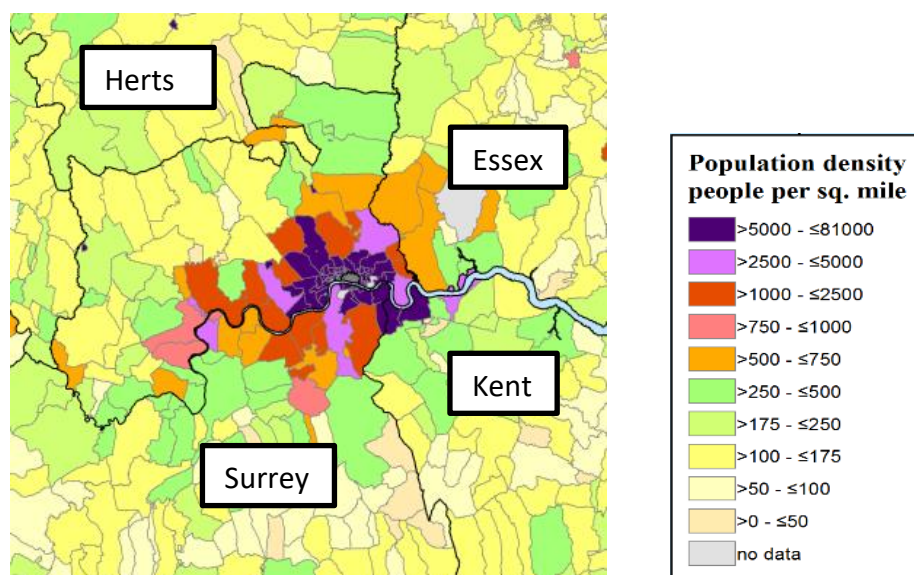


Figure 30 Population density, London and environs, 1670²²⁵

²²² Ibid.

²²³ see Chapter 2: Sources and methods and Chapter 5 Economy (Towns). The lower conversion factor of Brandon and Short, *The South East from AD 1000*, p. 195 is presumably intended to adjust for the existence of some parishes where the Compton Census recorded a smaller part of the population, as discussed by Arkell, 'A method for estimating population totals from the Compton census returns'.

²²⁴ Defoe, *Tour*, p. 287.

²²⁵ Adapted extract reproduced from *Cambridge Group for the History of Population and Social Structure*.

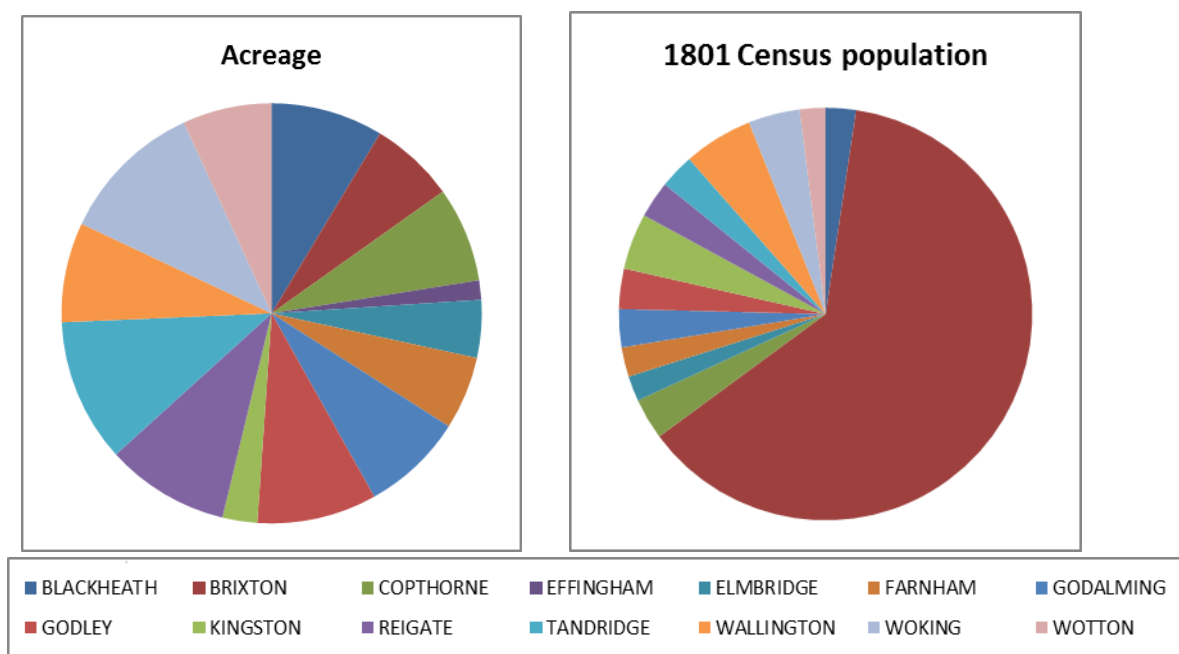


Figure 31 Surrey acreages and 1801 population by hundred ²²⁶

Populations of Surrey parishes

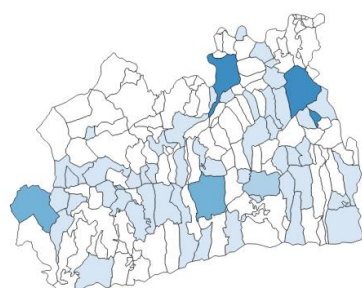
This imbalance in Surrey's population emphasises the value of considering the majority of Surrey's parishes separately from its metropolitan parts. To look at the distribution of the population across the parishes of non-metropolitan Surrey and how it changed over time, use has been made of a range of sources: parish burial and baptism registers, 1548 chantry certificates, 1603 diocesan returns, 1641-2 protestation returns, 1664 hearth tax, 1675 Compton religious census, replies to Bishop's visitations in 1725 and 1788 and the first national Census in 1801. None, apart from the last, was compiled for demographic reasons making them not fully reliable as a basis of estimating populations but by using them in conjunction it is possible to gain an impression of the changes in the populations of Surrey's non-

²²⁶ Great Britain Historical Database: Census Data: Parish-Level Population Statistics, 1801-1951 UK Data Service. [data collection]. <http://doi.org/10.5255/UKDA-SN-4560-1> accessed 6 October 2016; Great Britain. Census Office (ed.), *Abstract of the Answers and Returns Made Pursuant to an Act, Passed in the Forty-first Year of His Majesty King George III. Intituled, "An Act for Taking an Account of the Population of Great Britain, and the Increase or Diminution Thereof."* (London, 1801). See also Chapter 5: Economy for distributions of wealth across Surrey's Hundreds.

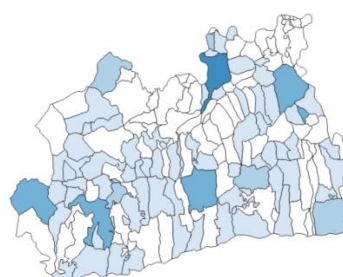
metropolitan parishes between the mid-sixteenth and mid-eighteenth century. More details of the sources and the methodologies used to estimate population numbers are given in Chapter 2: Sources and Methods.

Estimates of parish populations are shown (Figure 32) for seven 30-year periods between 1541 and 1750 based on the numbers of burials recorded in the parishes.²²⁷ The comparable mapping (not shown) of populations based on recorded baptisms gave similar results. The maps are somewhat compromised by the limited survival of records from the earliest part of the period but survival increases over time and by the last period, 1721-50, most parishes have records. Parish population estimates based on various non-demographic sources are also shown (Figure 33). The two categories of sources show broadly similar patterns both geographically and temporally. Population tended to be higher in parishes closer to London, along the Thames and in the towns of Surrey and lower around the periphery of the county including in the Weald, the Bagshot Sands, and the eastern Downs. Over time there was a widespread increase in population, with parishes tending to experience evolutionary rather than revolutionary change: in other words, the less populated parishes remained less populated while the more populated remained more populated.

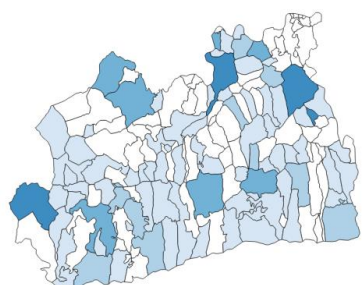
²²⁷ Note: the population of Guilford is difficult to display effectively on these maps. The population of St Nicholas/Artington is ascribed to the whole of that parish and those of St Mary and Holy Trinity to their respective parishes



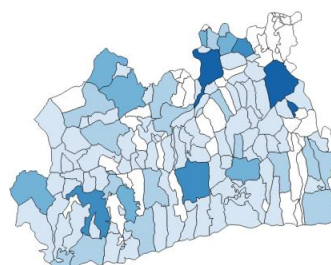
a) Population 1541-70



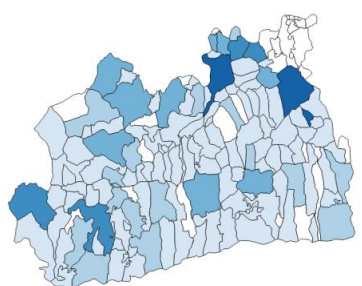
b) Population 1571-1600



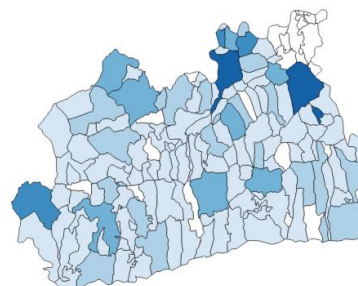
c) Population 1601-1630



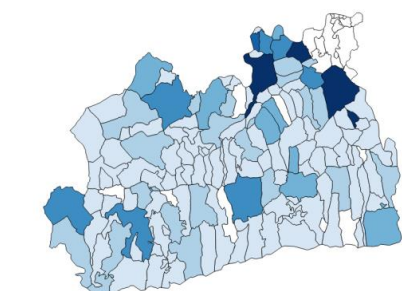
d) Population 1631-1660



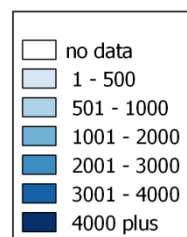
e) Population 1661-1690



f) Population 1691-1720

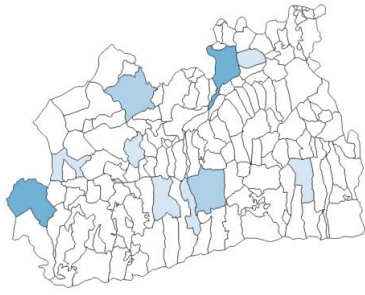


g) Population 1721-1750

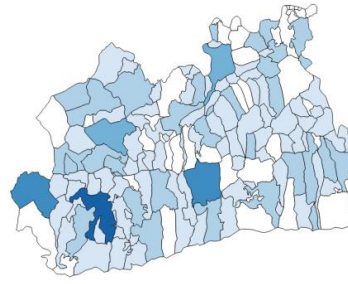


Key: population of parish

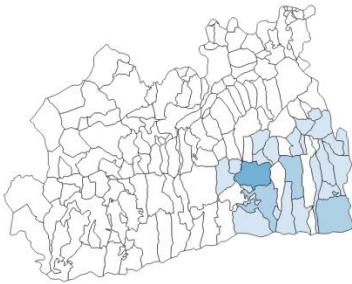
Figure 32 Population estimates based on parish burial registers, 30-year time periods 1541-1750



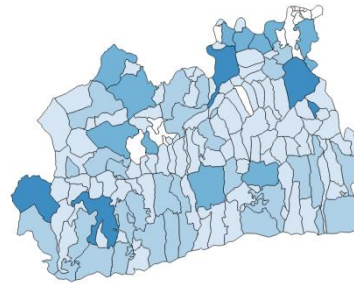
a] Population 1548 (Chantry certificates)



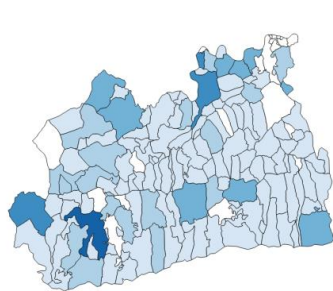
b] Population 1603 (Diocesan returns)



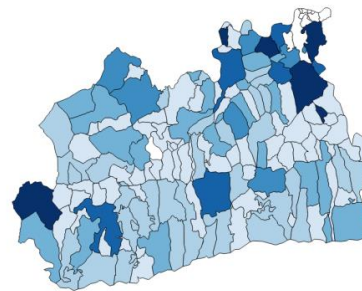
c] Population 1641 (Protestation returns)



d] Population 1664 (hearth tax)



e] Population 1676 (Compton census)



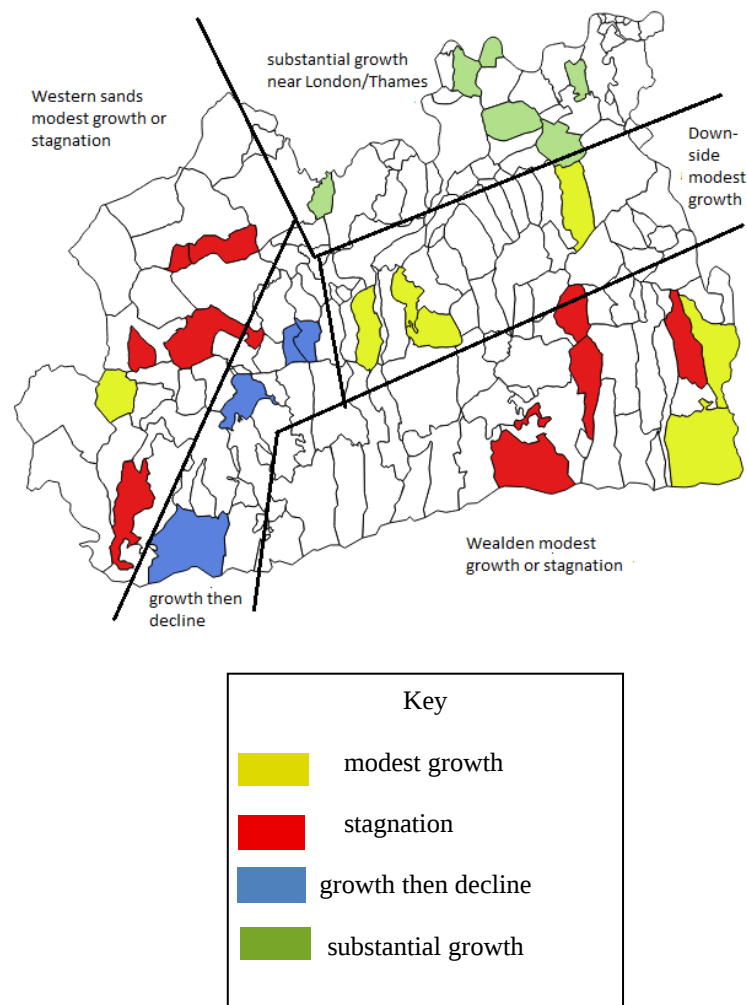
f] Population 1801 (national census)

*Figure 33 Population estimates based on other sources
(Key, as Figure 32) ²²⁸*

²²⁸ Population estimates from two eighteenth century Bishop's Visitations are not included as they are the least reliable, being based solely on the incumbent's estimate of their parish's population.

Rural parishes

However, this is not to suggest that all rural parishes experienced the same levels of population change. Populations in some grew modestly, in a few hardly at all, while in others growth was substantial. Looking more closely at a sample of individual parishes illustrates the geographical distribution of population growth. These are summarised in Figure 34 and described below. The population estimates shown in the graphs below are based on burials in seven time periods, 1541-70, 1571-1600, 1601-30, 1631-60, 1661-1700, 1701-20, 1721-50.



*Figure 34 Patterns of rural population change
(parishes highlighted are discussed below)*

Modest growth. The most common experience was of a parish undergoing modest population growth, about doubling over the period 1550-1750, broadly in line with the national population rise. Figure 35 shows examples of such parishes. They occurred in various parts of the county. Several run north from the North Downs (such as Beddington, Effingham, Fetcham, Mickleham). Others were in the south of the county: in the east Limpsfield runs south from the Downs, Lingfield is partly in the clay of the Low Weald and partly on the High Weald Hastings Sand, and Seale in the far west runs south from the Hog's Back into the Greensand.

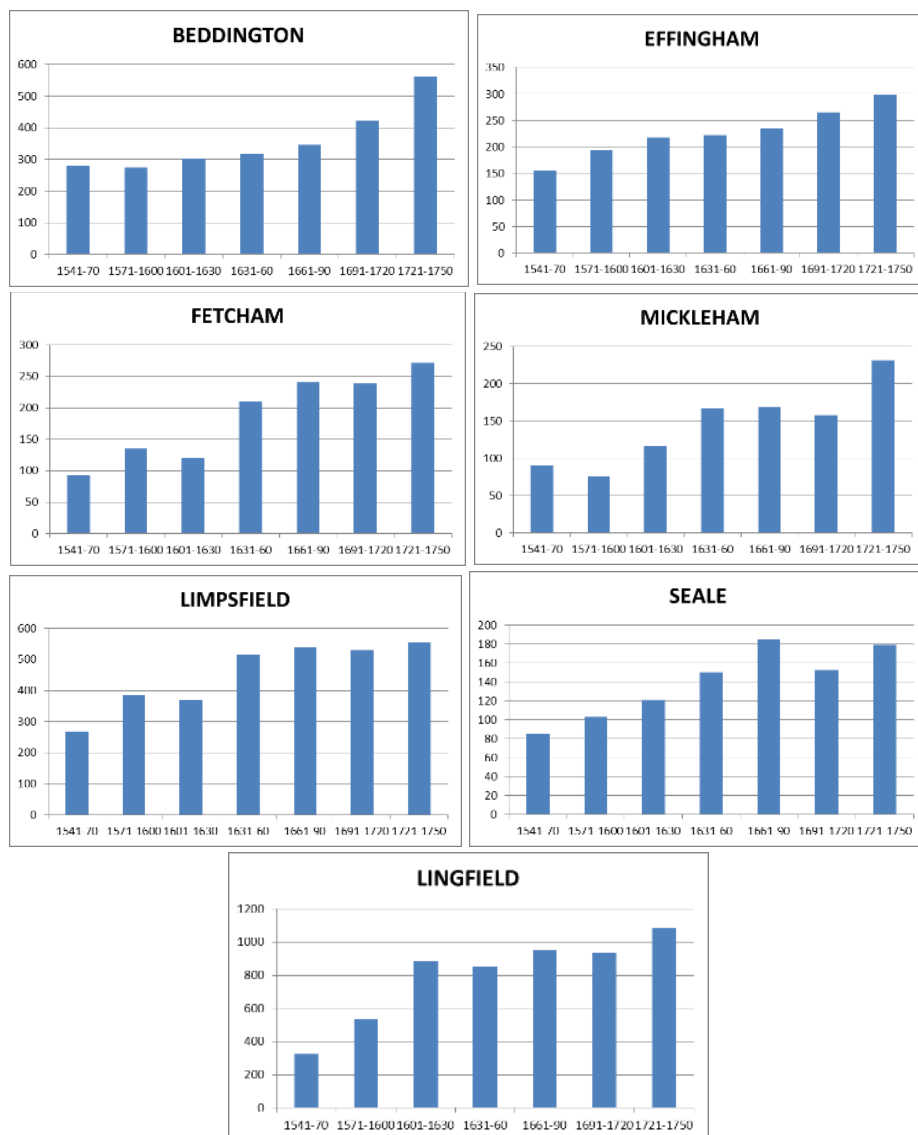


Figure 35 Examples of parishes with modest population growth

Stagnation. Some parishes experienced little population growth over the period (Figure 36). They tended to be in two areas. Some were in the south of the county, the Wealden area (such as Charlwood, Nutfield, Oxted, Merstham) running south from the scarp slope of the Downs. Others were on the poor sandy western or south-western soils (including Bisley, Worplesdon, Horsell, Thursley).

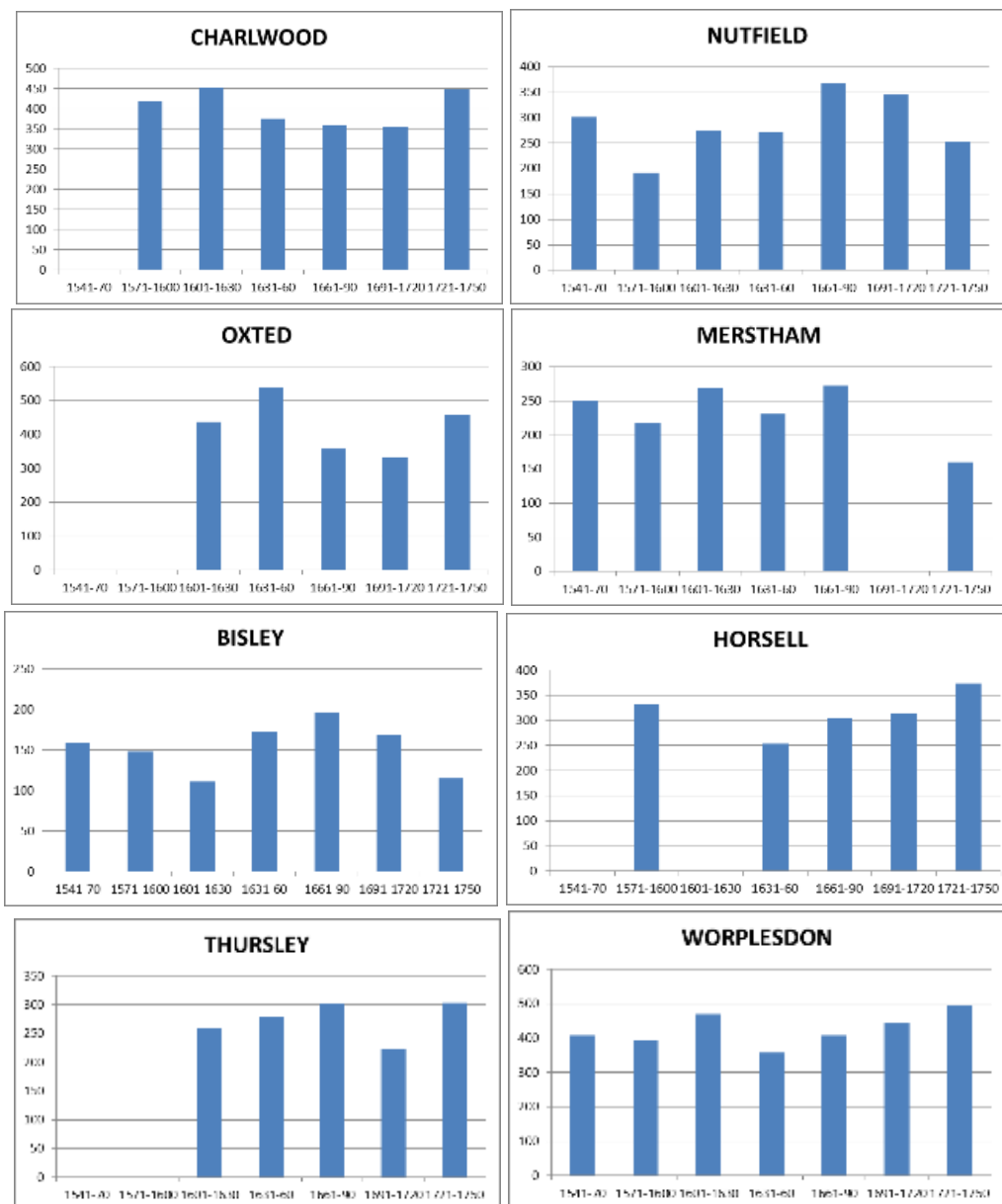


Figure 36 Examples of parishes with little population growth

Growth then decline. Some parishes seem to have experienced a growth in population until the mid-seventeenth century followed by stagnation or decline (Figure 37). Such parishes tended to be in the vicinity of Guildford either to its east (for example East Clandon, West Clandon) or south (Chiddingfold).²²⁹

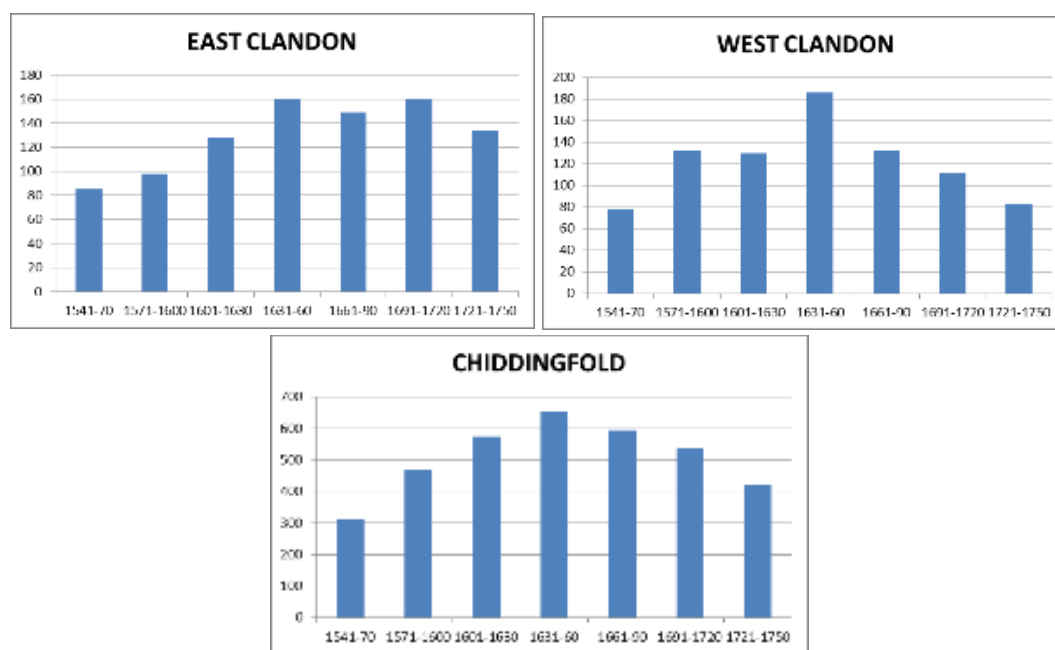


Figure 37 Examples of parishes with population growth then decline

Substantial growth. Parishes in the vicinity of London and the Thames often experienced substantial population growth with populations rising five-fold or more over the period (Figure 38 shows examples of such parishes).

²²⁹ Shalford shows a similar pattern but this is distorted by its links with Bramley, see Chapter 5: Economy for details

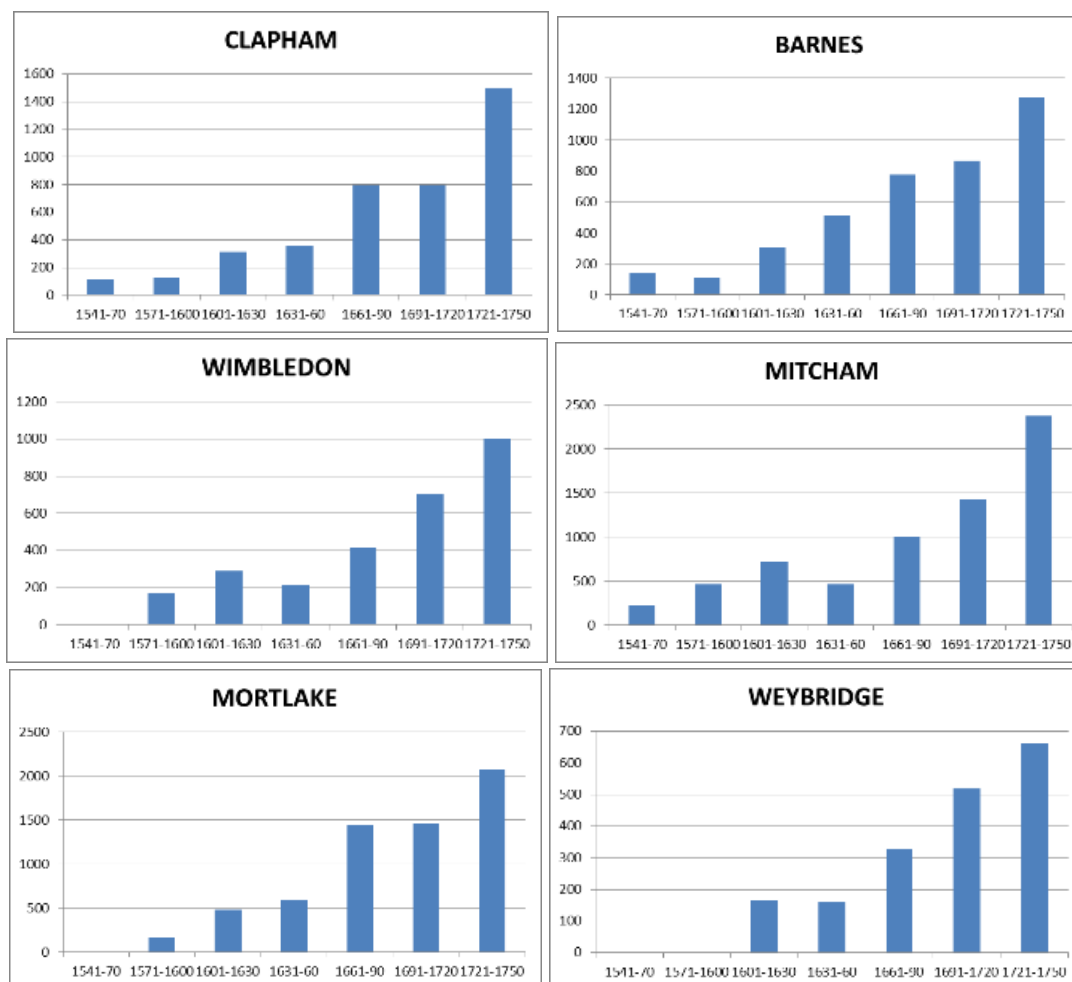


Figure 38 Examples of parishes with substantial population growth

Towns

In the parishes containing towns too (discussed also in Chapter 5: Economy) there was more than one pattern of population change. A slightly different approach to displaying population change is taken here. Two factors were involved: a concern to compensate for the lack of early parish registers in some of the towns and concern as to the possibility that populations in some of the towns might have experienced greater variability than rural areas and if so a broader range of sources might help the exploration of it. To take account of these concerns the graphs for the towns make use of the full range of sources available for population estimates, including the 1801 Census. The details of these are given in Chapter 2: Sources and Methods.

The parishes containing the majority of towns – Reigate, Dorking, Guildford, Farnham, Kingston, Leatherhead – show population growth (Figure 39). Their populations roughly doubled between the mid sixteenth century and the late eighteenth century, a pattern, as discussed above, similar to a good number of rural parishes. Dorking’s population was stable for much of the period, rising in the early part of the period and towards the end of it.

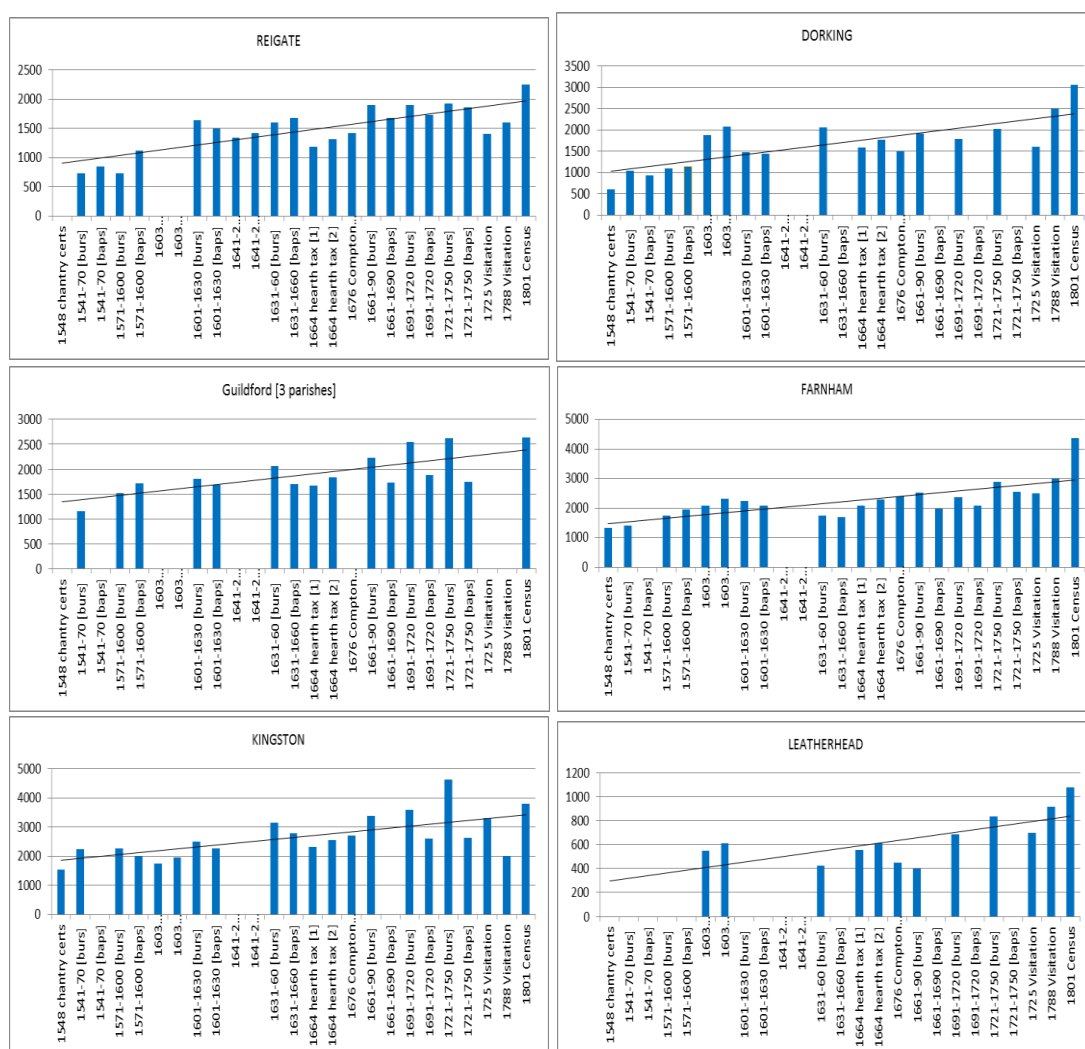


Figure 39 Population estimates, Reigate, Dorking, Guildford,²³⁰ Farnham, Kingston, Leatherhead

²³⁰ Guildford population estimates are for the three borough parishes (St Mary, Holy Trinity, St Nicholas). Note also the population given in the 1739 Ichnography of Guildford is included, which agrees well with the other sources based on the three parishes.

Populations in the parishes containing towns of the south-west seem to have stagnated. Again, this is similar to the stagnating populations of some rural parishes in the area. The parishes of Godalming and the ‘decayed’ town of Haslemere had broadly similar experiences, neither showing much growth in population (Figure 40). Godalming’s population estimates seem at times dubious but, ignoring the outliers from the 1603 diocesan returns and the Compton census, it seems likely its population increased little until the late eighteenth century.²³¹

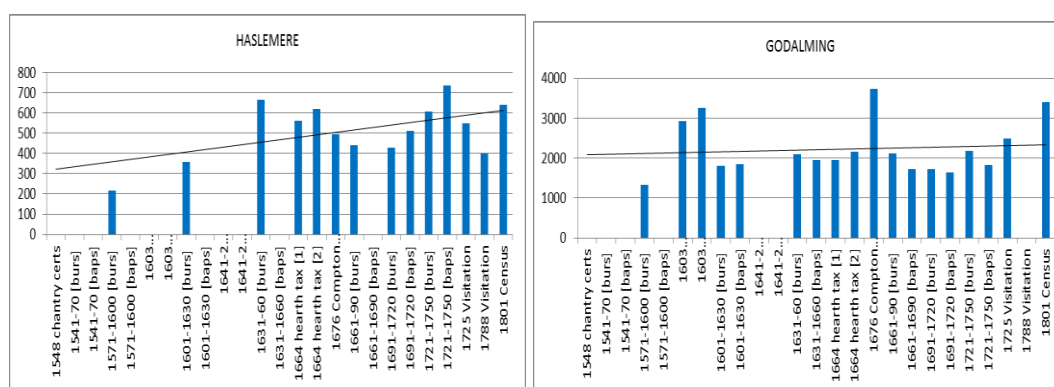


Figure 40 Population estimates, Haslemere, Godalming

Some towns grew substantially (Figure 41). The populations of the parishes containing Chertsey and Croydon grew around four-fold between the mid sixteenth and late eighteenth century. The growth of Croydon may have been helped by its proximity to London and that of Chertsey by the re-establishment of its market in 1599 and its position on the increasingly navigable Thames. The populations of Epsom and Richmond both grew too, especially in the eighteenth century, as they became popular with gentry as resorts.

²³¹ Godalming’s erratic population estimates may perhaps be related to confusion as to whether reference is to the whole parish or solely to the town itself.

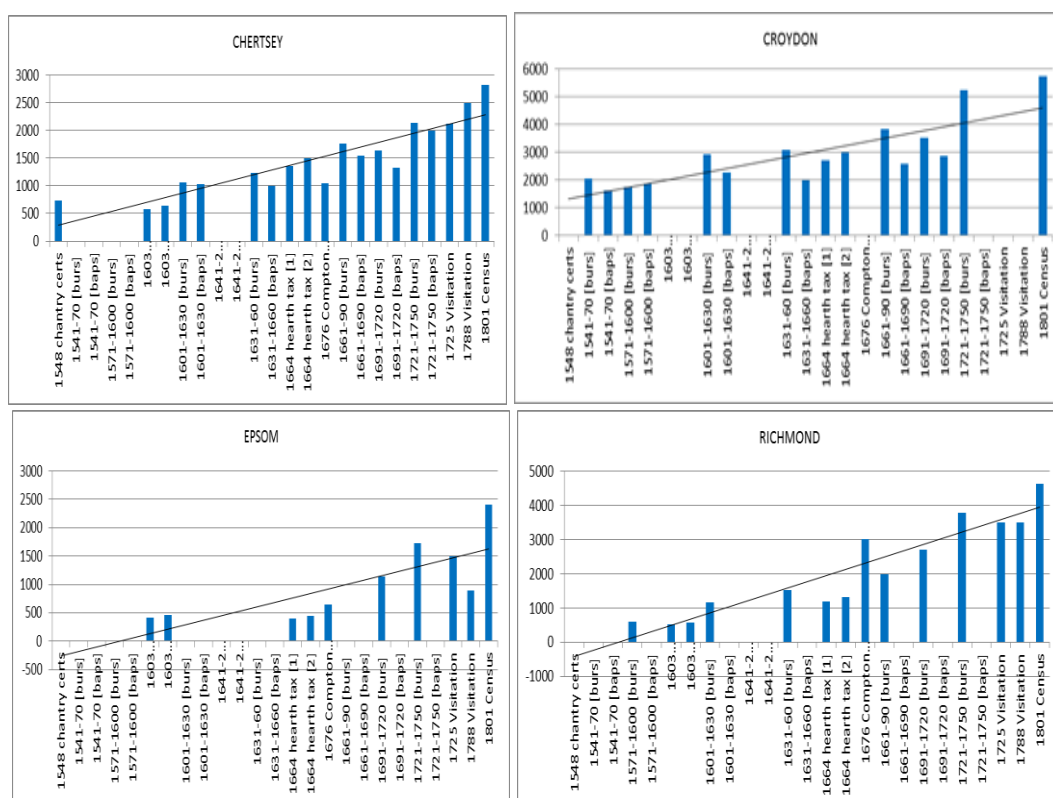


Figure 41 Population estimates, Chertsey, Croydon, Epsom and Richmond

Population densities

A related perspective on Surrey's population is provided by considering not population numbers but population density. The interpretation of population densities, though, needs caution. For example, a wholly urban parish such as Guildford Holy Trinity had a high population density whereas a parish which contained both a town and a rural hinterland, such as Farnham, appears to have a lower population density even though the urban part may have been as densely populated. In addition, some rural parts of Surrey contained considerable areas of unproductive and all but uninhabitable land such as Bagshot Heath or the Devil's Punchbowl.

A snapshot of the population densities of Surrey's parishes is provided by the hearth tax records for the 1664 Lady Day collection (Figure 42). This shows a similar

distribution to that of population (Figure 32 and Figure 33). Population densities, like population numbers, tended to be greater along the Thames and close to London and less towards the periphery of the county. The population densities in parishes close to London is especially marked. Most of the parishes containing towns, despite the difficulties in population densities noted above, also stand out as having relatively high population densities.

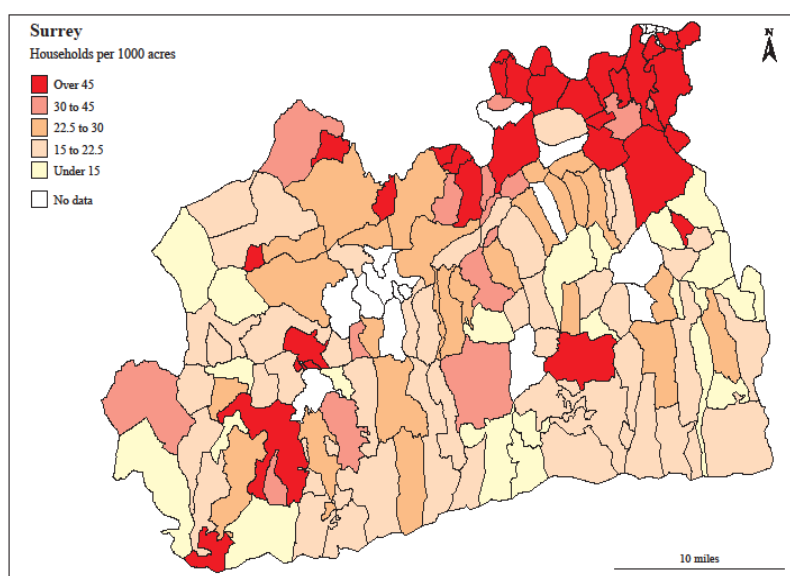


Figure 42 Household density, 1664 Lady Day hearth tax²³²

Looking at change in population density over time (Figure 43) shows, as would be expected, that it behaved similarly to population. The more densely populated areas remained parishes in the north-east close to London, parishes along the Thames and parishes containing the county's market towns.

²³² reproduced from BA Hearth Tax Project.

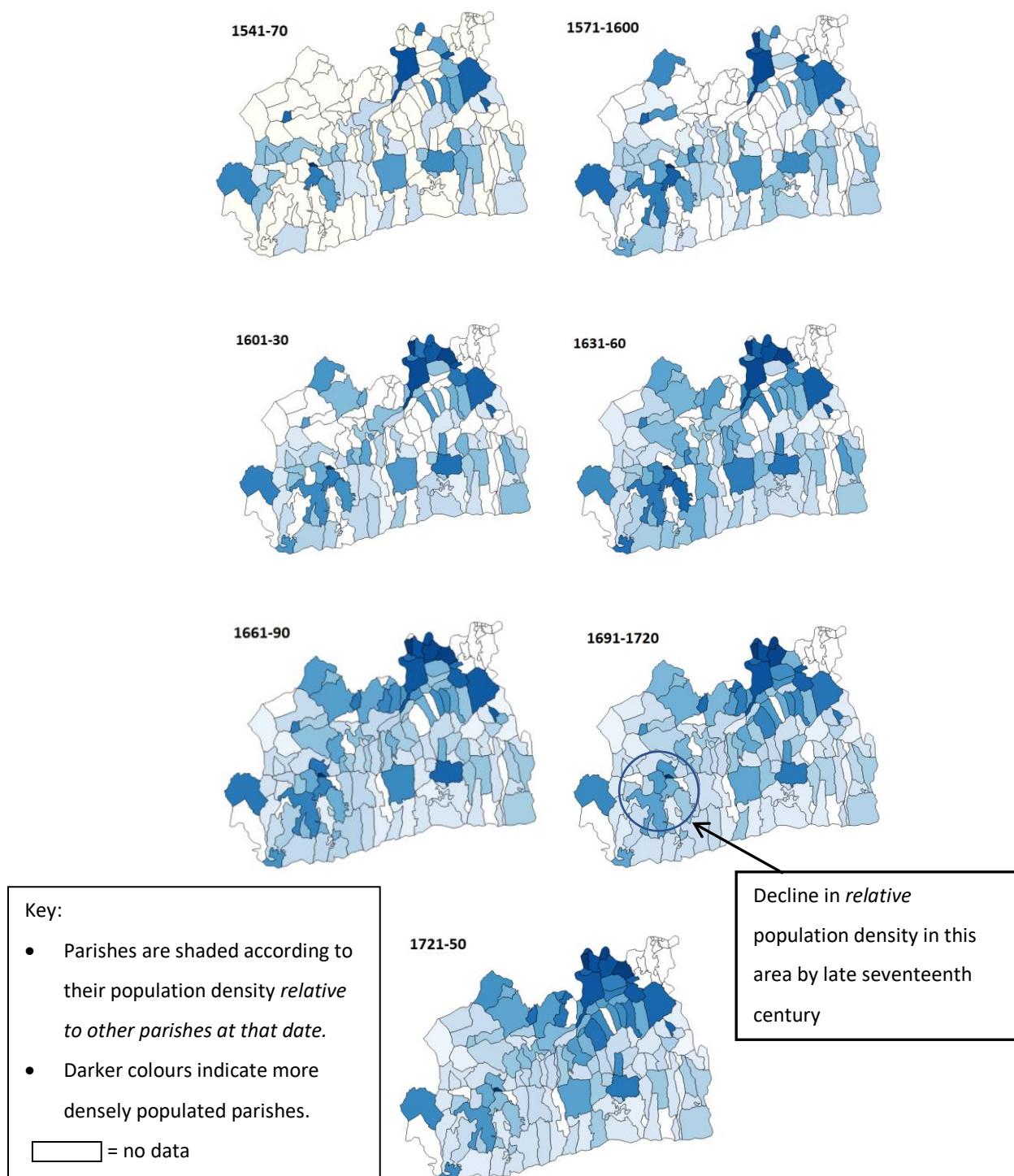


Figure 43 Parish population densities over time

The population density maps shown in Figure 43 differ from the population maps above (which show actual numbers of people in each parish) in that they are shaded to show not *absolute* population density levels in each parish at each date but the

distribution of the population across the area. In other words, the most densely populated parishes in each time period are shaded the darkest and the least densely populated the lightest but the density associated with these shadings varies between periods as the total population rose: the darkest colour in the latest time period corresponds to a higher population density than the same colour in an earlier, lower population, time period. Because they are in this form, the population density maps reveal a further element of the area's population change. They show there was a modest change over time in the overall geographical distribution of non-metropolitan Surrey's population involving a shift in the balance towards northern Surrey and away from the more peripheral areas of the county. They also draw attention to a group of parishes in the south-west, to the south of Guildford, in which population density seems to have declined over time more than average relative to population densities elsewhere in the county. This is noticeable particularly in the periods 1691-1720. The location within the ambit of Guildford suggests links with changes in the cloth trade, which suffered a decline from the early seventeenth century. This is discussed further in Chapter 5: Economy.

Concluding remarks

Taken as a whole, Surrey's population rose faster than the national average. But much of this was due to the expansion of London into Surrey and the experience of its parishes close to London, referred to here as its 'metropolitan' parishes, was markedly different from that of the majority of its parishes, its 'non-metropolitan' ones, where the population rise was more in line with the national experience. Population levels and population densities both tended to be higher closer to London and along the Thames and lower around the periphery of the county including in the Weald and the

Bagshot Sands. Populations of most parishes grew most of the time but in ways which kept the distribution of the county's population broadly similar. A common experience was parishes experiencing a modest population rise, about doubling between 1550 and 1750, in line with national population growth. But there were also places with little population rise and a relative decline in population density, generally in the south of the county, and others with much larger than average rises, generally parishes in the vicinity of London and the Thames or parishes which contained towns, including the emerging resort towns.

Methodologically, it is evident the various sources used differ somewhat in their estimates of a parish's population. This is unsurprising since none was collected for the purpose of recording the parish's total population and the conversion factors applied, while well-founded, can be no more than approximate. Moreover, there were all sorts of ways in which not everyone in the parish would have been recorded. When considering a locality over a shorter period of time the use of other sources is clearly valuable. Shumaker, for instance, in a study of Ipswich in around 1600 identified a specific local source, records of the town's poor rate and poor relief payments, as a basis for improving estimates of the town's population as well as for understanding the socio-economic structure of the town.²³³ However, when the range of sources made use of in this study are considered together over a long period of time it is clear the population estimates they suggest do provide a fairly robust indication of the scale of most parishes' population change, distinguishing the stagnant or declining from the growing from the rapidly growing.

²³³ T. Shumaker, 'Estimating Population Sizes and Demographic Trends in Ipswich, c. 1570-1620: Re-Evaluations and New Approaches', *Local Population Studies*, 103 (2019).

5: Economy

Introduction

Nationally, England's economy experienced substantial changes over the period of this study influencing economic conditions within Surrey. Inflation was high with agricultural prices rising about seven-fold between 1500 and the 1640s (particularly significant in a time when half or more of household expenditure went on foodstuffs), an increase of about 1.5 per cent per annum.²³⁴ The prices of industrial goods and of animal products rose less, about three-fold and four-fold respectively.²³⁵ Wage rates of agricultural workers did not keep pace, resulting in a halving in southern England of their purchasing power.²³⁶ Agricultural change in the period included growth of commercial farming and increasing interest in agricultural innovations.²³⁷ There was increased consumption, expansion of manufactures and commerce and the development of financial institutions, resulting in growth of internal trade. Towns grew, especially London.²³⁸

This chapter considers the economic circumstances of the people of non-metropolitan Surrey in a variety of ways. It starts with two broad-scale geographical comparisons: the first is an overview of the county's distribution of wealth and poverty and the second uses a 'big data' approach to patterns of baptisms and burials to consider some

²³⁴ A. G. R. Smith, *The Emergence of a Nation State: the commonwealth of England 1529-1660* (London, 1997) pp. 168-9, 439; Thirsk et al. (eds.), *The Agrarian History of England and Wales*, Vol. IV, pp.857ff..

²³⁵ Smith, *The Emergence of a Nation State: the commonwealth of England 1529-1660* pp. 168-9, 439; Thirsk et al. (eds.), *The Agrarian History of England and Wales*, Vol. IV, pp.857ff..

²³⁶ Based on day wage-rates in southern England excluding payments in kind for 'ordinary day-to-day agricultural operations performed by male workers', Thirsk et al. (eds.), *The Agrarian History of England and Wales*, Vol. IV, p. 864.

²³⁷ Smith, *The Emergence of a Nation State: the commonwealth of England 1529-1660*, pp. 169-71; Sharpe, *Early Modern England*, pp. 132-3.

²³⁸ Smith, *The Emergence of a Nation State: the commonwealth of England 1529-1660* p. 166.

broad economic differences between areas and over time. It ends with a discussion of two elements of its economy. One is its occupational structure which considers evidence for the scale of industrial activities and also of labouring as an occupational descriptor by around 1700. The other is its towns, considering their population levels, occupations and wealth, observing how some changed little over the period but others grew substantially taking on a wider range of roles. Surrey's agriculture, its main economic activity, is discussed in the following chapter.

Wealth, Poverty

Medieval Surrey was not prosperous. Brandon commented that the small number of Wealden houses, typically the homes of wealthy clothiers and yeomen, in Surrey compared with Kent and Sussex indicate Surrey was not a wealthy county in the 14th and 15th centuries.²³⁹ The poverty of many of Surrey's medieval church buildings is another indication. In the fourteenth century, Surrey ranked 28th poorest out of 38 English counties in the fifteenth and tenths tax assessment of the 1334 in terms of lay wealth per thousand acres.²⁴⁰ Land values at the time across south-east England mapped by Brandon emphasise Surrey's lack of wealth in its land compared to parts of its neighbouring counties of Kent and Sussex (Figure 44). Comparing the wealth of the different hundreds within Surrey with their land areas shows that Surrey's wealth was distributed fairly evenly across the hundreds, broadly in proportion to their acreages (Figure 45 (a) and (b)).

²³⁹ Brandon, *A History of Surrey*, p. 48.

²⁴⁰ R. S. Schofield, 'The Geographical Distribution of Wealth in England, 1334-1649', *The Economic History Review*, 18 (1965), p. 504.

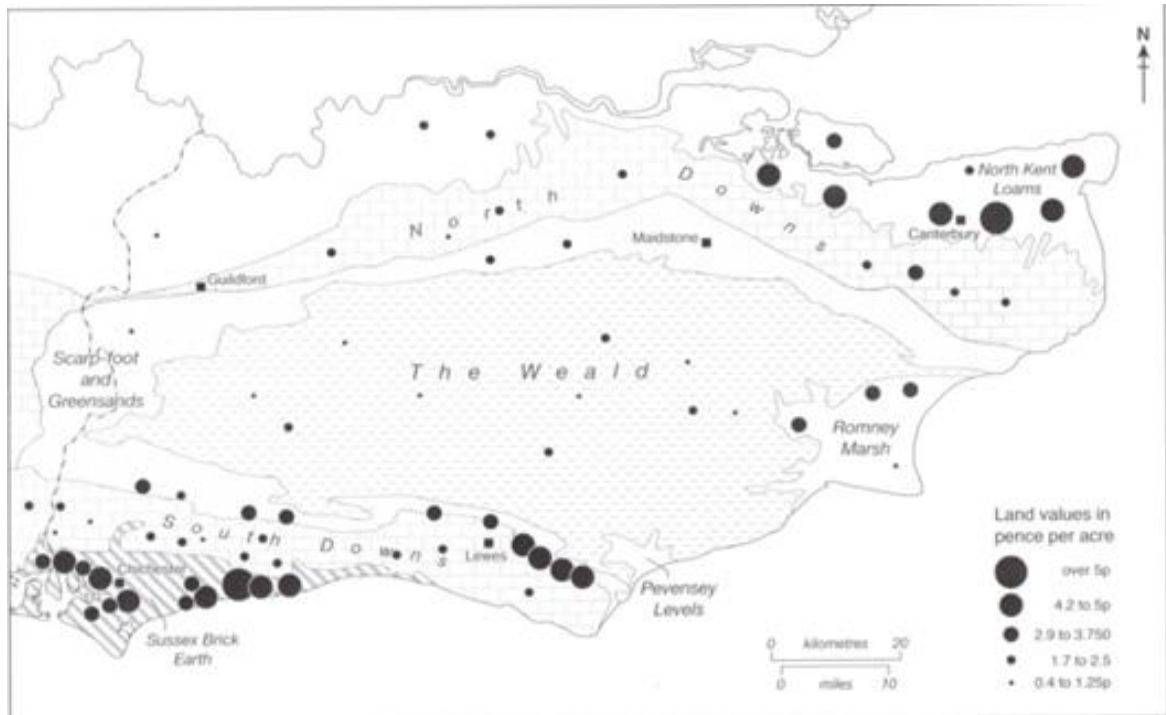
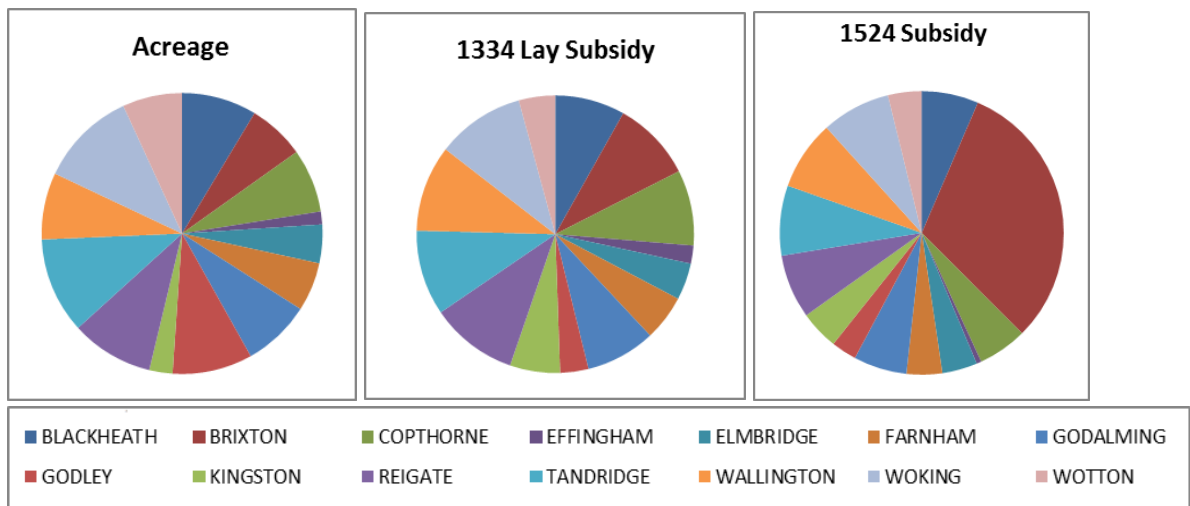


Figure 44 Land values, south-east England, early fourteenth century²⁴¹



(a) acreage²⁴² (b) 1334 Lay Subsidy contributions²⁴³ (c) 1524 Lay Subsidy contributions²⁴⁴

Figure 45 Surrey wealth and land areas by hundred

²⁴¹ reproduced from Brandon, *The North Downs*, p. 73.

²⁴² Great Britain. Census Office (ed.), *Abstract of the Answers and Returns Made Pursuant to an Act, Passed in the Forty-first Year of His Majesty King George III. Intituled, "An Act for Taking an Account of the Population of Great Britain, and the Increase or Diminution Thereof."*

²⁴³ R. E. Glasscock, *The Lay subsidy of 1334* (London, 1975).

²⁴⁴ J. Sheail, 'The Regional Distribution of Wealth in England as indicated in the 1524/5 Lay Subsidy Returns' (unpublished PhD thesis, University of London, 1968).

In the following couple of centuries Surrey's prosperity increased considerably and in the 1524 Subsidy it was ranked fifth wealthiest of the counties of England on lay wealth per thousand acres.²⁴⁵ The most substantial change was in Brixton hundred which paid a much greater proportion of the subsidy in 1524/5 than it had in 1334 (Figure 45 (c)).²⁴⁶ The development of Southwark and surrounding areas as suburbs of London by the mid-seventeenth century is illustrated further by the density of hearths in that area recorded in the 1664 Lady Day hearth tax (hereafter 1664LD) (Figure 46).²⁴⁷

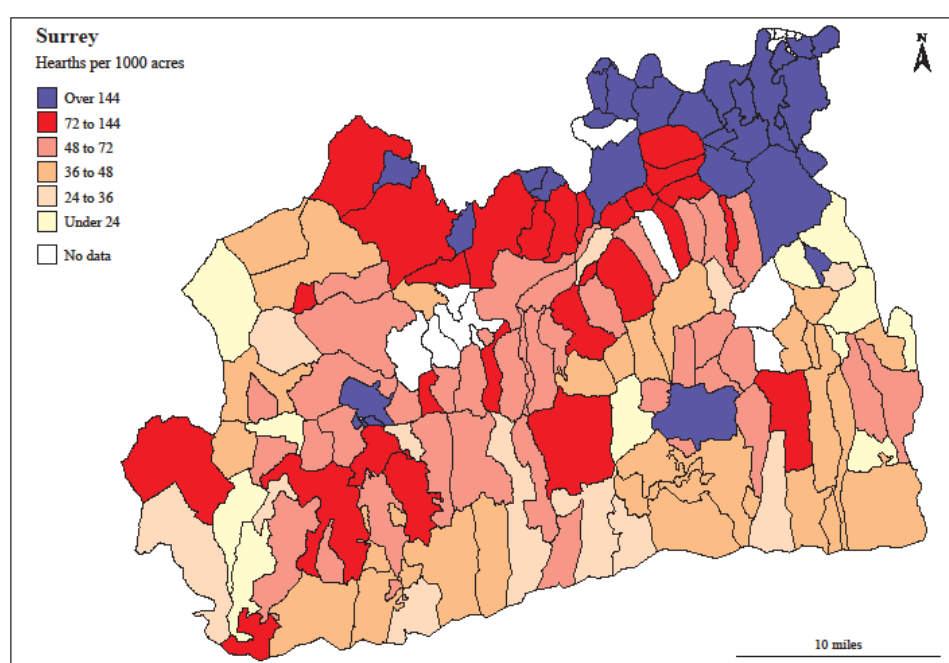


Figure 46 Hearth densities (hearth per thousand acres), 1664LD hearth tax²⁴⁸

The numbers of hearths recorded in 1664LD shows also the county's affluence more broadly, suggesting its housing stock was comparatively good: similar numbers of

²⁴⁵ Schofield, 'The Geographical Distribution of Wealth in England, 1334-1649' (1965), p. 504.

²⁴⁶ Sheail, 'The Regional Distribution of Wealth in England as indicated in the 1524/5 Lay Subsidy Returns', Vol. 2.

²⁴⁷ reproduced from BA Hearth Tax Project.

²⁴⁸ reproduced from *ibid.*.

households were recorded with 1, 2, and 3 or more hearths, a more even distribution than in a number of other counties (Figure 47).²⁴⁹ However, these variations in hearth numbers between counties need to be treated with caution. While indicative of economic differences they doubtless reflect also a number of factors other than simple prosperity, including differences between the tax collection regimes at different times and their implementation in different localities, local styles of vernacular architecture, use of different fuels, and different social or cultural expectations. Moreover, it needs to be borne in mind that the hearth tax did not record all the poor as a micro-study by Ferguson of the Surrey parish of Woking, for example, has emphasised.²⁵⁰

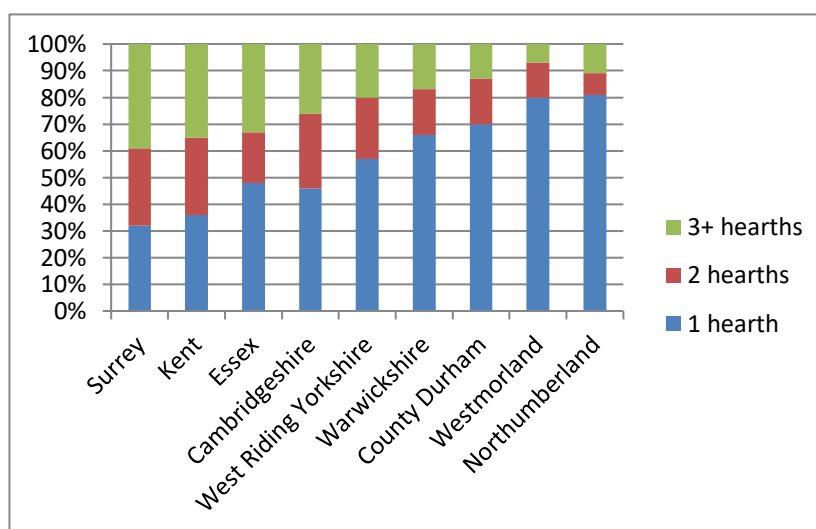


Figure 47 Hearths per household in Surrey and eight other counties
(for sources see text)

The poorest areas in Surrey as indicated by 1664LD tended to be at its periphery, in the places furthest from London and often on poor soils (Figure 48). In the south-west, in the hundreds of Blackheath and Godalming, close to half of households were

²⁴⁹ C. Ferguson, 'Preface: Wealth and Poverty in Six Counties', in C. Phillips et al. (eds.), *Westmorland Hearth Tax Michaelmas 1670 & Surveys 1674-5* (London : Carlisle, 2008), pp. 3-6; C. Ferguson, C. Thornton, and A. Wareham (eds.), *Essex Hearth Tax Return: Michaelmas 1670*, ed. P. British Academy. *Hearth Tax* (London, 2012), p. 513; T. Arkell and N. W. Alcock (eds.), *Warwickshire Hearth Tax Returns: Michaelmas 1670, with Coventry Lady Day 1666*, eds. N. Alcock et al. (Stratford-upon-Avon : London, 2010), p. 60 .

²⁵⁰ Ferguson, 'The Hearth Tax and Poor in Post-Restoration Woking'.

exempt from the hearth tax in 1664LD - 48 per cent of Blackheath households and 45 per cent of Godalming households. The poverty of the Bagshot 'desert' as Defoe referred to it in the north-west is also suggested: in Windlesham and Bagshot, for instance, nearly three quarters of households – 65 out of 89 households - were exempt.²⁵¹ The proportions of households with only one hearth were high along much of the south of the county. In the parish of Horne, for example, 38 of its 72 households recorded had only one hearth, in neighbouring Burstow 46 out of 75 households had only one hearth and further west, in Dunsfold, 66 out of 103 households had only one hearth. Again, though, the caveat needs to be made that interpreting the hearth tax returns is complex. Ferguson has pointed out the existence in 1664LD of wide differences between Surrey parishes in the proportion exempt from the hearth tax, ranging from none to 77 per cent, probably influenced by different local practices in its administration.²⁵²

²⁵¹ Defoe, *Tour*, p. 156.

²⁵² Ferguson, 'Behind the hearth tax exemption figures for Surrey: a tapestry of local variation'.

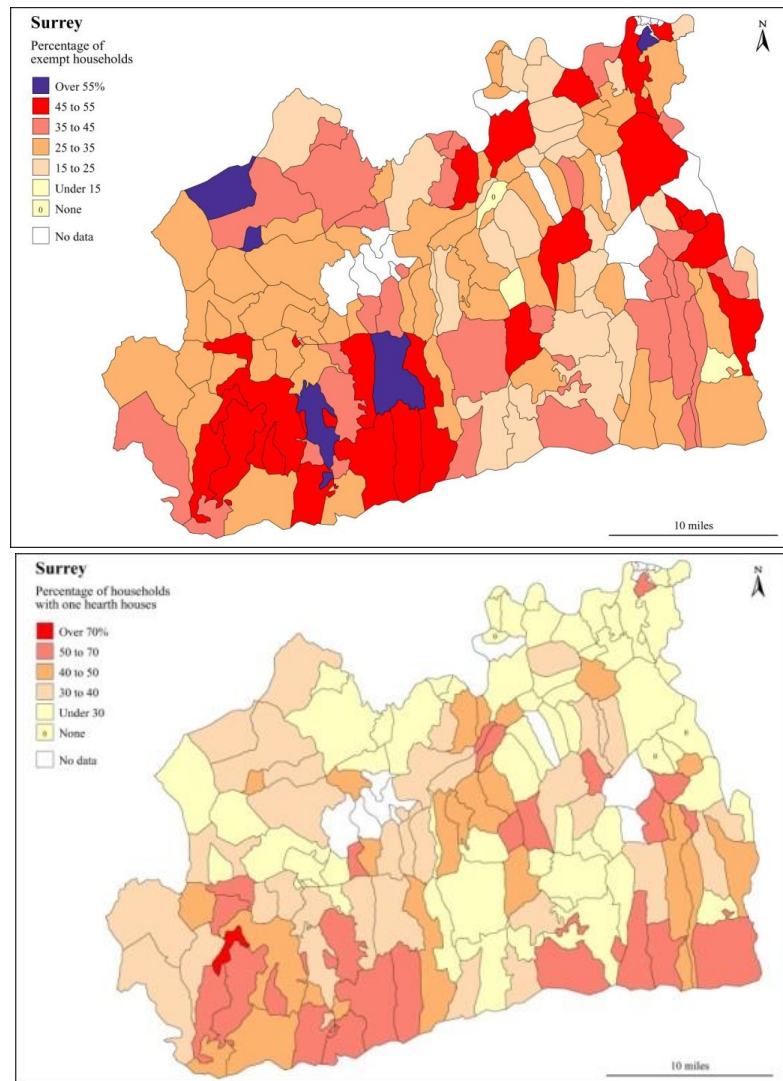


Figure 48 Percentage of (a) exempt households, (b) 1 hearth households
1664 Lady Day hearth tax²⁵³

However, support for this broad pattern of the distribution of poverty, and evidence that it did not change substantially over the succeeding two centuries, comes from consideration of other sources. Lord described the south-eastern corner of Surrey as economically in dire straits by the mid-eighteenth century, a condition it remained in throughout 1750-1850.²⁵⁴ The marked similarity in the distribution of poverty from the seventeenth to the nineteenth century is evident from a comparison of the hearth tax findings with the parish poor relief paid per person in the early nineteenth century

²⁵³ reproduced from BA Hearth Tax Project.

²⁵⁴ Lord, 'Communities of Common Interest: the Social Landscape of South-East Surrey, 1750-1850', p. 137.

(Figure 49). Both show relative poverty being greatest in the south of the county. The persistence of this pattern took place despite changes in industrial activities, agricultural changes, road improvements such as turnpiking, and the growing population and prosperity of London.

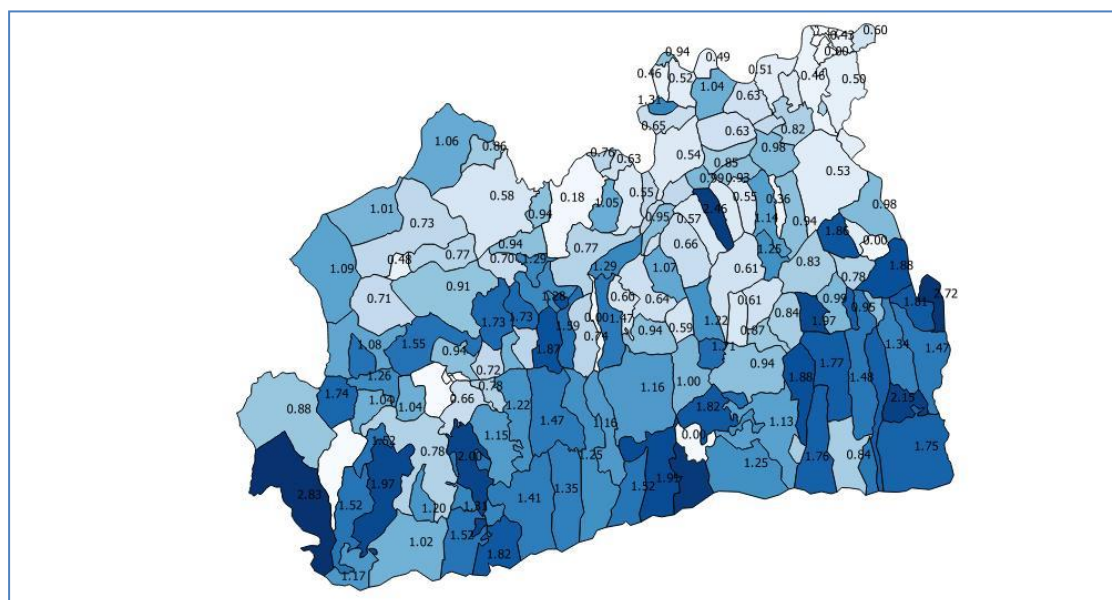


Figure 49 Poor relief per person, early nineteenth century
(£ per person based on 1813 poor relief, 1811 population)²⁵⁵

At the other end of the socio-economic spectrum, the presence of royalty and the perceived attractiveness of parts of Surrey both contributed to its appeal to elites. Blome wrote in 1673 of Surrey that ‘The Air is most sweet, delectable and healthful, for which cause it hath been enobled with several of the kings palaces, is well replenished with Towns, and garnished with seats of Gentlemen’. ²⁵⁶ Royalty were enthusiastic visitors to northern Surrey in the sixteenth and seventeenth centuries, attracted also by its proximity to London. In 1547, for example, at the death of Henry VIII, there were 11 royal palaces in Surrey (there had been just one at his birth),

²⁵⁵ 1813 poor relief: T. Gilbert, 'Reports from the Committees of the House of Commons: Returns made by the Overseers of the Poor, in pursuance of Act of last Session', (1777); 1811 Census: Great Britain. Census Office (ed.), *Abstract of the Answers and Returns Made Pursuant to an Act, Passed in the Forty-first Year of His Majesty King George III. Intituled, "An Act for Taking an Account of the Population of Great Britain, and the Increase or Diminution Thereof."*.

²⁵⁶ Blome, *Britannia*, p. 219.

making it home to more royal domestic country residences than any other county. Henry spent a quarter of his reign in Surrey, mostly in royal residences, Elizabeth spent more and James I about a third of his reign in Surrey.²⁵⁷ As a keen huntsman Henry also made use of Surrey's land. The Royal Forest of Windsor extended across 17 parishes in north-west Surrey and Berkshire.²⁵⁸

Encouraged by the presence of royalty, Surrey became in the sixteenth century, as Thurley put it, 'home to a large part of the cream of Tudor society'.²⁵⁹ Surrey was attractive to both existing members of landed society and newly affluent men, wealthy people for whom land provided both an investment and a source of social status. They bought property, especially in places nearer to London, a trend which had existed since medieval times but which increased in the early modern period, aided by the redistribution of land following the Dissolution.²⁶⁰ For example Sutton Place was built c. 1525 by Sir Richard Weston, a courtier, and Loseley was bought in 1508 by Christopher More, son of a London fishmonger. He and members of his family over the sixteenth and seventeenth centuries were Members of Parliament and closely involved in the local administration of Surrey. Connections with the London bourgeoisie continued into the eighteenth century: Rogers documented several merchants or bankers who acquired estates by marriage, purchase or inheritance in Surrey as in other Home Counties.²⁶¹

²⁵⁷ Thurley, 'The Impact of Royal Landholdings on the County of Surrey', p. 155.

²⁵⁸ Brandon, *A History of Surrey*, p. 38.

²⁵⁹ Thurley, 'The Impact of Royal Landholdings on the County of Surrey', p. 159.

²⁶⁰ Turner, *Surrey*, pp. 17-9; C. G. A. Clay, *Economic Expansion and Social Change: England 1500-1700* (Cambridge, 1984), Vol. 1, pp. 151-3;

²⁶¹ N. Rogers, 'Money, land and lineage: the big bourgeoisie of Hanoverian London', in P. Borsay (ed.), *The Eighteenth-century Town: A Reader in English Urban History 1688-1820* (London, 1990), pp. 273, 279, 282, 283.

From the seventeenth century the North Downs became seen as healthy and a suitable place for recreation and especially by the eighteenth century they witnessed the development of gentry pursuits such as horse racing, and garden and landscape park design.²⁶² In 1724 Defoe commented on the existence of ‘one continued line of gentlemen’s houses’ in the ten miles between Guildford and Leatherhead,²⁶³ and that the small town of Epsom ‘seems adapted wholly to pleasure’.²⁶⁴ The presence of Londoners owning land there is illustrated by the list of men eligible to serve as jurymen in Ebbisham (Epsom) at the very end of the seventeenth century: 18 of the 50 listed were recorded as ‘p[er]sons not liveing in the said p[ar]ish’, most of whom were described as from London and either merchants, such as John Lambert and Alex[ander] Cleve, or as gentlemen, such as John Foster or William Smith.²⁶⁵

The distribution of wealth, like the distribution of poverty, had a north-south gradient. For example few households in Blackheath hundred in the south of the county had more than 5 hearths – 43 out of 1090 (4%) - but in Kingston hundred in the north 199 out of 936 (21%) did (Figure 50).

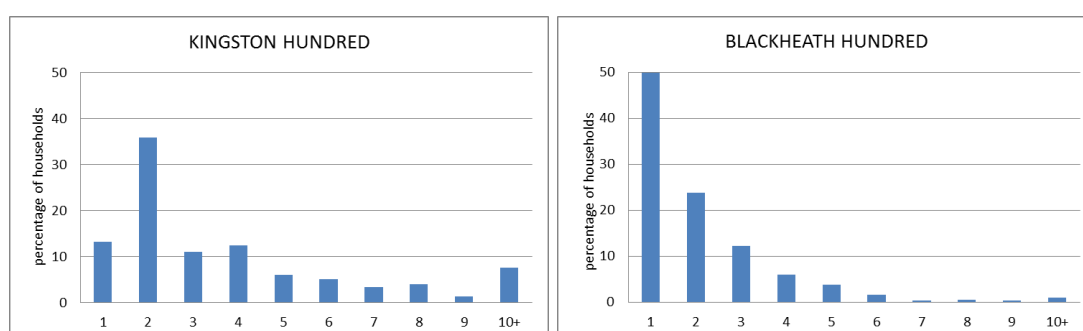


Figure 50 Hearths per household in (a) Kingston and (b) Blackheath Hundreds (1664LD)²⁶⁶

²⁶² Brandon, *A History of Surrey*, pp. 73 ff.

²⁶³ Defoe, *Tour*, p. 159.

²⁶⁴ *Ibid.*, p. 169.

²⁶⁵ Ancestry Jury-Qualified Freeholders and Copyholders, 1696-1824: Surrey, <ancestry.co.uk>, accessed various dates in 2017.

²⁶⁶ BA Hearth Tax Project.

Similarly, the north and east were more likely to be the location of the houses of social elites. In 1664 many of the at least 30 members of the peerage who owned property in Surrey were in the hundreds of Kingston and Brixton and houses with at least 20 hearths tended to be in the north of the county, with almost none in the most southern and south-western parts. Houses with 10 or more hearths had a similar distribution (Figure 51).

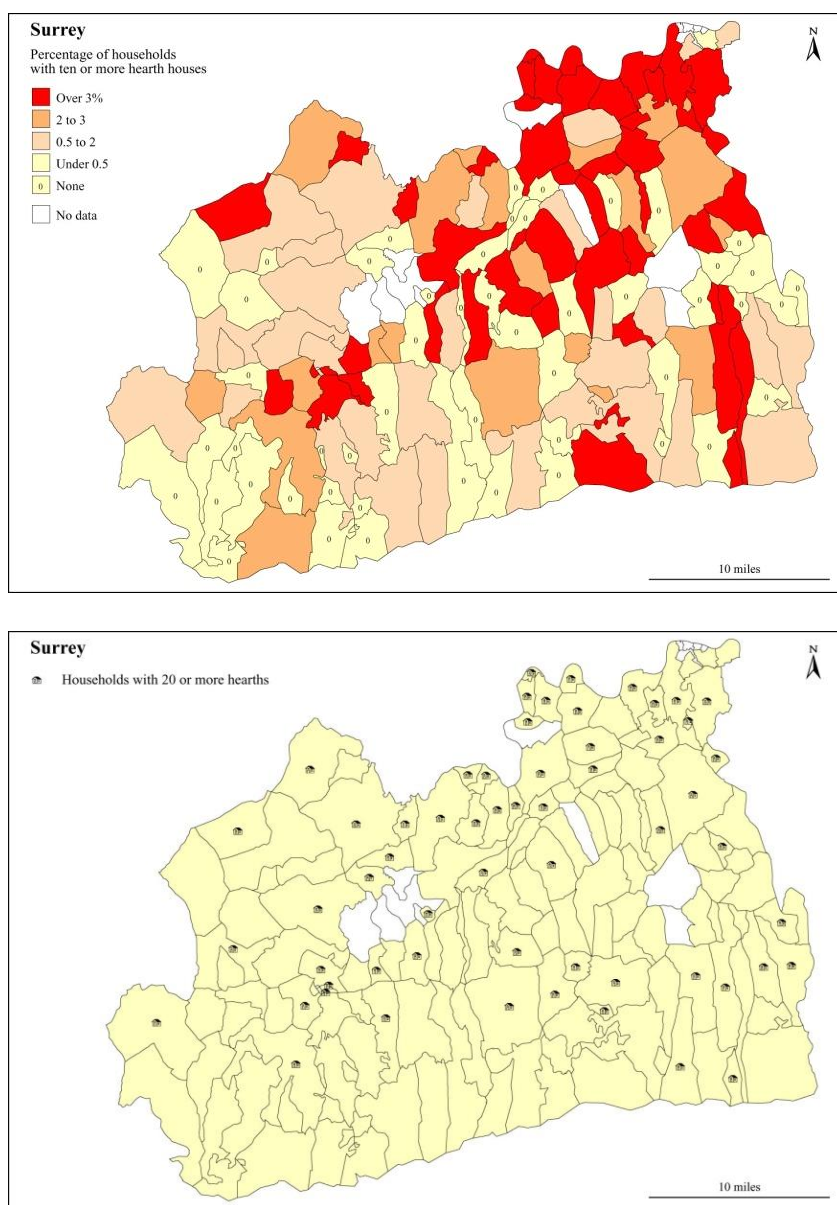


Figure 51 Parishes with houses with (a) 10 or more hearths, (b) 20 or more hearths²⁶⁷

²⁶⁷ reproduced from *ibid.*.

Minor gentry and yeomen too were found more often in parishes closer to London. As Ferguson commented 'Proximity to London is, of course, one of the influencing factors which drove up the relative numbers of yeomen and small gentry living round its edges'.²⁶⁸ There were about a thousand minor gentry (those given the title 'Mr' or 'Mrs') in the Surrey 1664LD hearth tax. In four of the hundreds closest to London (Elmbridge, Kingston, Wallington and Brixton (excluding Southwark)) every parish had at least one such householder. In contrast in about a quarter of Surrey parishes, mainly those in the poorer south of the county, there were none recorded.

To summarise, a poor county in the medieval period, Surrey's wealth increased in the early modern period. London was a driver of this rise, both through the spread of the *de facto* urban area of London into some of Surrey's north-eastern parishes and through the growing popularity of northern Surrey with royalty (especially in the sixteenth century) and gentry. In contrast some peripheral areas of the county were and remained poor into the eighteenth century, affected by those areas' soils and relative inaccessibility to London.

Economic Patterns – a 'big data' view

This section takes a different approach from the previous one to considering Surrey's economic structure. At the core is the idea that economic change is often linked to population change – as Wallis et al. wrote 'Economic growth is expected to cause population growth, which is thus often used as a proxy for it'.²⁶⁹ The approach relies on inferring economic differences rather than observing them directly, looking at the

²⁶⁸ Ferguson, 'Preface: Wealth and Poverty in Six Counties', p. 8.

²⁶⁹ P. Wallis, J. Colson, and D. Chilos, 'Structural Change and Economic Growth in the British Economy before the Industrial Revolution, 1500–1800', *The Journal of Economic History*, 78 (2018), p. 877.

area's economic circumstances through some of the demographic characteristics of its population. It does this by comparing long term trends in the balance of baptisms and burials in individual parishes, trends which plausibly reflect economic changes. The distinctions between areas suggested by this approach - evidence of a relatively stable demographic and economic regime in much of the county, of economic stagnation in one area and of economic vibrancy in another - differ from those suggested above in relation to levels of wealth and poverty, adding a further layer to the consideration of the area's economy.

Methodology

The approach is tentative as comparison of births and deaths is a crude means of exploring population and economic trends. But it seems to suggest findings which are of interest and less apparent from other approaches. The method is straightforward, involving calculating the net difference between the numbers of baptisms and burials in a parish each year. For example, 5 baptisms and 3 burials in a year would result in a net natural population increase of 2, while 4 baptism and 10 burials would result in a net decrease of 6. These net differences were then accumulated year on year to produce a graph of the increase or decrease in the net natural population of the parish over time, that is the population change the parish would have experienced if it existed in isolation without any in- or out- migration.

To illustrate the process, consider the rural, southern parish of Burstow. In Burstow the numbers of baptisms each year seem to be somewhat above the number of burials but the year to year variation makes the comparison difficult (Figure 52). It also appears there was a modest increase in both baptisms and burials over time.

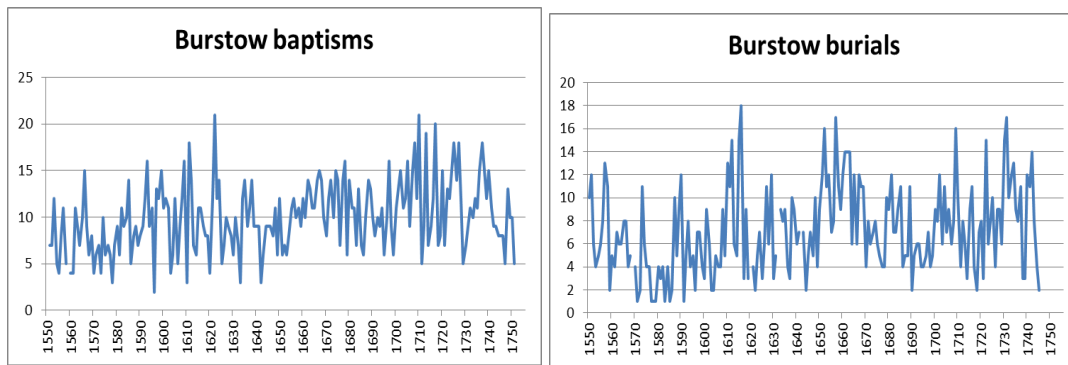
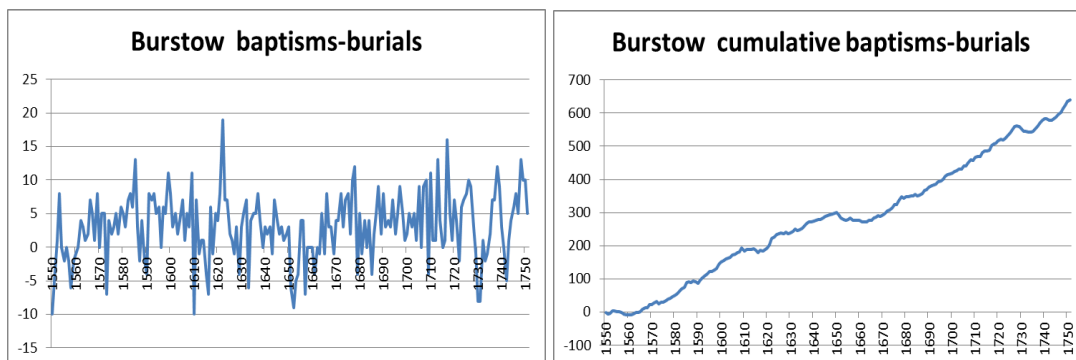


Figure 52 Burstow baptisms and burials, 1550-1750

Plotting the net difference between baptisms and burials each year makes clear that in most years there were more baptisms than burials (Figure 53(a)). But it is by plotting the cumulative effect of these annual differences that their net effect is most clear (Figure 53(b)).



(a) annual net baptisms minus burials (b) cumulative net baptisms minus burials

Figure 53 Burstow net natural population change, 1550-1750

Figure 53(b) also shows that the net excess of baptisms over burials over the whole 200-year period 1550-1750 was about 650. In other words, there were 650 more people baptised in Burstow than buried there, or about 3 or 4 more per year over the two centuries. This is a substantial number compared to the number of baptisms per year, around 10. If that number of extra people had been added to Burstow's population each year it would have produced a rapidly rising population resulting in increasing numbers of births and increasing numbers of deaths. This would have been evident in the shape of Figure 53(b), producing a more exponential form, rising more and more steeply. That the graph does not take this form but instead has a roughly

straight-line form showing a fairly consistent difference between baptisms and burials over time suggests Burstow's population did not rise rapidly between the mid-sixteenth and the mid-eighteenth centuries. Estimates of Burstow's population (Figure 54) suggest its population was around 240 in the latter 1500s, rising to around 350-380 by the early 1700s. This rise of around 140 in Burstow's population is much less than the 650 excess of baptisms over burials observed in the period suggesting the likelihood of regular net emigration from Burstow.

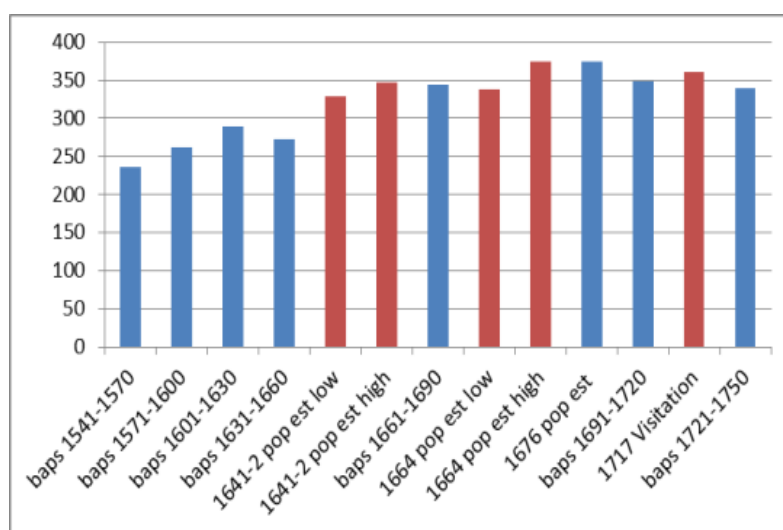


Figure 54 Burstow population estimates ²⁷⁰

Before considering the evidence this approach provides of demographic and economic differences in parishes across Surrey, it needs noting that comparisons of baptisms and burials reflect not only changes in the actual numbers of births and deaths but are also vulnerable to changes in the baptism and burial practices of individual parishes. The parishes considered in this study contain three in particular where this appears to have been a factor, though there may well be others where the effect is less easy to identify. In one parish the effect appears to have been minor. In Ewhurst for a short period of time it is plausible that doctrinal differences affected the numbers of

²⁷⁰ red indicate two estimates from same source but using different conversion factors, see Chapter 2: Sources and Methods for details.

baptisms. The appointment as minister of puritan John Wing, replacing royalist William Fuller, does not seem to have been well received in Ewhurst for in July 1647 he complained that parishioners were refusing to pay their tithes and for three years, 1647, 1648 and 1649, he refused to conduct marriages and baptisms. The parish register records in 1647 that ‘Manie children were baptised by other ministers for the parents of the said children would not observe the directorie’.²⁷¹ But this state of affairs does not show up as having any longer term effect (see Figure 55 in which the few years this applied do not stand out as markedly different from surrounding years).²⁷²

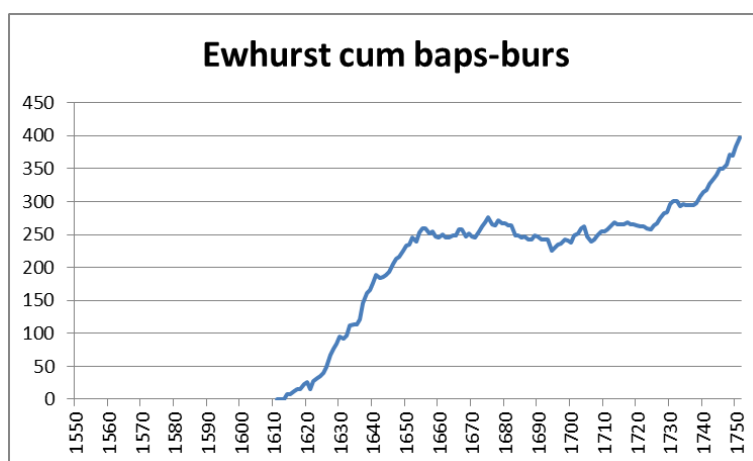


Figure 55 Ewhurst cumulative net baptisms minus burials, 1610-1750

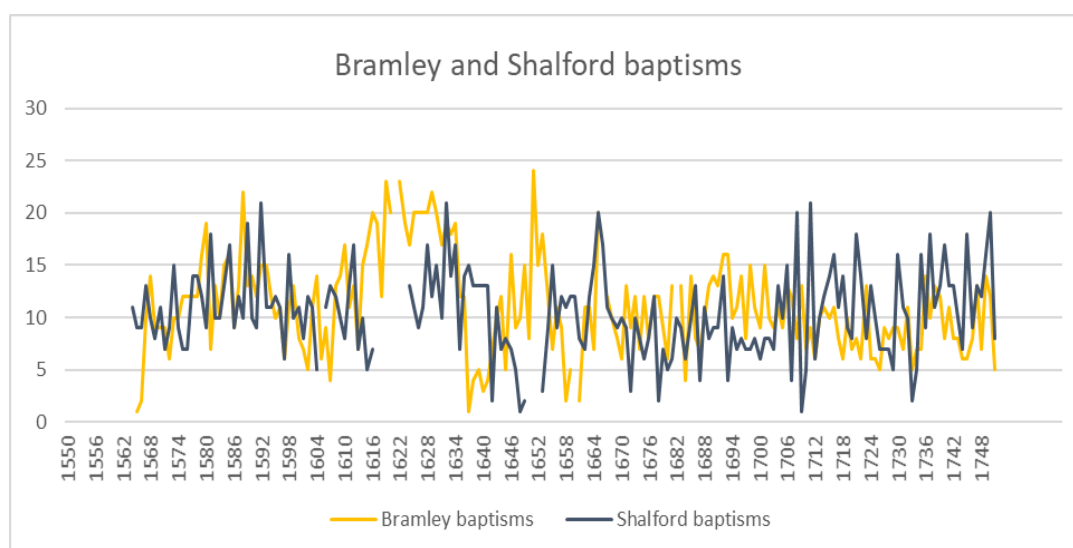
In Shalford and Bramley the effect may have been more substantial as parish records may have been distorted by an existing link between the two parishes. Bramley was at one time a chapel of ease of the adjacent parish of Shalford and, although not formally a separate parish until the nineteenth century, was ‘to many purposes, considered as a Parish of itself’ much earlier.²⁷³ Comparing the baptism registers of

²⁷¹ The 1645 ‘Directory of Worship’ set out new forms for church worship which parish ministers were ordered to use rather than the Book of Common Prayer: see A. Hughes, ‘Religion, 1640-60’, in B. Coward (ed.), *A companion to Stuart Britain* (Oxford, 2003), p. 355; J. Balchin, *St Peter and St Paul Ewhurst, A Guide and History* (Ewhurst, 2012).

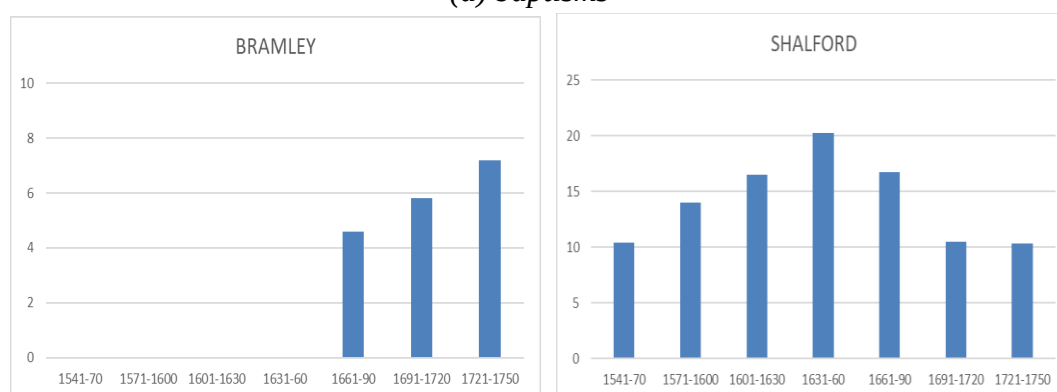
²⁷² The particular form this graph takes is discussed further below (Type B parishes).

²⁷³ Manning, *History and Antiquities.*, Vol. 2 p. 90.

the two parishes shows unusually large numbers of Bramley baptisms around 1620 and again around 1650, periods which seem to coincide with few or missing records of Shalford baptisms (Figure 56 (a)). The details are unclear but one possibility is that some Shalford baptisms were recorded in Bramley in these two periods. In addition, burials were not possible in Bramley until 1675 and after that date burial records confirm burials taking place in Bramley combined with a clear decrease in burials in Shalford (Figure 56 (b)).



(a) baptisms



(b) burials

Figure 56 Bramley and Shalford baptisms and burials

There are likely to be other difficulties too which may have affected the numbers of burials recorded. One was the presence of nurse children. In parishes towards the north of the county there were numbers of nurse children recorded in burial registers, burials

which would have distorted the comparison of baptism and burials to a limited extent. For example, in West Clandon two children– Samuel Clements and John Clements – both described as ‘nurse child of St Clements’ were buried in 1600, their surname providing a strong indication that they were foundlings, and in Putney in the first decade of the eighteenth century there were on average burials of ten nurse children recorded per year. Another potential distortion is one which, though no direct evidence of it has been identified in non-metropolitan Surrey, has been observed elsewhere in the country especially in urban areas, that significant numbers of burials sometimes took place outside the parish of death (see for example Boulton and Schwarz).²⁷⁴

Moreover, interpretation of relationships between numbers of births and deaths, whether differences in different parts of the county or changes over time in a single area, is not straightforward. As Wrigley and Schofield wrote:

An increase in the number of births, for example, may be a sign of rising fertility, or of unchanged fertility in a growing population, or even of falling fertility if the population is rising faster than the number of births. Totals of births, deaths, and marriages alone may suggest which is the most likely of the three possible trends but such information is very rarely conclusive.²⁷⁵

But the view of this study is that where consistent patterns of similarity or of change in the balance of baptisms and burials are observed within a geographically restricted area it is likely to be indicative of similar underlying influences and to be related to economic circumstances. It cannot pin down with certainty the nature of that influence

²⁷⁴ J. Boulton and L. Schwarz, 'Yet another inquiry into the trustworthiness of eighteenth-century London's Bills of Mortality', *Local Population Studies*, 85 (2010).

²⁷⁵ Wrigley and Schofield (eds.), *Population History of England*, p. 192.

nor the exact economic circumstances. But as the discussion later in this section shows, it can point to plausible scenarios.

Findings

This study has used the baptisms and burials from 43 Surrey parishes, around a third of all Surrey's non-metropolitan parishes (Table 2). Most (all but three) had both baptism and burial records dating from at least the early seventeenth century, mainly the sixteenth century. They comprised 9 towns (more accurately parishes which included a town) and 34 rural parishes. Thirteen were included in the data collected by CamPop and for the remainder the annual numbers of baptisms and burials were derived from transcripts made by WSFHS or from images of the original registers.²⁷⁶ The 43 parishes were from all areas of the county (Figure 57). Because of concerns about the records of Shalford and Bramley (discussed above), although initially included as separate parishes, their records were subsequently combined.

Urban	Rural	Rural	Rural
Chertsey	Abinger*	Barnes	Pirbright
Croydon	Beddington*	Bisley	Shere
Dorking	Carshalton*	Burstow	Walton-on-Thames
Farnham	Cobham*	Cheam	West Horsley
Godalming	Cranley*	Clapham	Worplesdon
Guildford	Gatton*	Ewhurst	Weybridge
Haslemere	Limpsfield*	Hambledon	Witley (mid 17 th C start date)
Kingston upon Thames	Nutfield*	Hascombe	Woking (mid 17 th C start date)
Reigate*	Putney*	Long Ditton	Wonersh
	Walton on the Hill*	Mickleham	(Bramley)
	Wimbledon*	Newdigate	(Shalford)
	Wotton*		

Table 2 Parishes included in baptism/burial comparison study²⁷⁷

²⁷⁶ Schofield, *Parish Register Aggregate Analysis*; WSFHS Surrey parish registers; *Surrey parish registers*.

²⁷⁷ * indicates parish data from CamPop

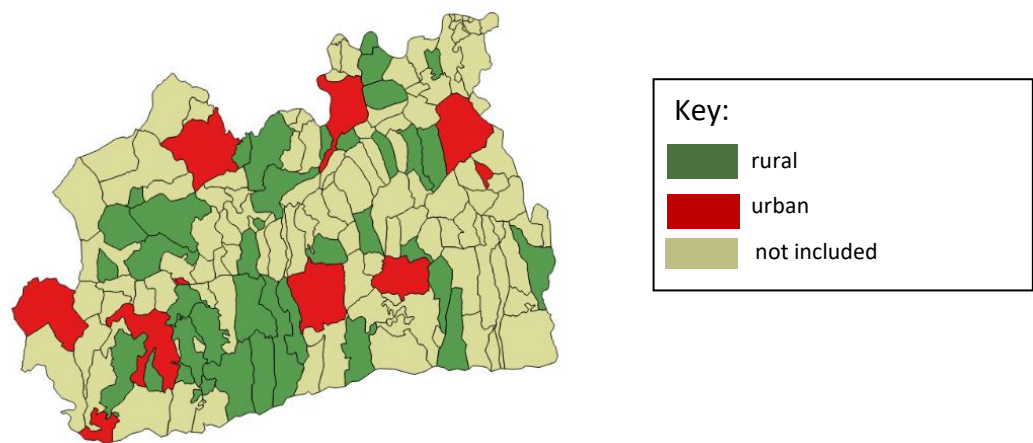
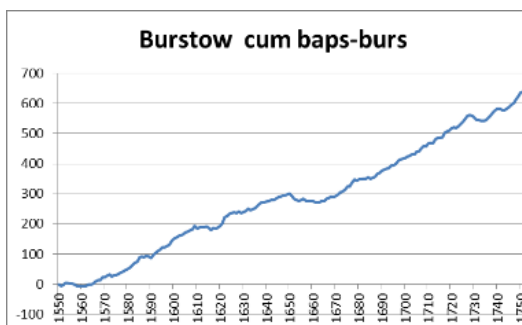
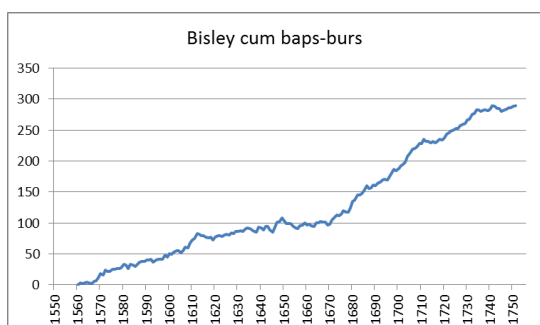
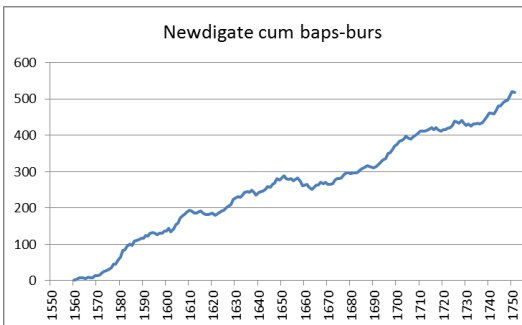
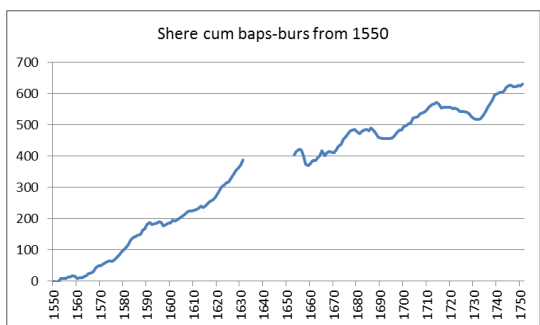
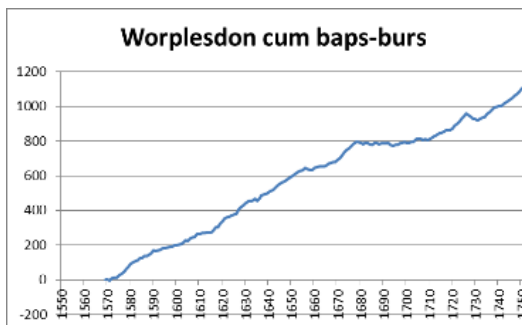
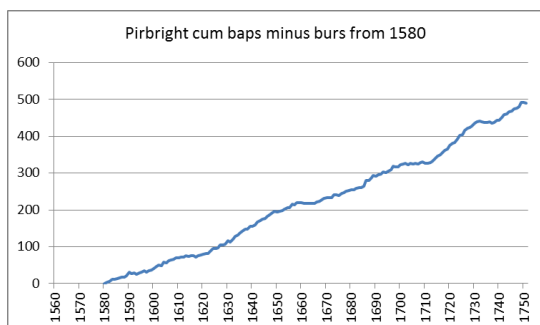
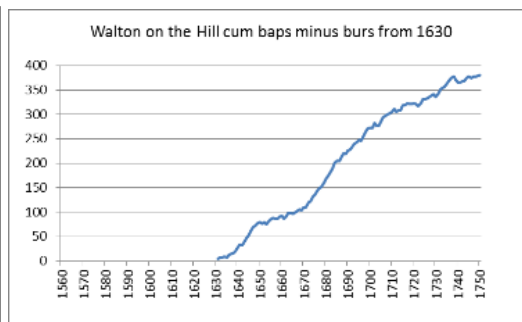
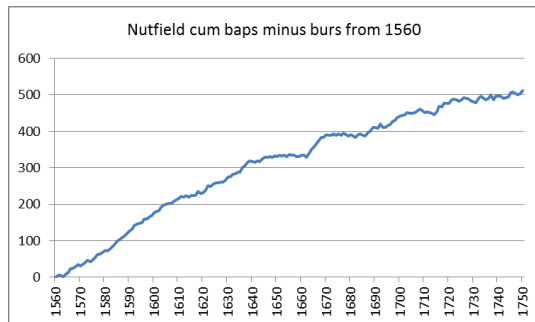
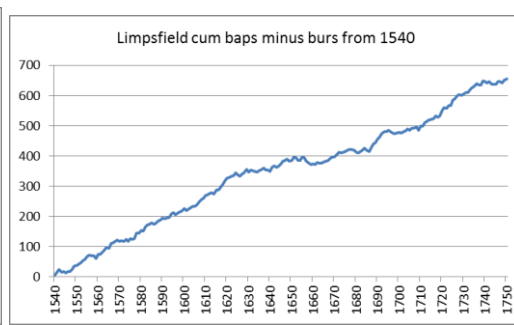
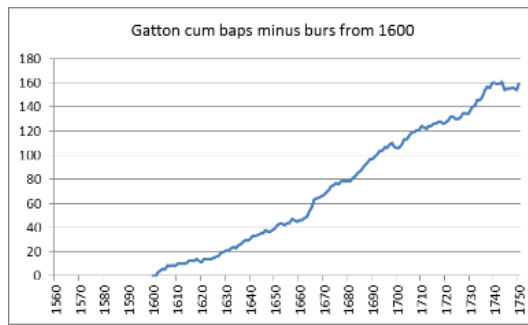


Figure 57 Parishes in baptism/burial comparison study

For each parish the numbers of baptisms and burials per year were combined, as described above, to show the net natural population change in the parish. When the graphs of the parishes were compared and the parishes positioned within Surrey, it emerged it was possible to group the parishes into three fairly distinct groups. Within each group there were more similarities than differences between parishes and between the groups there were more differences than similarities. Inevitably there are a few parishes whose categorisation is less absolute than the majority and these are noted below. The most common group of parishes, described as Type A, were geographically widespread, present across the county. The other two groups were located in fairly distinct geographical areas of Surrey suggesting the existence of particular influences in those areas. One group of parishes, described as Type B, were close to each other in the south-west of Surrey and the third group, described as Type C, were close to each other in the north-east.

'Type A' parishes

For a little over a half the rural parishes considered, the pattern was of a simple rise in net natural population throughout the period for which the baptisms and burials were available (Figure 58).



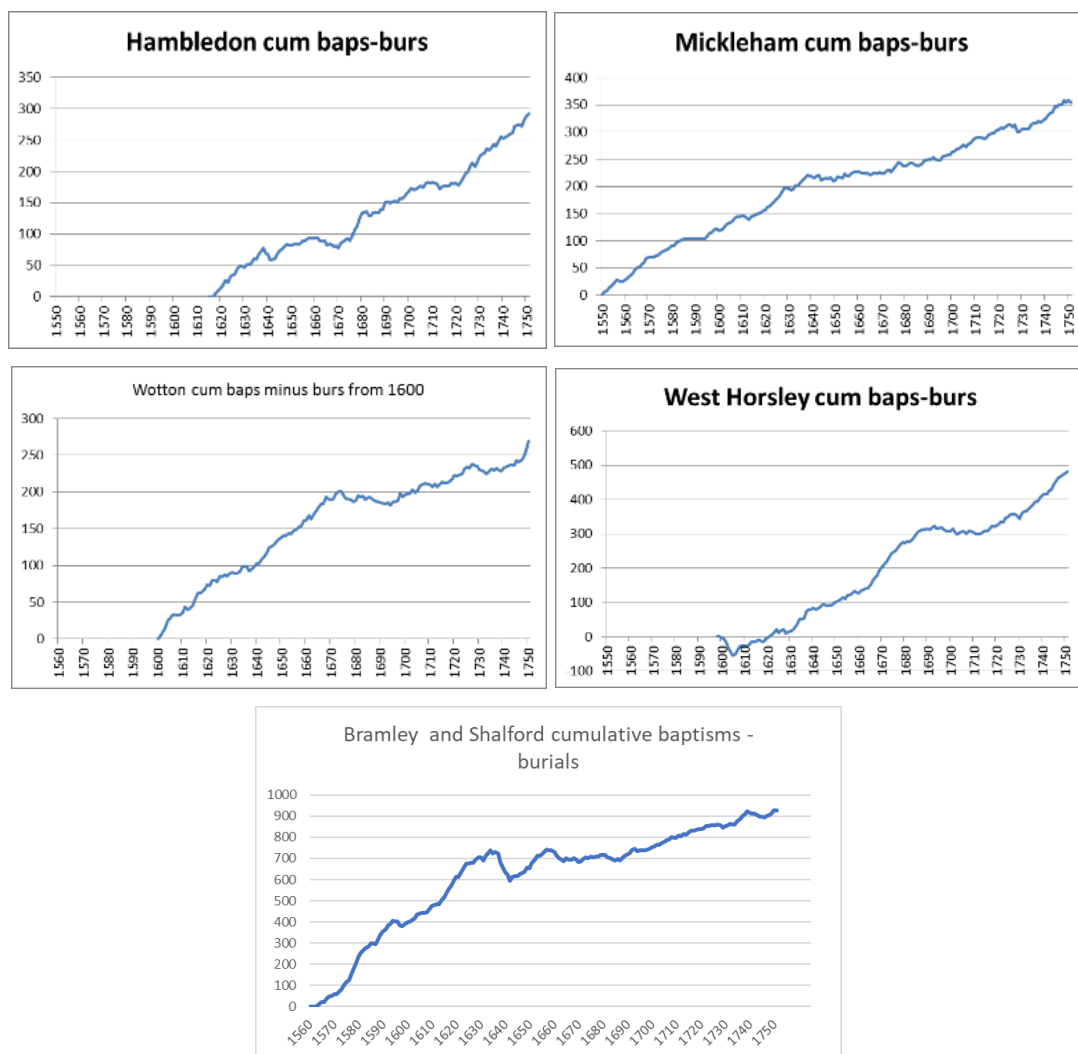


Figure 58 Type A Rural parishes (a): simple rising net natural population, start date 1600 or earlier

A couple of parishes (Woking and Witley)) had later start dates for their surviving parish registers, though the pattern displayed was similar (Figure 59).

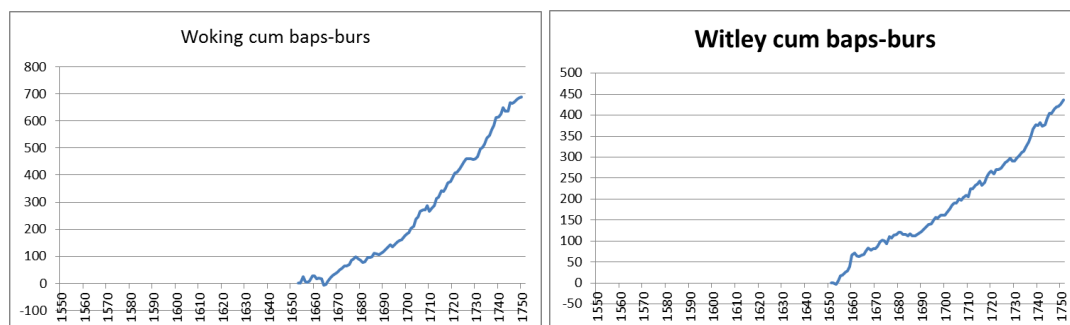


Figure 59 Type A Rural parishes (b): simple rising net natural population, start date 1650 or later

The records of a couple of parishes (Cobham and Cranley) show the same pattern but clearly disrupted by the paucity of surviving records for the period of the Civil Wars and Interregnum (Figure 60).

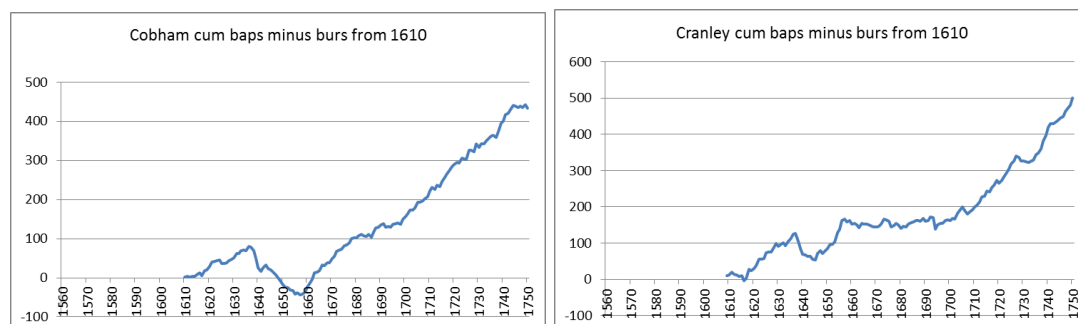


Figure 60 Type A Rural parishes (c): rising net natural population, but affected by disruption in mid-seventeenth century

A similar Type A pattern of baptisms and burials was present in several towns (Figure 61).

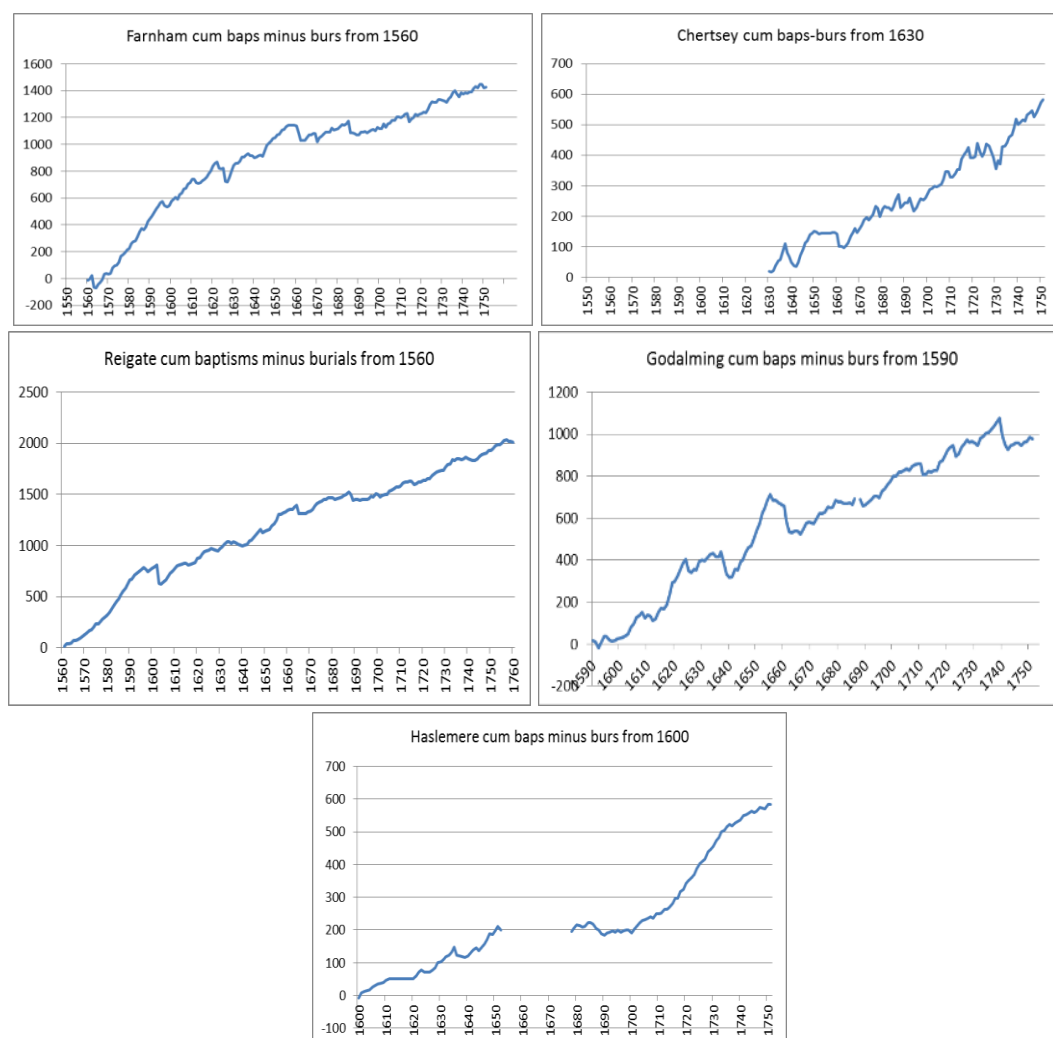


Figure 61 Type A Urban parishes: simple rising net natural population

The pattern observed in all these parishes, parishes which were from most parts of the county other than the north-east (Figure 62) is of a steady net natural population rise throughout the period. It suggests that in many of non-metropolitan Surrey's parishes there was a relatively stable relationship between baptisms and burials with a regular net surplus of baptisms, suggesting there was some net emigration from these parishes which limited their population rise. Moreover, the stability of these relationships suggests the existence of relatively stable economic conditions in these parishes.

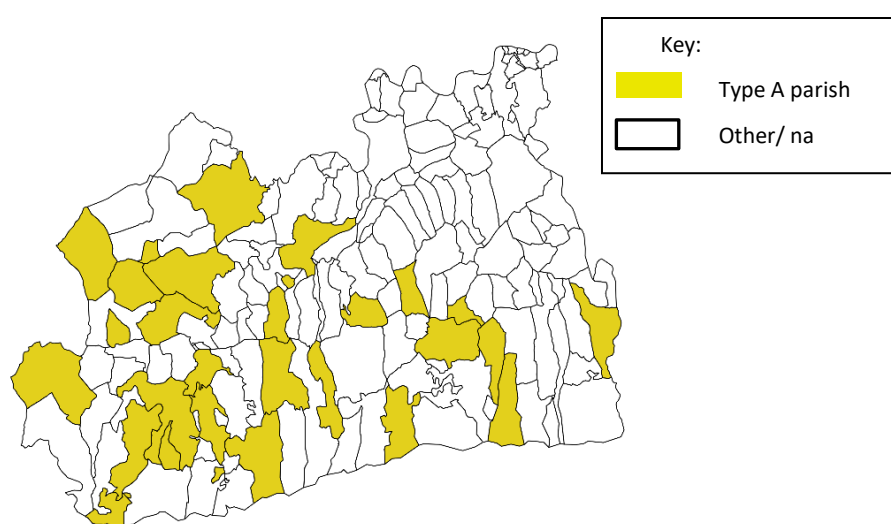


Figure 62 Type A pattern of net natural population change

Nationally, population over the period rose between the early sixteenth century and the mid seventeenth century, then plateaued until the early eighteenth century when it started to rise again. Reasons for the seventeenth century plateauing in the national population included the scale of death in the Civil Wars, emigration from the country, and the increasing imbalance in the ratio of men and women in large towns, especially London.²⁷⁸ It is clear, though, that this national plateauing did not occur everywhere as in many of non-metropolitan Surrey's parishes there was a surplus of births over

²⁷⁸ Smith, *The Emergence of a Nation State: the commonwealth of England 1529-1660*, p. 309; Wrigley and Schofield (eds.), *Population History of England* pp. 219-228; P. Clark and P. Slack (eds.), *English towns in transition 1500-1700* (London, 1976), pp. 87-8.

deaths throughout the period and there continued to be an increase in population as well as some net out-migration.

'Type B' parishes

The parishes discussed so far, those with a regularly rising net natural population suggesting relatively stable economies, formed the largest group of the parishes studied. Others had different characteristics, characteristics which suggest different patterns of population growth and economic change. One was a group of parishes which had a rising pattern of a net excess of baptisms over burials for part of the time but this was interrupted by a plateauing in the seventeenth century for a period when the number of baptisms and burials was similar. These are referred to as Type B. They were geographically clustered in the south-west of Surrey. It is suggested that the changing net natural population growth they experienced was linked to economic difficulties in the area in the seventeenth century, difficulties which are likely to have resulted in one or more of net out-migration, decline in fertility or increase in mortality.

Parishes showing this Type B pattern (Figure 63 and Figure 64) were concentrated in the south-west of the county between Guildford and Godalming. Hascombe is included here as, although its records do not extend sufficiently far back, it does plausibly show a similar plateauing from the early seventeenth century before rising in the early eighteenth century. The town of Dorking experienced a similar though smaller plateauing. In addition, some parishes in the area - Wotton, West Horsley and possibly Haslemere though the gaps in its records hinder the comparison - grouped above with the Type A pattern, also show some signs of a similar, though smaller plateauing. In some parishes in this group there is evidence of an actual fall in

population, for example Abinger and Ewhurst (Figure 65), though in Ewhurst the apparent fall may be due to differences between sources – population estimates based on burials alone suggest a slowly rising population. It is likely some of the other parishes identified in Chapter 4: Population as having populations which rose until the mid-seventeenth century and then declined had similar patterns of net natural population change. It is notable they are in the same part of the county as those identified here as Type B parishes.

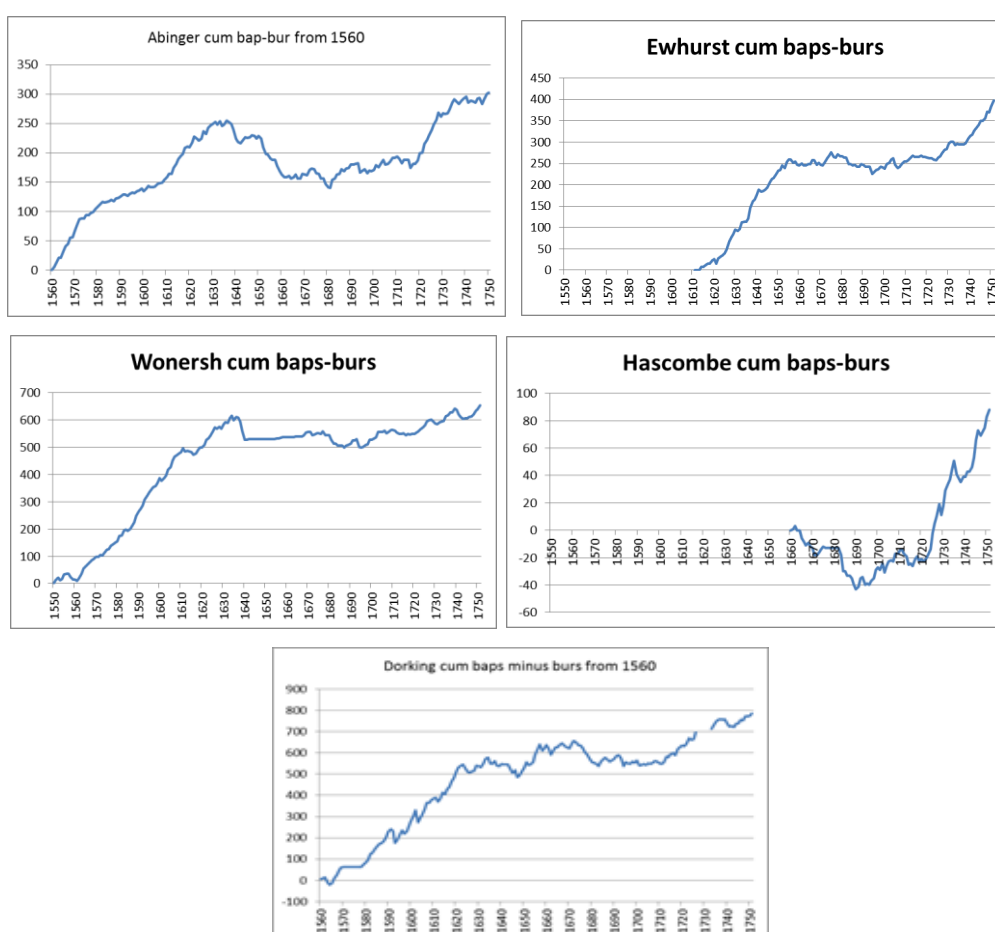


Figure 63 Type B parishes: net natural population rise then plateauing in seventeenth century

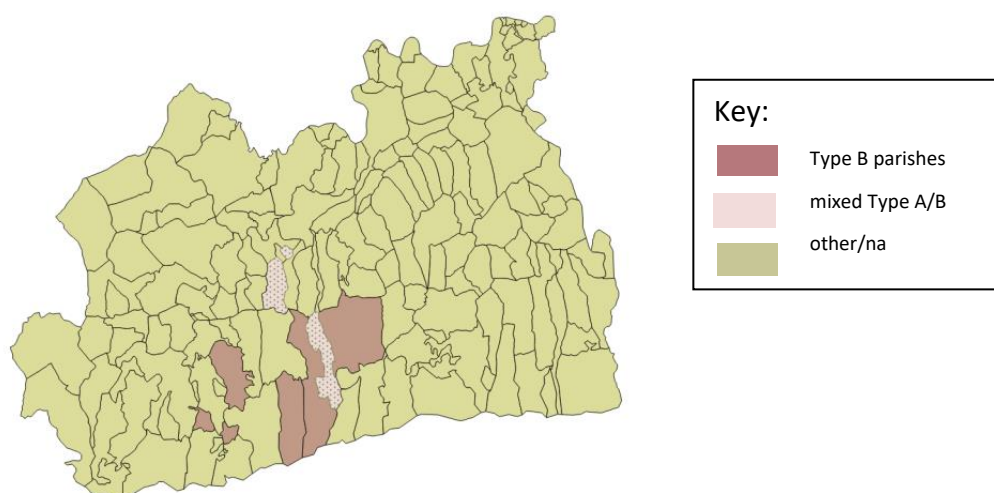


Figure 64 Type B parishes (Abinger, Ewhurst, Hascombe, Wonersh, Dorking) and Type A parishes with some similar features (Wotton, West Horsley)

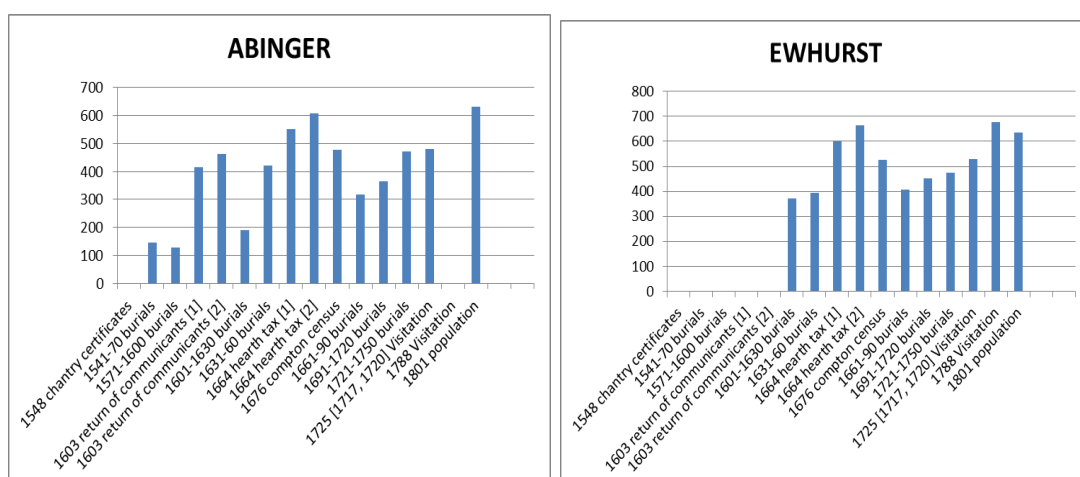


Figure 65 Populations of Abinger, Ewhurst

The geographical clustering of the Type B parishes is notable and it is plausible their similar demographic experiences were a result of the particular economic difficulties the area experienced. The cloth trade, an important part of the economy of the area, was in difficulties by the early seventeenth century as fashions for cloth moved away from the kersey the area produced to the New Draperies and in response to increased competition from elsewhere (see Chapter 3: Study Area). In Guildford a manufactory was established in 1629 by George Abbot, a local man and by this date effectively retired as Archbishop of Canterbury, to aid its out-of-work cloth weavers and a 1630

petition from Godalming asked for help for workers in the cloth trade suffering from decline in production.²⁷⁹ Defoe in the 1720s described the south-west of Surrey as having ‘a small reminder of an old manufacture, that is to say of the clothing trade’ and Wonersh, one of the parishes in this group of Type B parishes, was described by Aubrey in the late seventeenth century as having been ‘a village of great note for the Clothing Manufacture, but it has been in its waining condition above threescore years’.²⁸⁰ Also relevant may have been the decline in the far south of the county of its iron and glass workings by the late sixteenth century. An additional factor may have been that, as is discussed later (Chapter 8: Mortality) this area was one of those which suffered particularly in the late 1590s dearth crisis, with several parishes experiencing many more deaths than normal. The likelihood is that the area, already stressed by its experience in the 1590s dearth, was additionally vulnerable when difficulties in its cloth trade developed.

Guildford, at the north-west of this area and a centre of the cloth trade, had a unique pattern in terms of its cumulative baptism and burials (Figure 66). It shows some of the same features as the Type B parishes described above of an initial rising graph followed by a flattening in the mid-seventeenth century but its form diverges from the Type B pattern by the early eighteenth century, falling instead of rising. In Guildford baptisms were lower through much of the seventeenth century than they had been in the later sixteenth century and rose again in the early eighteenth century (Figure 67 (a)). Burials were increasing (Figure 67 (b)) though the numbers of burials was more unstable in the first half of the eighteenth century, even though at county level there

²⁷⁹ Abbot's Hospital *History*, < <https://www.abbotshospital.org/history/>>, accessed 11 Jan 2018; Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', p. 140.

²⁸⁰ Defoe, *Tour*, p. 158; Aubrey, *Natural History and Antiquities of Surrey*, Vol. 4, p. 97.

were fewer mortality crises by then (see Chapter 8: Mortality). Initially baptisms exceeded burials, but around 1650 they crossed over and burials exceeded baptisms (Figure 67(c)). As a result of these patterns, the cumulative difference in baptisms and burials had a convex curve shape, rising in the sixteenth century then plateauing in the seventeenth and falling in the early eighteenth century. Guildford's population seems to have risen over the period, though complexities due to doubt about exactly how much of the *de facto* town of Guildford is being included in each estimate adds some uncertainty to these estimates (Chapter 4: Population).

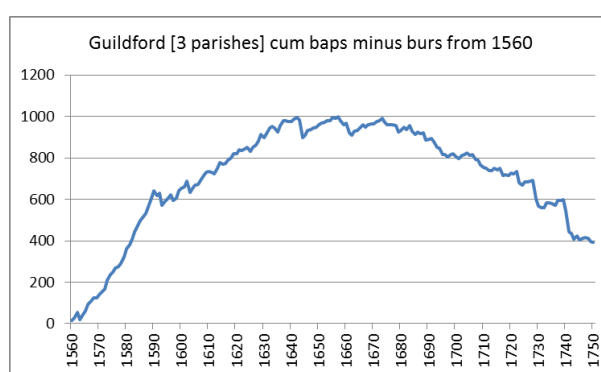


Figure 66 Guildford net natural population change

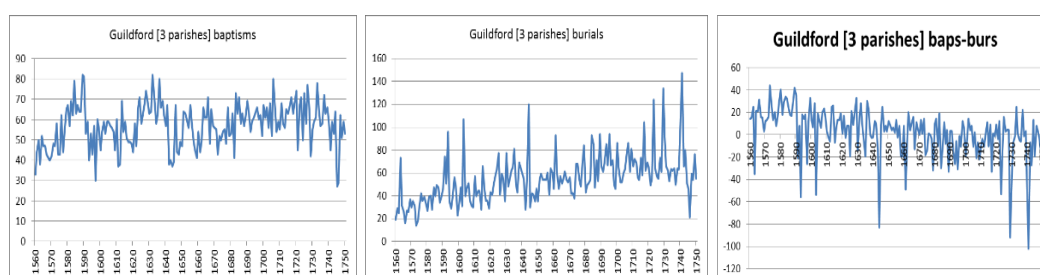


Figure 67 Guildford (a) baptisms, (b) burials and (c) net difference between baptisms and burials

It is possible to construct a range of hypothetical scenarios of changing numbers of baptisms and burials which could have resulted in such a pattern of net natural population change. For example, a scenario with burials rising consistently faster than baptisms throughout the period (Figure 68) and a scenario with marked changes in baptisms and burials over time including a period of stagnation (Figure 69) can

produce similar patterns of net natural population change. This emphasises the caution with which this approach should be viewed.

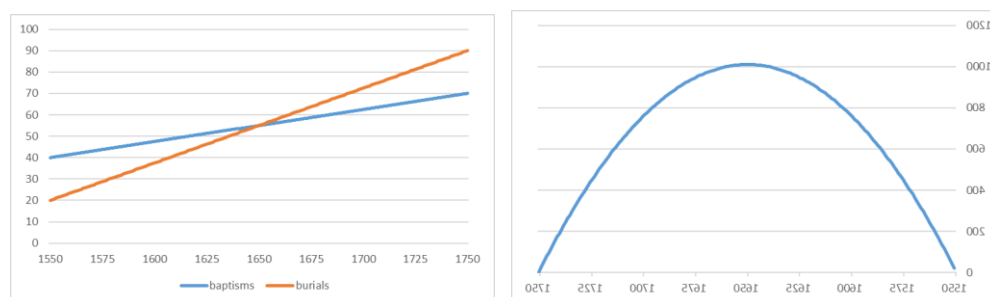


Figure 68 Scenario 1 (a) baptisms and burials (b) cumulative net natural population change

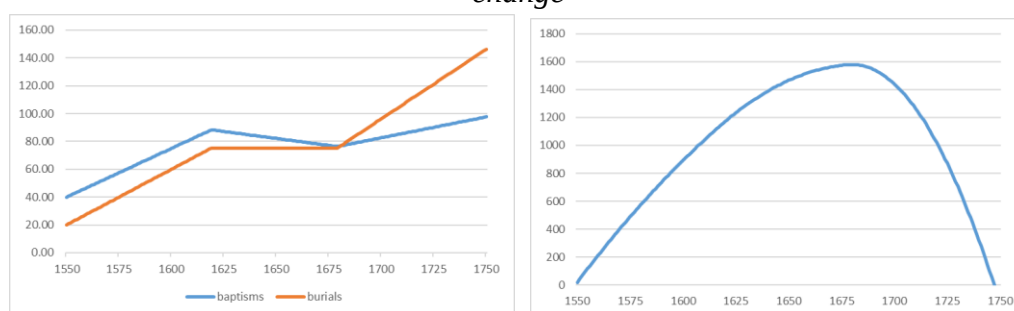


Figure 69 Scenario 2 (a) baptisms and burials (b) cumulative net natural population change

However, other insights can add to the interpretation of these net natural population changes and it is possible to suggest a plausible economic backdrop to the demographic changes in Guildford. It seems likely Guildford's demographic experience was related to its particular economic circumstances. More prosperous in the sixteenth century, Guildford experienced economic difficulties associated with changes in the cloth trade in the early seventeenth century. But its economy was boosted in the later seventeenth century by the building of the Wey Navigation between the Thames at Weybridge and Guildford and also by the growth in travel along the London to Portsmouth road for which Guildford provided a convenient place to break the two-day journey.²⁸¹ These economic changes link plausibly to the

²⁸¹ Jones, 'Bargemen of the Wey Navigation, 1650s to 1750s'; M. Alexander, *Guildford : a short history* (Godalming, 1986), p. 39.

changing relationships between baptisms and burials in Guildford. It is possible the changing balance of baptisms and burials in the early seventeenth century was an indicator of the economic troubles of Guildford people, some of whom were likely to have moved elsewhere in search of work so (since migrants were likely to be from the younger age groups) reducing the birth rate, or alternatively or additionally their nuptiality and hence fertility rate declined in response to their poorer economic prospects. Then in the later seventeenth century the Wey Navigation as well as increased trade from road travellers helped revive Guildford's economy, and in consequence nuptiality and fertility may have improved and more people may have been encouraged to move to the town, either permanently or temporarily. The greater instability which seems to have existed in the numbers of Guildford's burials by the early eighteenth century, a period when the major mortality crises of earlier centuries had largely disappeared, is plausibly consistent with a more mobile population, the numbers dying in its parishes being less closely related to the size of the resident population. Such a pattern of a mobile population being associated with an excess of deaths over births is also discussed below, in relation to Putney, a Thames-side parish.

Two other towns, Godalming and Farnham, were also involved in the cloth trade and were affected by its problems but both showed Type A rather than Type B patterns (see above, Figure 61) and it is possible to suggest why. Farnham became by the later seventeenth century heavily involved in the grain trade and the growing of hops while Godalming's trade moved to framework knitting (see Chapter 3: Study Area).²⁸² Their net natural population graphs suggest these towns, as a result of these changes, successfully supported their populations economically over the period.

²⁸² Crocker (ed.), *Surrey's Industrial Past*, p. 48.

However, there may have been other issues some Type B parishes faced. Dorking, a town on the fringes of the main cloth-making area but one not heavily involved itself, appears to have suffered economic stagnation too. Its levels of baptisms and of burials both appear to have been rising until the mid-seventeenth century and then to have plateaued (Figure 70). This is reflected in the cumulative net natural population growth graphs (Figure 71) and seems in line with the estimates of population (Chapter 4: Population) which suggest Dorking experienced a period of population stagnation in the seventeenth century (Figure 72). Brandon has suggested Dorking's markets declined in favour of Horsham which was better placed to collect produce from the Low Weald of Sussex and Surrey.²⁸³

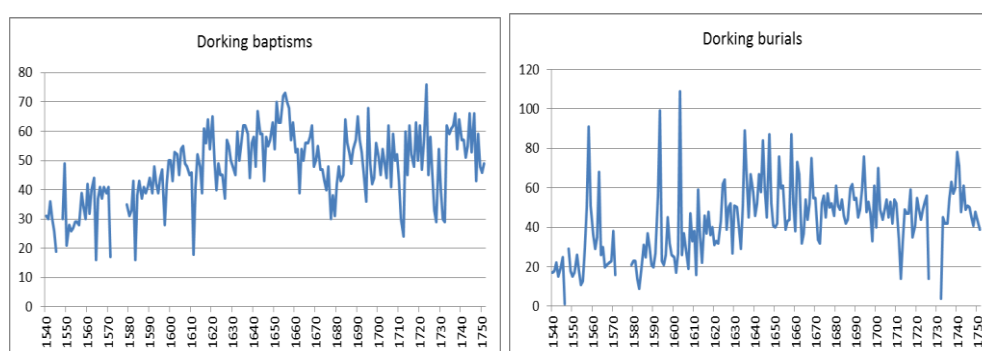


Figure 70 Dorking baptisms and burials 1550-1750

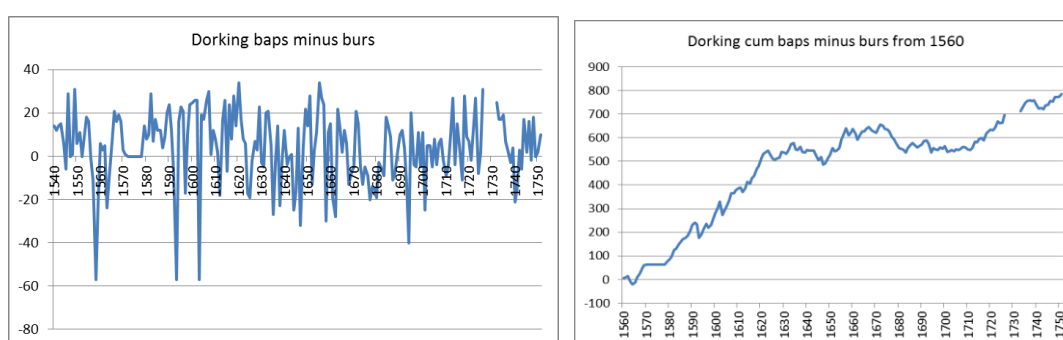


Figure 71 Dorking net baptisms minus burials and net natural population change 1550-1750

²⁸³ Brandon, *A History of Surrey*, p. 123.

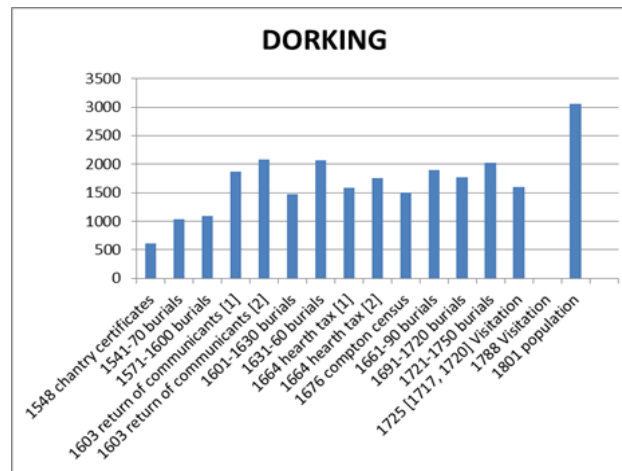


Figure 72 Dorking population change

'Type C' parishes

Finally, there was a group of parishes with a very different pattern of net natural population change. They were parishes which all experienced periods with strong falls in net natural population, that is periods with a substantial excess of deaths over births. These are referred to here as Type C parishes. The geographical grouping of these parishes is noteworthy - all were in the north-east of Surrey (Figure 73). It suggests parishes in this area had strongly different patterns of migration and economy from parishes elsewhere in Surrey. Looking at some details of these parishes suggests the processes involved differed somewhat between them, but, given their location and geographical nearness, it seems likely the proximity of London was highly influential and, as described above, the wealth of this part of the county.

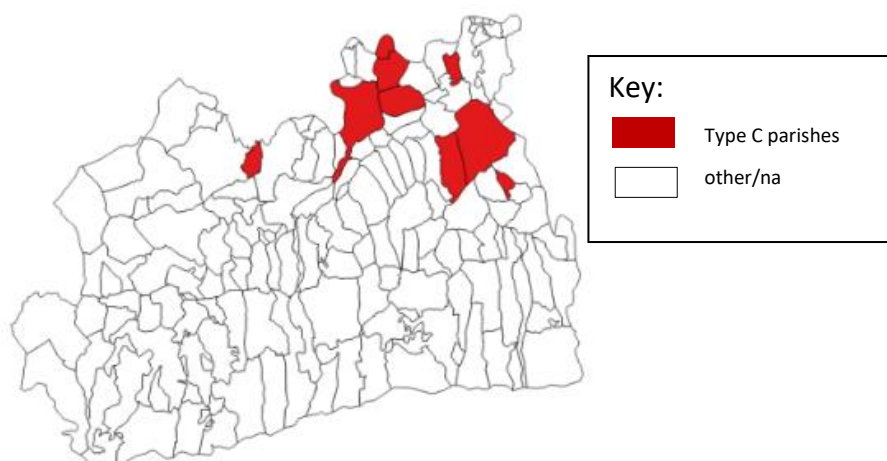


Figure 73 Type C parishes (Barnes, Clapham Putney, Croydon, Kingston, Beddington, Weybridge, Wimbledon)

In three parishes, Barnes, Clapham and Putney, the cumulative difference of baptisms and burials was often strongly negative (Figure 74). Throughout the period for which parish registers survive for these parishes there was at most an equality in the numbers of baptisms and burials and for much of the time an excess of burials over baptisms. During the same time, all three parishes had considerable increases in population (Figure 75). Given the risk of circularity of argument (burials feature in both these population estimates and in ‘net natural population’) it is reassuring that checking these population estimates against those from a non-demographic source, the 1664LD hearth tax, results in similar population numbers to those suggested by the burial records. They were also, again based on the 1664LD hearth tax, all quite wealthy parishes with relatively high numbers of large houses, (9-18 per cent with 10 plus hearths).

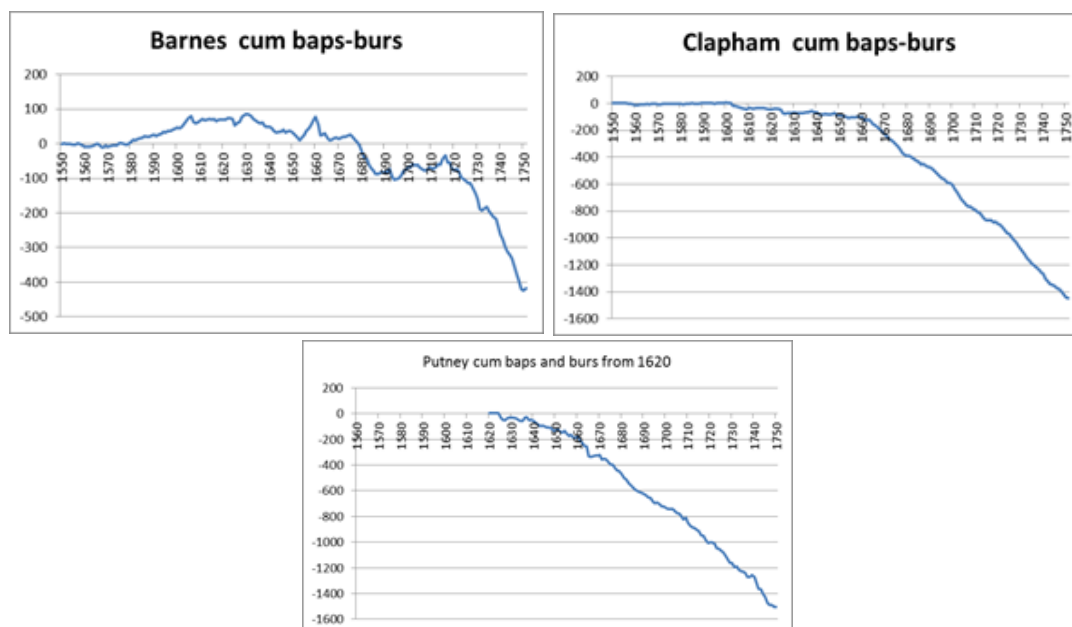


Figure 74 Net natural population change: Barnes, Clapham, Putney

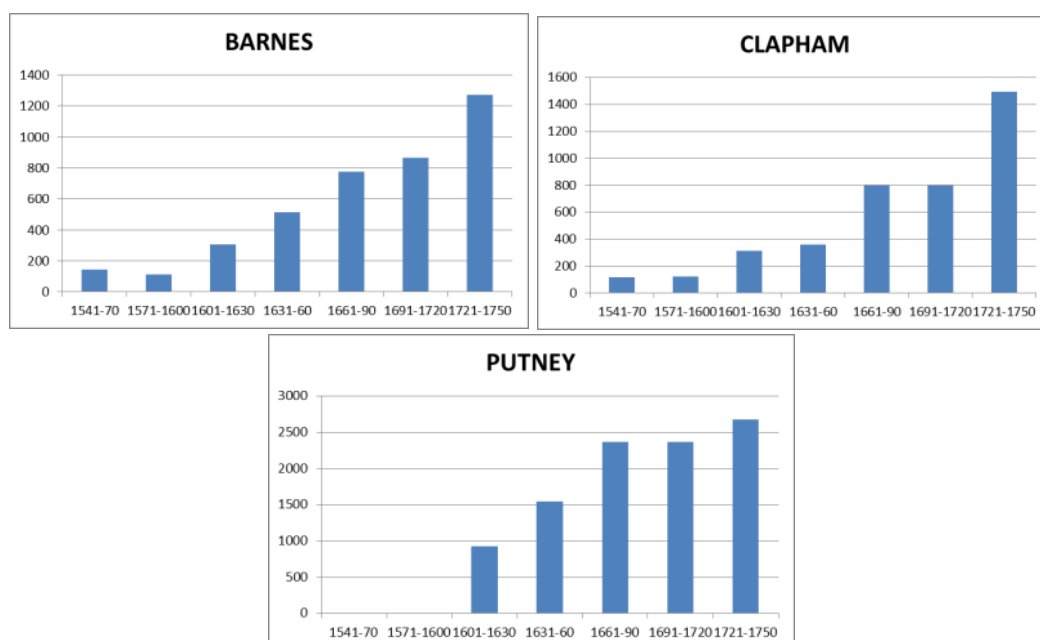


Figure 75 Population estimates: Barnes, Clapham, Putney (based on burials)

Given their patterns of baptisms and burials, it seems likely they were all parishes which experienced substantial net in-migration to sustain their population rise. In one, Putney, a detailed study makes it is possible to explore this, and its parish registers add further detail.²⁸⁴ Gerhold's study of Putney and Roehampton supports the idea

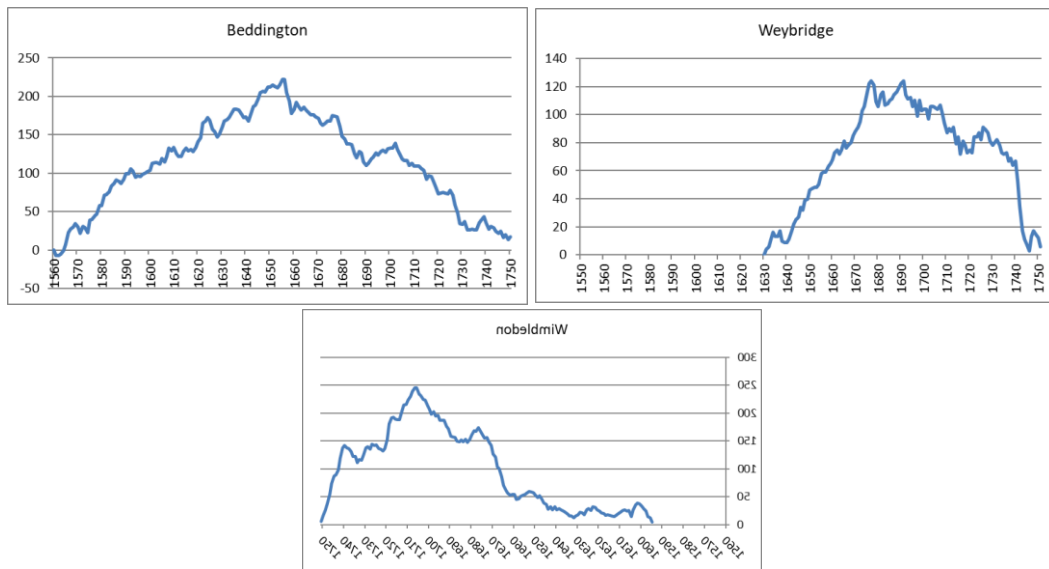
²⁸⁴ D. Gerhold, *Putney and Roehampton past* (London, 1994).

that it was the presence of numbers of outsiders in Putney that resulted in the excess of people dying in the parish compared to the numbers born, pointing to the cause being a mixture of migration and the parish's particular economic and social characteristics. Several Putney houses were used as summer houses by merchants and gentlemen, who generally had houses in the City or Westminster as well. As a result, the parish contained a high proportion of household servants, who were generally unmarried and might die in the parish but were much less likely to give birth in it: the burial registers for Putney record the burials of 105 people identified as servants between 1621 and 1741. The river was a major part of the parish's economy with 40 per cent earning their living from river transport.²⁸⁵ The parish had a high number of males compared to females in its burial registers: 1.12 males per female, considerably higher than the natural birth ratio of about 1.06 (for discussion of sex ratios in burial registers see Chapter 7: Migration) suggesting net inward migration of men, plausibly linked to the river trade. As well, in the Civil Wars period the movement of troops (cf. the Putney Debates) in the Putney area contributed temporarily to the excess in the numbers of deaths. In Barnes and Clapham, the influences are less clear and not necessarily the same as in Putney. In Barnes, also on the Thames, the parish burial registers around 1700 suggest, like Putney, a considerable number of people involved in river trade. Of 130 burials in the period 1690-1710, a period when the inclusion of occupations became relatively common (for more details see below in section on Occupations), watermen or bargemen (the occupation of the person buried, their father or husband) were associated with 27, or a fifth, of burials. But unlike in Putney, the sex ratio of burials was 1.01 males per female, below the natural birth ratio suggesting either net in-migration of women or net out-migration of men. In Clapham, closer to

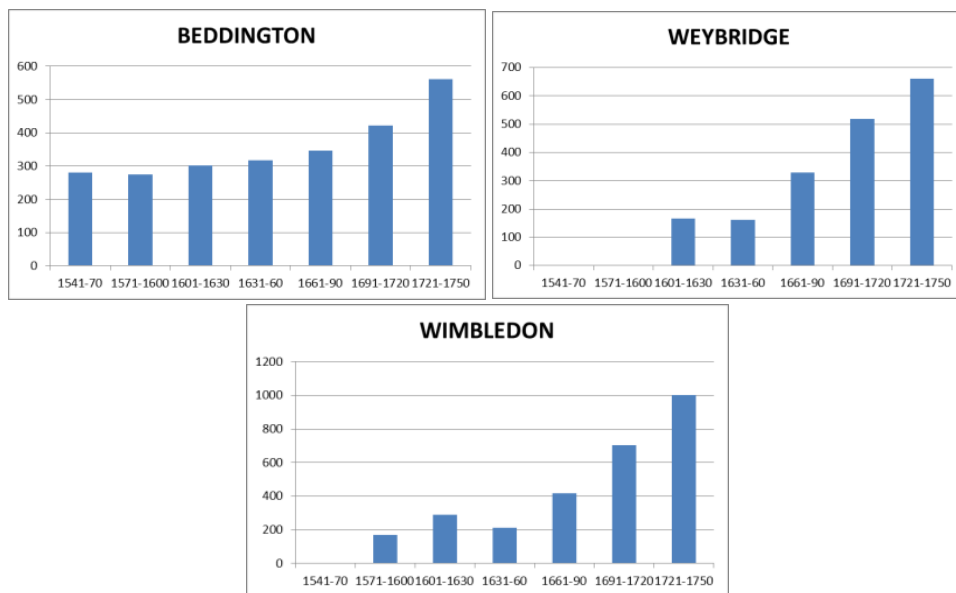
²⁸⁵ Ibid., p. 36.

London and a little inland from the Thames there were not river trades and the sex ratio at death was only modestly above the natural birth ratio at 1.08 implying only limited differences in the net migration of males and females.

In three other parishes, Beddington, Weybridge (on the Thames and site of Oatlands palace), and Wimbledon (Figure 76) the net natural population trend was increasing for part of the period and then reversed direction and fell for the remainder. They too were all in the north-east of Surrey but in different parts and they varied in characteristics such as their affluence and their sex ratios at death. The population estimates for all these parishes based on burials (and estimates based on other sources support this) did, though, show a substantial rise. As in the previous group, the implication is of a significant degree of net in-migration. The sharpness of the change from net natural population rise to its fall in these parishes does seem odd and raises the possibility of some change in recording practices in these parishes but none has so far been identified and the individual baptisms and burials records do look plausible, see for example those for Beddington (Figure 77).



(a) Net natural population change



(b) Population estimates²⁸⁶

Figure 76 Population change Beddington, Weybridge, Wimbledon

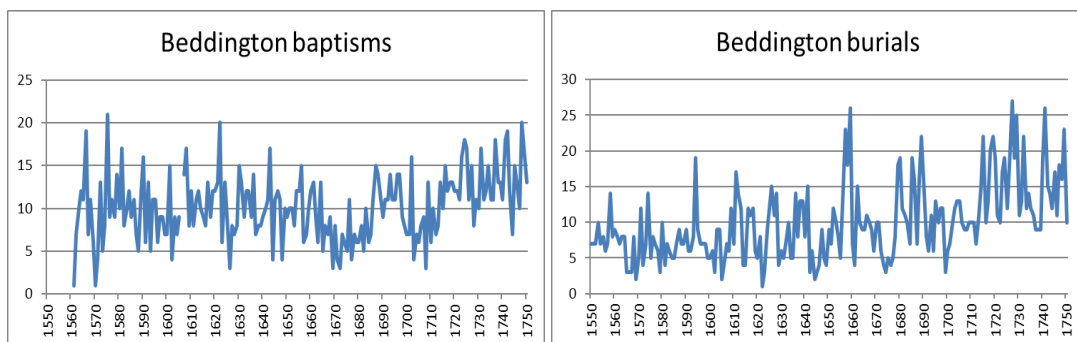


Figure 77 Baptisms and burials, Beddington

²⁸⁶ based on burials

The two towns closest to London, Croydon and Kingston, also had Type C patterns (Figure 78). In both there was a period with a modest increase in the net natural population but for much of the period burials exceeded baptisms, producing a fall in their net natural populations. In both parishes the population roughly doubled between 1601-30 and 1721-50 (Figure 79), figures again supported by estimates from non-demographic sources (see Chapter 4: Population). They had different characteristics from the other Type C parishes. Both were densely populated, Kingston parish more so than Croydon parish as a result of the parish of Croydon's greater rural areas. Both had high numbers of non-chargeable households, based on the 1664LD hearth tax, around 40 to 50 per cent, suggesting a concentration of poverty in the parishes (as, see below, in other towns). In both towns the implication of the net natural baptism:burial graphs is of considerable net in-migration but the nature of it may have differed between the two towns. In Kingston the ratio of males to females in its burial registers was 1.09, somewhat above the natural sex ratio level and, as in Putney, a likely explanation is the presence of men arriving in Kingston either temporarily or permanently as a result of its position on the Thames and its river trade. In parish burial registers in the period 1690-1710, 21 out of 254 with occupation given, or 8 per cent, were described as watermen or bargemen, the largest single occupational group apart from labourers, and others would have been involved in occupations associated with the river trade. In Croydon, south of London, the nature of its economic changes and hence of its migration appears to have been different. By the early eighteenth-century Croydon contained a considerable range of specialist trades (see below, section on towns). Defoe described Croydon as 'large and full of citizens from London, which makes it so populous'.²⁸⁷ The description suggests a significant level

²⁸⁷ Defoe, *Tour*, p. 166.

of in-migration and the presumption is it was these incomers who increased the population and also created the excess of deaths over births - some immigrants dying in the town, others leaving before marrying and having children.

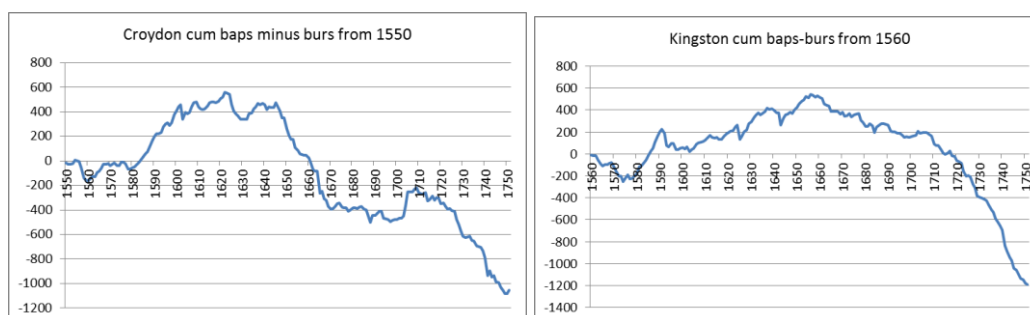


Figure 78 net natural population change Croydon, Kingston

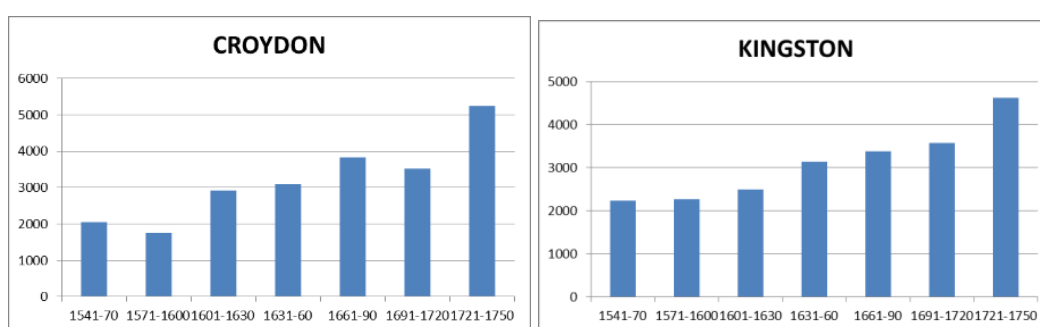


Figure 79 Population estimates: Croydon, Kingston (based on burials)

Type C parishes were thus less homogeneous than Type A or Type B ones. In some there were wealthy households; in some there were considerable numbers of poor people; in some the mobility of people engaged in the river trade may have contributed; in some the developing scale of their urban functions may have been a factor. But in all the strong implication is of substantial levels of net in-migration fuelling population growth. Such a pattern suggests these were economically vibrant areas attracting people in from elsewhere. The proximity of London seems almost certainly to have been a driving force for this economic change.

Concluding remarks – economic patterns

These broad findings, of many parishes with an excess of baptisms over burials for much of the early modern period but a minority with a deficit, is in line with some findings of others. Wrigley and Schofield observed

In aggregate the 404 parishes recorded a baptism/burial deficit in only two decades, the 1680s and 1720s, though in the 1550s, 1650s, 1660s, and 1670s the surplus of baptisms over burials were proportionately very low indeed ... In the decades from the 1560s to the 1780s there appears to have been a remarkably steady ‘background’ proportion of parishes recording baptism/burial deficits ... though the parishes were by no means the same in each decade.²⁸⁸

Others have made similar observations. In sixteenth century Wealden Kent, Zell found the net natural population increase (baptisms combined with burials) was in line with the national pattern. But there was not always a matching population rise, suggesting net emigration.²⁸⁹ Clark’s study of towns found smaller towns often had more baptisms than burials, suggesting the population was sustaining itself without net in-migration and perhaps growing. For example, in Barnstable in the century after 1540 baptisms exceeded burials by 2,500, and the population grew from about 2,000 to 4,000. But this was not the case in all such towns. In Maldon in Essex, for example, burials exceeded baptisms over a period of time and net in-migration is needed to explain its continuing growth.²⁹⁰

This approach of looking at baptisms and burials has undoubted limitations. The findings are open to a range of interpretations, they provide only a limited glimpse into people’s lives and they can be only a start to a fuller understanding of an area’s

²⁸⁸ Wrigley and Schofield (eds.), *Population History of England*, pp. 164-5.

²⁸⁹ Zell, *Industry in the countryside*, pp. 60-1.

²⁹⁰ Clark and Slack (eds.), *English towns in transition 1500-1700*, pp. 85-6.

economic experiences. It is not an approach which makes it possible to determine causalities, only to suggest possibilities.

Despite this, it is an approach which seems to have potential to highlight broad economic trends. It points to some interesting and plausible demographic patterns and their economic drivers. It suggests three broad types of experience. In much of non-metropolitan Surrey the evidence is of an increase in the net natural population throughout the period from the mid-sixteenth to the mid-eighteenth century but also of net out-migration from these parishes which limited their actual population rise. Such parishes would seem to have been economically fairly stable. Near the Thames and London there appears to have been greater movement of people and probably net in-migration contributing to population rise. These places were plausibly economically healthy, bringing people into the area. In contrast in the south-west of Surrey there was an area which may have experienced a period of stagnating populations driven in particular by economic difficulties associated with the decline in the cloth trade in the area. Here there was plausibly one or more of net out-migration, reduced nuptiality resulting in lower fertility or increased mortality resulting from its economic difficulties.

Two further aspects of non-metropolitan Surrey's economy are considered in the remainder of this chapter – its occupations and its towns. Its main economic activity, agriculture, is considered in the following chapter.

Occupations

This section considers occupations in non-metropolitan Surrey. While probate records are often used to explore occupational structures, it is well recognised they are socially and economically biased. In Surrey, the difficulty of their use is

compounded by their relatively poor survival. This section considers instead the evidence available from considering the broader view available from occupations recorded in parish registers around 1700. Two aspects of its occupational structure are considered, the extent of labouring as an occupation and the scale of its industrial workforce.

The 1695 Marriage Duty Act in force until 1706 imposed taxation on births, marriages and burials, and annual payments by bachelors aged over 25 and childless widowers.²⁹¹ Its records for Surrey do not survive but the Act seems to have resulted in some parishes including in their registers the occupation or status of those, or their father or husband, buried in the parish and of the father of those baptised. Not all parishes did so and some for only a short period of time. A further problem is that those registers as do record occupations or status do not do so for everyone recorded and it is unclear what the basis was for this. Nevertheless, such registers provide socio-economically broader evidence of occupations than most sources and so are worthy of consideration.

The burial records of thirty three parishes were considered, chosen because at least a quarter of the burials recorded between 1690 and 1710 contained a description of occupation or, in a couple of parishes, the proportion was somewhat lower but the absolute numbers were above average for a parish.²⁹² All burial records were considered, both those of someone whose occupation or status was given and those

²⁹¹ Wrigley and Schofield (eds.), *Population History of England*, p. 28; Arkell, 'An examination of the Poll taxes of the later seventeenth century, the Marriage Duty Act and Gregory King', pp. 163-6, 180.

²⁹² Parishes were: Albury, Alford, Bramley, Carshalton, Chiddingfold, Cobham, Cranleigh, Dorking, East Clandon, East Horsley, East Molesey, Egham, Elstead, Farnham, Hascombe, Haslemere, Kingston, Newdigate, Ockham, Putney, Pyrford, Send and Ripley, Shalford, Shere, Stoke next Guildford, Thorpe, Walton on Thames, West Clandon, West Horsley, Weybridge, Wimbledon, Witley, Woking.

who were the wife or child of a person whose occupation was given. There is likely to have been some bias towards older people but this is to some extent balanced by the deaths of wives and children. Inevitably there will be some double-counting. If a bargeman had three children die between 1695 and 1705 then all three would count towards the total of bargemen. Where it was straightforward to omit multiple deaths from the same family which occurred in quick succession this was done. For example, the not uncommon events of the death of a new-born baby and its mother were recorded as a single occurrence of the father's occupation. But the process was not applied rigorously for deaths which were not immediately obviously from the same family as it was felt that, while this had a modest distorting effect on the total number of people considered, it was a distortion which was likely to have been similar for all occupations and hence would not have introduced serious bias into the findings.

Overall there were about 2,900 people in the burial registers examined for whom an occupation was recorded (that is their own occupation, their husband's or their father's), about a third of the burials recorded in the parishes considered (Table 3, column 1). Those with status as opposed to occupation descriptions, such as gentleman or widow were not included in this total. There were over a hundred different occupations recorded of which by far the largest group were those described as labourers or day labourers, about a third of the total. There were similar numbers of these in both the rural parishes and the urban parishes. The description 'labourer' is rather vague. It suggests a non-landowning and wage-earning person but provides no information as to the type of work they were employed in. Keibek identified at a national level that by the early nineteenth century most of those described as labourer, 84 per cent, were engaged in agriculture and the remainder in construction of various types, in low skilled manufacturing activities and a small number in transport. He also

noted that, although described as labourer in their burial record, some might have had a more specific description in their lifetimes.²⁹³ The next most numerous were those engaged in agriculture - yeomen (or farmers) and husbandmen - who between them made up about another quarter of the occupations. Only a couple of dozen occupations each constituted more than one per cent of the occupations of the people recorded, mostly trades which provided services to the agricultural or construction trades or to households or individuals, such as carpenter, wheelwright, blacksmith, innkeeper, tailor, shoemaker, miller or butcher.

As a comparison, occupational information contained in Surrey probate records (inventories) was also considered (Table 3, column 2). It is limited in terms of the age and sex distribution of the people they provide information on: those recorded are likely to have been older (Wallis et al., for example, found that the average age of willmakers was 53), financially better off, and male.²⁹⁴ Because of the accidents of survival, the great majority were taken in the Consistory and Commissary courts of the Diocese of Winchester and in the Prerogative Court of the Province of Canterbury (see Chapter 2: Sources and Methods for more details).²⁹⁵ The inventories confirm the importance of agriculture to Surrey's inhabitants, about half relating to yeomen or farmers and nearly another third to husbandmen. The striking difference, reflecting the types of people who made wills, is the difference in the numbers recorded as

²⁹³ S. A. J. Keibek (2017), 'Allocating labourers to occupational (sub-) sectors using regression techniques' WP 27 (unpublished, Cambridge working papers in economic and social history) , p. 17; S. Keibek and L. Shaw-Taylor, 'Early Modern Rural By-employments: a re-examination of the probate inventory evidence', *Agricultural History Review*, 61 (2013), pp. 266-7.

²⁹⁴ Wallis, Colson, and Chilosi, 'Structural Change and Economic Growth in the British Economy before the Industrial Revolution, 1500-1800' (2018), p. 868.

²⁹⁵ see Holman and Herridge (eds.), *Index of Surrey Probate Inventories: 16th-19th centuries* for list of surviving probate inventories and their locations.

labourers: two per cent of inventories were of labourers but about a third of burials c. 1700.

Occupations of men in non-metropolitan Surrey (percentages in various categories)	Burial registers 1690- 1710	Inventories 1550-1750
Labourer/day labourer	30	2
Yeoman/farmer	18	47
Husbandman	6	30
Waterman (largely from riverside parishes especially Putney; 2% excluding Putney)	4 (2)	2
Servant	3	1
Shoemaker /cobbler/ cordwainer	4	1
Blacksmith/smith	3	2
Tailor	3	2
Carpenter	2	2
Victualler /innkeeper/ innholder	2	4
Butcher	2	1
Gardener	2	2

*Table 3 Main occupations in non-metropolitan Surrey (burial records c. 1700 and inventories)*²⁹⁶

Such figures are broadly in line with those found elsewhere. In a national sample of 2,902 inventories from 1675-1725 from various parts of England only 26 (one per cent) were described as labourer or servant and in inventories from parishes in Cheshire 1690-1730, two per cent were labourers.²⁹⁷ The numbers of labourers recorded in the same Cheshire's parish registers over the same period was substantially more, 16 per cent.²⁹⁸ Nationally, it has been estimated that in the 1520s around 20 to 25 per cent of all adult males in southern England may have been labourers while a national quasi-census for c. 1813 based on baptism records found thirty per cent were described as labourers.²⁹⁹ Exploring the scale of agrarian

²⁹⁶ occupations with at least 2% in burial registers. Any disaggregation by area would be hindered by geographical differences in the survival of inventories and in parishes' varying approaches to the recording of occupations.

²⁹⁷ L. Weatherill, *Consumer behaviour and material culture in Britain 1660-1760* (London, 1988), pp. 2-3, 212; Keibek and Shaw-Taylor, 'Early Modern Rural By-employments: a re-examination of the probate inventory evidence' (2013), p. 260.

²⁹⁸ Keibek and Shaw-Taylor, 'Early Modern Rural By-employments: a re-examination of the probate inventory evidence' (2013), p. 260.

²⁹⁹ Overton, *Agricultural Revolution*, p. 41; Keibek, 'Allocating labourers to occupational (sub-) sectors using regression techniques', p. 3.

capitalism (in which there was ‘a tripartite social structure in which most of the land was owned by large landowners, rented to large-scale tenant capitalist farmers, and worked by agricultural proletarians’) Shaw-Taylor suggested that by around 1700 the ratio of farmers to labourers and servants in southern England was around 2.5, concluding that agrarian capitalism was ‘dominant in southern and eastern England by 1700’, earlier than in northern England where family farms remained important (the proportion of farm workers to farmers in northern England was around 0.8).³⁰⁰ At first sight the figures from this study of around 1.25 labourers per farmer would suggest non-metropolitan Surrey contained less capitalist farming at that time and a greater extent of family farms than the average for southern England. However, contributing to the observed relatively low proportion of labourers to farmer would have been the scale of pastoral farming in Surrey (which required fewer workers than arable farming) and more detailed analysis would be needed to confirm or refute this possibility.

A perspective on some non-agricultural occupations is available from a consideration of the numerous mills based on the Tillingbourne river, as outlined in Chapter 3: Study Area. Getting a sense of how many people were employed in its mills is not easy, information on the mills being mainly from elite sources such as maps, Acts of Parliament, gentry records or from the physical evidence of surviving structures. Only a few wills identify occupations which indicate involvement in one or other industrial activity. They include Nicholas Gonat of Albury whose will in 1623 described him as a forgerman, as did that of Charles Mihell of Abinger in 1676.³⁰¹ Also in Abinger,

³⁰⁰ L. Shaw-Taylor, 'The rise of agrarian capitalism and the decline of family farming in England', *The Economic History Review*, 65 (2012), pp. 26, 53, 56-7.

³⁰¹ Webb, *Surrey Wills 1559, 1595-1649*; Surrey Will abstracts.

Nicholas De Laussac was described as an ironmaster in his will of 1735.³⁰² The area attracted some people from elsewhere, such as the burial recorded in Abinger in 1600 of 'Willam a stranger which did work att the Hamer Mill'.

The numbers of workers per industrial site may not have been large. Jervis, writing on land use and rural life in south-west Surrey before 1700, commented:

it is probable that in the villages industry never bulked very largely as an alternative occupation to agriculture. At the ironworks, for example, one forge apparently occupied only three or four men. The equipment of the Thursley Heath ironworks included houses for workmen, who presumably lived on the spot and not in the local agricultural villages.³⁰³

Chalklin in his study of Kent reported the Southfrith furnace and forge had seven cottages for workmen and there were only two small houses for workmen at Postern forge, both near Tonbridge.³⁰⁴

Riverside mills too may have employed only modest numbers of workers. The burial registers of two parishes around the Tillingbourne river and its many mills recorded occupations for a period around 1700. In Albury between 1700 and 1706, 38 burials (out of a total of 61 burials) included the occupation, and of these close to a half, 18, were described as 'labourer' or 'day labourer'. In Shalford 22 were described as 'labourer' or 'day labourer' out of 54 with occupations (in a total of 91 burials in the years 1702 to 1710), a little under a half. The proportion of labourers in these two parishes was at the upper end of what was observed elsewhere in Surrey. While the

³⁰² PCC PROB 11/669/173. I am grateful to Patrick Wallis for assistance in identifying this will.

³⁰³ Jervis, 'Land Use and Rural Life in South-west Surrey: a survey of the human and historical geography of the Rural Districts of Guildford and Hambledon', pp. 55-6. Brandon, *A History of Surrey* p. 65 notes the development of several mill hamlets in rural Surrey in the sixteenth and seventeenth centuries.

³⁰⁴ C. W. Chalklin, *Seventeenth-century Kent : a social and economic history* (London], 1965), p. 134.

term labourer is not sufficiently precise as to be sure about their occupation it seems plausible some labourers in these parishes worked in the river-based industries of the Tillingbourne rather than being agricultural workers. If so, that they were described as labourers and not as having a more specifically defined industrial occupation suggests the possibility that their numbers were not sufficiently large as to make them identifiable to their contemporaries as a distinctive group. This lack in Surrey of significant numbers of male workers given specific industrial descriptors differs for example from the coalminers in Whickham in the North-east of England where occupations tabulated by Levine and Wrightson for Whickham householders in about 1750 included about one in five with occupational descriptions which related to coal production as were about a quarter of nearby fellside men.³⁰⁵ It possibly suggests that, although Surrey's industries contributed to its economy, they were of comparatively modest extent and influence, not seen by contemporaries as markedly different from other occupations.

Concluding remarks - occupations

This is the first county-wide studies of occupations in non-metropolitan Surrey to take a quantitative approach. It compares evidence from probate records, a socially and economically biased source, with the evidence of occupations recorded in parish registers around 1700, highlighting the considerable difference in the numbers recorded as labourers in the two sources: two per cent of probate inventories were of labourers but about a third of burials c. 1700, re-emphasising the differences other studies have observed at a national level. The lack of industrial descriptions of people in non-metropolitan Surrey as well as the comparatively modest numbers others have

³⁰⁵ D. Levine and K. Wrightson, *The Making of an Industrial Society: Whickham, 1560-1765* (Oxford, 1991), p. 220.

suggested as needed to man a mill suggests the possibility that industry had only a modest influence on the overall workforce of non-metropolitan Surrey.

Towns

Introduction

The final section of this chapter is concerned with the area's towns. They formed a pivotal part of the economy of an area such as non-metropolitan Surrey, their economies both linked with but also differing from those of the rural areas in which they lay. Clark and Slack pointed to the role of towns as political, religious, judicial, economic, social and cultural centres, describing them as 'the essential cogs in the machinery of rural society, providing organisation, articulation, and diversity'.³⁰⁶ Everitt wrote that the English market town in the sixteenth century 'was still, and was destined to remain, the normal place of sale and purchase for the great majority of country people'.³⁰⁷ The economic and social functions of towns changed over the period. Urban growth was greater in the eighteenth century than the seventeenth.³⁰⁸ Some developed a new economic role and others experienced a reduction in their importance. The changing roles of towns included the provision of specialist services, especially medical and legal, the growth in victualling and hostelry whose business also involved their back parlours serving 'as informal markets where contracts were exchanged and goods stored' and the growing attraction of towns as social centres.³⁰⁹

³⁰⁶ Clark and Slack (eds.), *English towns in transition 1500-1700*, p. 1.

³⁰⁷ A. Everitt, 'The market towns', in P. Clark (ed.), *The early Modern Town: a Reader* (London, 1976), p. 168.

³⁰⁸ Wrigley, 'Urban Growth' (2014), p. 83.

³⁰⁹ P. Clark and P. Slack, 'Introduction', in P. Clark and P. Slack (eds.), *Crisis and order in English towns, 1500-1700 : essays in urban history* (London, 1972), pp. 10-5.

Surrey's towns

By the early modern period there were around a dozen towns in Surrey though the exact number depends on the criteria used, affected by whether decayed medieval towns are included or whether places which developed as resort towns in the eighteenth century are included (Table 4, see also Chapter 3: Study Area).

Agrarian History 1500-1640	Brandon <i>History of Surrey</i>	Surrey Arch. Soc. <i>Historic Towns of Surrey</i>	Notes
-	-	Bletchingley	medieval town, decayed by 16 th C
Chertsey	-	Chertsey	post-Dissolution expansion, market charter re-granted 1599
Croydon	Croydon	na (study looked at modern county only)	
Dorking	Dorking	Dorking	in decline by 18 th C
-	Epsom (18 th C)	-	grew in 17 th -18 th C
Farnham	Farnham	Farnham	
Godalming	Godalming	Godalming	
Guildford	Guildford	Guildford	
Haslemere	Haslemere	Haslemere	decayed by 16 th C
Kingston upon Thames	Kingston upon Thames	na (study looked at modern county only)	
-	Leatherhead	Leatherhead	medieval town, market ceased in 16 th C
Reigate	Reigate	Reigate	
-	Richmond-upon-Thames (18 th C)	-	grew in 18 th C

Table 4 Non-metropolitan Surrey's early modern towns³¹⁰

³¹⁰ Thirsk et al. (eds.), *The Agrarian History of England and Wales* Vol. IV, p. 475; Brandon, *A History of Surrey*, pp 122-31; M. O'Connell, *Historic Towns in Surrey* (Guildford, 1977); Schofield, 'What Did London Do for Us? London and Towns in its Region, 1450-1700', p. 191-2.

From one perspective, early modern Surrey was comparatively lightly urbanised as, with an average market area of 45-55 thousand acres per town (70- 86 square miles), it had a lower density of towns than most of southern England.³¹¹ But this average was affected by the extensive areas of heaths in Surrey, and the proportion of Surrey's non-metropolitan population living in towns was about a quarter (Table 5). This was less than the average for three of the Home Counties, Sussex, Kent and (the whole of) Surrey which the calculations of Brandon and Short using the 1676 Compton Census suggested had about 41 percent of their populations living in towns: the specific proportions varied between 17 per cent in Sussex to 94 per cent in 'Thames-side Surrey' (the deanery of Southwark).³¹² Such proportions were higher than the average across England. Clark and Slack estimated that towards the end of the seventeenth century the six to seven hundred or so English towns contained roughly 20 per cent of the country's population if towns with less than 200 households (about a thousand inhabitants) are excluded or around 25 per cent if they are included. But of these large and increasing numbers lived in London. By 1700 it contained over half a million people, a tenth of the country's population, suggesting around 10 to 15 per cent of the population lived in towns other than London.³¹³

Figure 80 shows the locations of Surrey's towns. Allowing for the areas of barren heathland in Surrey their distribution was broadly in line with the calculation by Wrigley that the needs of towns of population of 10,000 for bread grain and fuel could

³¹¹ Thirsk et al. (eds.), *The Agrarian History of England and Wales* Vol. IV, p. 497.

³¹² Brandon and Short, *The South East from AD 1000*, pp. 195-6. Where a parish was focussed around a substantial town which also contained rural areas two-thirds of that parish's population was categorised as urban and the rest as rural.

³¹³ Clark and Slack (eds.), *English towns in transition 1500-1700*, pp. 8, 11, 83.

be provided from a hinterland of about 55-65 square miles, meaning someone could walk to their nearest town in a day and return in daylight.³¹⁴

	Population returned (16+ years only)	Estimated urban population (16+ years only)	% urban (based on 16+ years only)
Rural Surrey (deaneries of Ewell and Stoke)	34,216	7,870	23%
deanery of Southwark	50,373	47,133	94%

*Table 5 Urban population of Surrey, based on Compton Census*³¹⁵

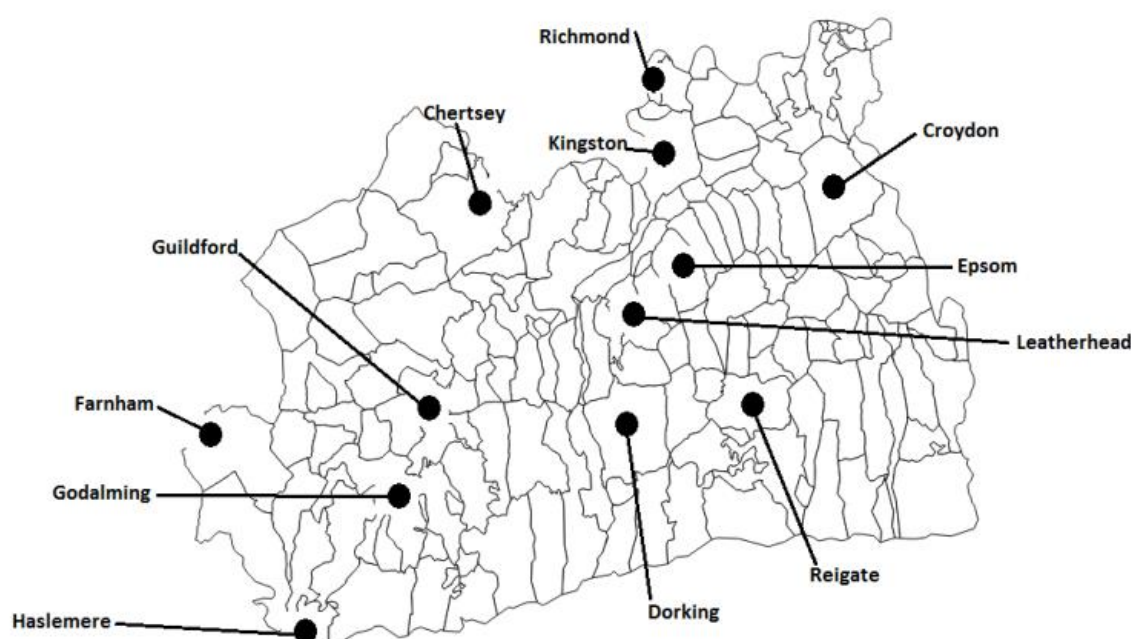


Figure 80 Non-metropolitan Surrey towns

Population

Brandon and Short suggested that urban populations in the region generally increased over time, though not in all towns.³¹⁶ The discussion of the populations of Surrey's in

³¹⁴ Wrigley, 'Urban Growth' (2014), p. 98.

³¹⁵ Brandon and Short, *The South East from AD 1000*, p. 195; Brandon and Short assumed that where a parish contained a town and also rural areas, two thirds of population was taken to be urban and the rest rural. This was a pragmatic choice which enabled some allowance to be made for the rural population which existed within such parishes.

³¹⁶ *Ibid.*, pp. 191-2.

Chapter 4: Population supports this, and this section adds detail to that discussion. Surrey's towns were not large. None had been amongst the 50 largest towns in England in the 1377 Poll Tax and none was in the top 50 in terms of its numbers of taxpayers in the 1524-5 Lay Subsidy.³¹⁷ The 1664LD hearth tax provides a basis for estimating the mid-seventeenth century populations of the towns themselves (where possible excluding the rural hinterland also contained in the eponymous parish, see also Chapter 2: Sources and Methods and Chapter 4: Population):

- (1) Kingston, Guildford c. 2,000-2,500 people
- (2) Farnham, Richmond, c. 1,400 people
- (3) Chertsey, Croydon, Dorking,³¹⁸ Godalming Reigate, c. 800-1,000 people
- (4) Epsom (and decayed towns of Leatherhead, Haslemere) c. 400-600 people

Surrey's towns were therefore all part of the rank and file of English country towns. Their populations were in line with the majority of the 600 to 750 towns which existed in England in about 1650, at least 500 of which had populations of fewer than 2,000 and more than half had populations between 450 and 1,000.³¹⁹

The above population estimates are for the mid-seventeenth century and were, of course, not static. As described above, Chapter 4: Population, different towns experienced different levels of growth. They fell into three broad groups. Godalming in the south-west of the county had little growth in population. The majority of towns – Reigate, Guildford, Farnham, Kingston and, to a lesser extent, Dorking – show signs

³¹⁷ A. Dyer, *Decline and growth in English towns, 1400-1640* (Basingstoke, 1991), pp. 56-9.

³¹⁸ Brandon, *A History of Surrey*, p. 123 appears to have included just Dorking East in his population estimate, which had 106 households. But M. O'Connell, *Historic Towns in Surrey* (Guildford, 1977), p. 15 suggests the *de facto* town of Dorking included some of three tithings, Dorking East, Chipping, and Holmwood, and that the total population was at least 185 households (the total in all three tithings was 258 households).

³¹⁹ Chalklin, *The Rise of the English Town, 1650-1850*, pp. 1-2.

of some population growth over much of the period. Their populations roughly doubled between the mid sixteenth century and the late eighteenth century. Finally, some towns grew more substantially. The populations of Chertsey and Croydon grew around four-fold between the mid sixteenth and late eighteenth century. The growth of Croydon may have been helped by its proximity to London and that of Chertsey by the re-establishment of its market in 1599 and its position on the increasingly navigable Thames. Epsom, increasingly popular as a resort town, and Richmond grew perhaps four-fold between the mid-seventeenth century and the later eighteenth century, outstripping the growth of Surrey's other towns.

Migration was an influence on changing population sizes in some of Surrey's towns. As discussed in Chapter 7: Migration, one indicator of levels of net migration is provided by the ratio of males to females at death. In the absence of net migration this would be expected to be about 1.06 males to females, the natural birth ratio. Surrey towns varied in the pattern of their male and female burials suggesting they had different experiences of migration (Table 6).

Town	Male burials/female burials (1550-1750, or less where registers are more limited in their survival)
Farnham	1.01
Godalming	1.01
Dorking	1.05
Croydon	1.06
Guildford (3parishes)	1.06
Reigate	1.06
Chertsey	1.07
Kingston	1.09

Table 6 Sex ratios in Surrey towns in parish register burial registers

Kingston had above average male deaths. It is on the Thames and would have contained people who worked on the river, either those living in the town or people who brought goods along the river to and from elsewhere, especially London. Such jobs were likely to be done by men and this plausibly increased the numbers of male deaths in the town. Two towns, both in the south-west of Surrey, had more female deaths than average – Farnham and Godalming, suggesting either that women migrated to the towns or that men migrated from the towns. The reasons for this are unclear.

Occupations

The changing nature of urban society is reflected in the arrival of new occupations in Surrey's towns. For example, those leaving inventories later in the period included an apothecary in Richmond (1738), doctors of physicke in Dorking (1696) and Reigate (1688), chirurgeons in Dorking (1662, 1677, 1690), a surgeon in Croydon (1710), a gunsmith in Kingston (1670) and a tobacconist in Guildford (1728).³²⁰ By the 1760s some towns contained an even wider range of occupations; the lists of jury eligible men in Croydon include wine merchants, attorneys at law, a peruke maker, watchmakers and a coachmaker.³²¹ Their presence points to the growing role of some towns in providing for the increasing purchases of non-essential activities by those with surplus incomes.

³²⁰ Holman and Herridge (eds.), *Index of Surrey Probate Inventories: 16th-19th centuries* (surnames Cawley, Budgen, Theobald, Piper, Gunning, Worland, Hoar, Banks, Brookes).

³²¹ *Jury-Qualified Freeholders and Copyholders, 1696-1824: Surrey.*

Wealth

Surrey's towns, as well as not being large, were not especially affluent on a national perspective. Only Kingston scraped into the 50 highest ranked provincial towns in terms of its taxable wealth in the 1524-5 Lay Subsidy, at number 50.³²²

The comparative wealth of towns depends on how that wealth is measured. One source of evidence is the values of inventories of townspeople. The inventories used for this comparison were the great majority of all extant inventories for people from the towns of non-metropolitan Surrey (for more details see Chapter 2: Sources and Methods). Comparing the average (mean) values of probate inventories of the inhabitants (Table 7) suggests Kingston, one of the largest towns, had the highest mean value of inventory. The ranking of towns' wealth is not greatly affected by whether all inventories are included or (to make allowance for the rural areas in many of these parishes) only those not actively engaged in farming (based on their description in their inventory or the contents of their inventory). Kingston's median inventory value though is much lower, suggesting it contained a diverse population including both some wealthy people and also a substantial number of much poorer ones. The marked differences between the mean and median inventory values in Guildford too, also amongst the larger towns, similarly suggests diverse populations. The mean and median inventory values tended to be less different in the smaller towns implying more homogeneous populations, apart from Croydon which had a more diverse population. The number of inventories surviving is, for most towns, modest and the dates from which they survive vary between towns so these results must be treated with caution.

³²² Dyer, *Decline and growth in English towns, 1400-1640*, pp. 62-3.

An alternative indicator of wealth is provided by the hearth tax. The average (mean) numbers of hearths from the 1664LD hearth tax return for the different towns is shown in Table 7.³²³ It suggests less difference in the average wealth of towns compared to that suggested by inventories. It also confirms Kingston as the most affluent but it places Guildford at a similar level of affluence. The cause of the difference between Guildford's wealth suggested by the hearth tax and by the inventories is uncertain; as well as reflecting the vagaries of survival of inventories it may also have been affected by differences between the sources in the interpretation by contemporaries of the boundaries of Guildford. The 1636 Ship Money payments broadly support the pattern of wealth suggested by probate inventories, with the exception that Farnham's assessment was much higher than the town's wealth suggested by inventories. The disparity between these two indicators of Farnham's wealth may well have been influenced by the predominantly early date of Farnham's inventories which would have reduced their value. The wealth of Guildford as suggested by both inventories and Ship Money is comparatively low, in the middle of the wealth of the towns of Surrey. This is somewhat unexpected but perhaps relates to the economic difficulties in Guildford by the seventeenth century. Guildford's relatively high number of hearths is perhaps an indicator as much of past prosperity as present prosperity.

³²³ BA Hearth Tax Project.

	A) All inventories sampled			B) inventories of those not farming		Ship Money [1636] ³²⁴	1664LD hearth tax ³²⁵
	Average (mean) inventory value (£)	Average (median) inventory value (£)	Number of inventories	Average (mean) inventory value (£)	Number of inventories	Assessment demanded	average hearths per household - town only [plus all parish, where applicable]
Farnham	89	36	62	124	32	94	2.7 [2.4]
Chertsey	161	55	45	144	19	67	2.9 [2.9]
Dorking	182	150	27	208	17	58	2.6
Guildford	264	28	43	273	41	53	3.4
Croydon	276	40	161	298	131	61	2.9 [2.8]
Reigate	298	104	27	289	23	60	2.6 [2.9]
Godalming	302	103	31	423	18	90	2.6 [2.3]
Kingston	426	51	64	456	59	88	3.5

*Table 7 Probate inventories and other indicators of wealth in Surrey towns*³²⁶

Populations within Surrey's towns were not economically homogeneous. Looking at the distribution of wealth in Surrey towns in terms of the numbers of hearths in different households (Table 8), suggests most had about a third of households having more than 2 hearths and not exempt from paying the hearth tax, leaving about two thirds of households who were either exempt or had only one or two hearths. These proportions of the better off in Surrey towns at first sight appears a little greater than the 'pyramid' of urban wealth and poverty Clark and Slack identified of about a quarter in households with more than two hearths.³²⁷ However, there are several problems with the data including that the three towns (Guildford, Croydon, Reigate) where the proportion with more than two hearths appear greatest were all those which had considerable numbers of illegible records for chargeable households, emphasising

³²⁴ Malden (ed.), *VCH Surrey*, Vol 1. pp. 441-4.

³²⁵ BA Hearth Tax Project

³²⁶ Leatherhead is not included as few probate inventories survive

³²⁷ Clark and Slack (eds.), *English towns in transition 1500-1700*, p. 113.

the uncertainty over the proportions of people in any category and need for caution in drawing conclusions from the numbers.³²⁸ Bearing this caveat in mind, the proportions of households with 5 or more hearths, the wealthier households, appear to vary between towns, ranging from only 7 per cent in Godalming to 21 per cent in Kingston, the remainder lying towards the middle, at between 12 and 17 per cent.

	exempt or 1 hearth chargeable	More than 2 hearths, chargeable	5 plus hearth	All chargeable households	Total number of households
Farnham town	39%	35%	12%	71%	293
Chertsey town	50%	38%	16%	53%	167
Dorking town (Dorking East, Chipping, Holmwood)	44%	29%	12%	62%	258
Guildford (3 parishes)	46%	42%	18%	60%	369
Croydon town	51%	41%	10%	53%	193
Reigate town	29%	43%	16%	79%	160
Godalming town	53%	26%	7%	52%	153
Kingston	48%	38%	21%	54%	482

Table 8 Distribution of wealth and poverty in towns – from 1664LD hearth tax

Concluding remarks - towns

Around a quarter of the population of non-metropolitan Surrey, a greater proportion than the national average, lived in its dozen or so towns though none was large in a national context. Their sizes ranged by a factor of about five from the smallest, around 500, to the largest, around 2,500 people. The populations of most towns doubled between the mid-sixteenth and mid-eighteenth centuries, but the populations of some

³²⁸ For the complexity of interpreting hearth tax figures see for example Ferguson, *'Behind the hearth tax exemption figures for Surrey: a tapestry of local variation'*; E. Parkinson, 'The administration of the hearth tax in Essex', in C. Ferguson, C. Thornton, and A. Wareham (eds.), *Essex Hearth Tax Return Michaelmas 1670* (London, 2012); E. Parkinson, 'The administration of the hearth tax in the East Riding', in D. Neave et al. (eds.), *Yorkshire East Riding Hearth Tax 1672-3* (London, 2015).

increased substantially more, most probably as a result their trade or social connections with London. Migration probably contributed to population rises in some towns. Within the larger towns there was a diverse population including both some wealthy people and also a substantial number of much poorer ones, while the smaller towns tended to be less economically diverse. Over time some towns provided a wider range of goods and services,

Concluding remarks

This chapter has considered several aspects of the economies of non-metropolitan Surrey. Differences identified include greater wealth in the north and greater poverty in the south, economic stagnation in the south-west in the seventeenth century and economic vigour in the north-east, both associated with migration and with varying patterns of population change, the steady growth of some towns but the much more substantial growth of some and stagnation in others. Some causes for the area's different economic experiences have been suggested including the influence of London and the changing fortunes of the cloth trade but more detailed consideration of individual areas should shed more light on these and other influences. It has also suggested a little of the male occupational structure of the area, both hypothesising the relatively limited numbers directly involved in industrial activities and also suggesting the scale of labouring by the early eighteenth century.

6: Agriculture

Introduction

As the previous chapter illustrated, agriculture formed a substantial part of the economy of non-metropolitan Surrey. This chapter considers the main types of agriculture practised and also its changing patterns over time, changes which involved moves between emphasis on pastoral and emphasis on arable farming. Surrey's agricultures are explored using both the more traditional sources of probate sources and contemporary writings and also through Kussmaul's technique of using seasonality of marriages as an indicator of patterns of agriculture.³²⁹

Fundamental to farming in Surrey was, of course, its soils and its landscapes. These vary considerably across the county affecting the types of agriculture its farmers could successfully undertake. Other factors which influenced its agriculture, some of which encouraged it to change over time, included variations in the productivity and profitability of different sorts of farming and changes in transport. A further influence was the enormous growth in its neighbour, London, greatly increasing the market it provided for Surrey's agricultural produce.

In this chapter the varying forms of Surrey's mixed farming are described. Some geographical differences are confirmed, such as the importance to the rural economy of sheep on the North Downs, of cattle and timber in the Weald, of grain and hops in the south-west, or of links with London across the county but especially in the north. Detail is added to some of these, including the scale of some arable farming in the Weald, and differences in types of farming in different parts of the Downs.

³²⁹ Kussmaul, *General View*.

In terms of agricultural change, the study suggests Surrey experienced two broad phases of change between the mid-sixteenth and the mid-eighteenth centuries. The sixteenth century was likely to have been a time when agriculture in Surrey was probably still 'diversified farming', farmers mainly producing for their own domestic consumption or for sale locally. The seventeenth century emerges as a time when Surrey farmers moved to a greater market focus and specialisation, many concentrating more on pastoral farming. In the early eighteenth century the county appears to have become more diverse with the southern and eastern areas continuing to emphasise pastoral farming while an area in the west moved to greater levels of arable farming. This is likely to have been the result of a combination of increased interest in new techniques of farming which enabled the light soils of the west to be exploited to grow greater amounts of grain, and improved transport enabling that grain to reach London markets more cheaply. Throughout, the north of the county had a more diverse pattern of agriculture than elsewhere.

Related to these changes in agriculture there appear to have been alterations in the relative wealth of farmers in different parts of the county and also, possibly, in the disparity of wealth within some areas. The most striking change identified, the move in the west of the county to a more strongly arable agriculture by the early eighteenth century, seems to have been accompanied by an increase in the wealth of yeomen farmers in that area and also possibly in the development of a widening gap between the wealth of its yeomen and husbandmen. The Wealden area to the south seems to have experienced a relative decline in its prosperity over the period, possibly because its poorer access to London limited its ability to exploit the London market for agricultural products as effectively as some other areas could.

Agriculture in early modern England

Nationally agriculture was the major occupation of around 75 per cent of people in 1500, falling to around 40 per cent in 1800.³³⁰ Some produced for exchange and profit and others for their own needs. The mix altered over the sixteenth, seventeenth and eighteenth centuries during which agriculture shifted from an emphasis on agriculture in which people produced for their own consumption or for sale in local markets to one where agricultural produce was traded over a wider area, and farmers shifted to more specialised production.³³¹

Some who cultivated land owned the land they farmed, others were tenants or sub-tenants.³³² Some also had by-employments, such as labouring for other people or combining farming with a craft expertise or a skill.³³³ By-employments featured more in pastoral than in arable areas because of the different temporal patterns of the work required, though Keibek and Shaw-Taylor have argued the numbers with by-employments may be less than previously thought.³³⁴ As well as those who cultivated land they owned or tenanted, many were employed in agriculture as servants or as labourers. Working as farm servants was a common feature of young unmarried people's lives, men and women in roughly equal proportions living in the farmhouse as part of farmer's family and hired on annual contracts. It has been estimated around 60 per cent of young people aged 15 to 24 were farm servants and that they supplied

³³⁰ L. Shaw-Taylor and E. A. Wrigley 'The Occupational Structure of England c.1750-1871 A Preliminary Report' (accessed from <http://www.campop.geog.cam.ac.uk/research/projects/occupations/introduction/summary.pdf>, 21 September 2015) , p. 5.

³³¹ Overton, *Agricultural Revolution*, pp. 21-2.

³³² H. R. French and R. W. Hoyle, *The Character of English Rural Society: Earls Colne, 1550-1750* (Manchester, 2007), pp. 251-2.

³³³ Overton, *Agricultural Revolution*, pp. 36-7.

³³⁴ *ibid.*, pp. 18-9, 49-50; Keibek and Shaw-Taylor, 'Early Modern Rural By-employments: a re-examination of the probate inventory evidence' (2013).

a third to a half of hired labour. Labourers - landless men whose prime means of support for themselves and their families was by working for others - were employed either casually when their labour was needed or more regularly. In the 1520s around 20 to 25 per cent of all adult males in southern England may have been labourers.³³⁵

Agriculture experienced changes between the sixteenth and the eighteenth centuries though whether it constituted an 'agricultural revolution,' if so when, and whether it was one revolution or more than one have all been debated. Thirsk suggested the period's agricultural change could be regarded as an evolutionary rather than a revolutionary process.³³⁶ Others have supported the concept of revolutionary change and several periods from the mid-sixteenth century to the mid-nineteenth have been suggested as the date of an 'agricultural revolution'.³³⁷ Drivers of change included changes in the size of the population, in people's diets, in markets, in transport, in new crops and breeds of livestock, in the price and profitability of different agricultural products and in new agricultural techniques and technologies: these included new crop rotations, drainage systems and fertilisers. Enclosure of existing agricultural land increased its productivity and the area of land under cultivation was extended. The productivity of existing agricultural land also rose. Allen, for example,

³³⁵ Overton, *Agricultural Revolution*, p. 41.

³³⁶ J. Thirsk, *England's Agricultural Regions and Agrarian History in England, 1500-1750* (Basingstoke, 1987), pp. 57-8.

³³⁷ Overton, *Agricultural Revolution*, Chap. 1; R. C. Allen, 'Tracking the Agricultural Revolution in England', *The Economic History Review*, 52 (1999); Campbell and Overton, 'Six Centuries of Norfolk Farming' (1993); E. Kerridge, *The Agricultural Revolution* (London, 1967), p. 15; G. Clark, 'Labour Productivity in English Agriculture, 1300-1860', in B. M. S. Campbell and M. Overton (eds.), *Land, Labour and Livestock: historical studies in European agricultural productivity* (Manchester, 1991), pp. 212-3; R. C. Allen, 'The Two English Agricultural Revolutions, 1450-1850', in B. M. S. Campbell and M. Overton (eds.), *Land, Labour and Livestock: historical studies in European agricultural productivity* (Manchester, 1991), p. 236; M. Overton, 'Re-Establishing the English Agricultural Revolution', *The Agricultural History Review*, 44 (1996b).

identified a substantial increase between the medieval period and the nineteenth century, involving especially increased yields per acre.³³⁸

A necessary prerequisite for agricultural specialisation and change was sufficiently good transport to enable crops and stock to be moved from where they were produced to where they were sold. Of especial interest to arable farmers were the improvements in water transport which became more frequent from the later seventeenth century and provided a much cheaper means of transporting bulky goods by water compared to land.³³⁹ The eighteenth century saw improvements to roads, including turnpiking, though Brayshay has shown significant road improvements occurred earlier, during the sixteenth and seventeenth centuries.³⁴⁰

In response to changing farming techniques, to changing demands for foods and for agricultural products such as wool, and to transport improvements there was a changing balance between arable and pastoral farming. Conversion of arable land to pasture, which started in the aftermath of the Black Death, continued in the fifteenth and early sixteenth centuries in response to the value of wool and hence of sheep and, linked with enclosure, livestock farming offering more possibilities for commercial agriculture. In the sixteenth century and into the seventeenth, there was a major reversal, with pasture land being converted to arable in response to rising grain prices resulting from population growth and also from falling value of sheep because of difficulties in the cloth trade. In dedicated pastoral areas a more intensive livestock

³³⁸ Wrightson, *Earthly Necessities*, pp. 159-61; Thirsk, *England's Agricultural Regions and Agrarian History in England, 1500-1750*, pp. 17-8, 56-8; R. C. Allen, 'The Nitrogen Hypothesis and the English Agricultural Revolution: a biological analysis', *The Journal of Economic History*, 68 (2008), pp. 182, 202-3.

³³⁹ T. S. Willan, *River Navigation in England, 1600-1750* (London, 1964), pp. 28-9, 114.

³⁴⁰ M. Brayshay, *Land Travel and Communications in Tudor and Stuart England : achieving a joined-up realm* (Liverpool 2014), p. 1.

farming system developed because wealthier classes were eating better and demanding more meat. In the seventeenth century, especially after about 1650, grain prices fell (a result especially of the quantity of grain being produced) and pasture farming again increased, including increase in dairying to supply the growing urban population. There was also an increase in specialist crops: arable farmers could earn more profit from fruit, vegetables, hops and industrial crops like dye plants, rapeseed for oil and hemp and flax for canvas and linen. It was not until the mid-eighteenth century that profitable grain growing again returned.³⁴¹

Sources and methods

Three main types of source are used here to explore Surrey's agriculture: contemporary writings, probate inventories and marriage seasonality.

Contemporary writings

Contemporary writings used include the archives of Loseley, the estate of the More family just south of Guildford, which contain snapshots of their farming in the mid-sixteenth century and around 1700.³⁴² More general perspectives include those provided by John Evelyn, whose family estate was at Wootton in Surrey, John Aubrey (survey published in the early 1700s but based on a perambulation undertaken in 1673), and Salmon and Cox in the early eighteenth century.³⁴³ By the late eighteenth century writers including Young, Marshall, Malcolm and Stevenson described the county's agriculture, often with the aim of encouraging innovations in agricultural

³⁴¹ Thirsk, *England's Agricultural Regions and Agrarian History in England, 1500-1750*, p. 58; B. Short (ed.), *The English Rural Community: image and analysis* (Cambridge, 1992), pp. 50-2; Overton, *Agricultural Revolution*, pp. 93, 159.

³⁴² SHC 6729/7/56/2,11; SHC LM/1087/1/7

³⁴³ J. Evelyn, *The Diary of John Evelyn*, ed. W. Bray (London, 1879) ; Aubrey, *Natural History and Antiquities of Surrey* ; N. Salmon, *Antiquities of Surrey* (London, 1736) ; T. Cox, *Magna Britannia Antiqua & Nova* (London, 1738).

methods.³⁴⁴ Nineteenth and early twentieth century descriptions of Surrey's agriculture include those by Allen, Brayley, Caird and the early twentieth century Victoria County History.³⁴⁵ The early nineteenth century *History and Antiquities of the County of Surrey* by Manning and Bray, published between 1804 and 1814, has a strong gentry focus but also contains descriptions of Surrey's soils.³⁴⁶ In addition, two early nineteenth century government surveys provide some more quantitative information. The 1801 Crop Returns were collected by the Home Office alongside the first Census of people and exist for the majority of Surrey parishes (Figure 81). Although its value is limited by containing no direct record of livestock and its figures on arable farming being regarded as not wholly reliable, they are the earliest such countywide survey available and provide a general picture of the distribution of crops.³⁴⁷ The 1836 Tithe Commutation Act aimed to substitute cash payments for payment of tithes in kind. The maps and apportionments for Surrey have been digitised for the new county of Surrey, rather than the historical county; in consequence they do not include parishes of the historical county immediately to the south and east of London (Figure 82).³⁴⁸

³⁴⁴ A. Young, *A Six Weeks Tour, through the Southern Counties of England and Wales* (London, 1772); W. Malcolm, *General View of the Agriculture of the County of Surrey, with observations on the means of its improvement* (London, 1794); Marshall, *The Rural Economy of the Southern Counties* (London, 1798); J. Malcolm, *A Compendium of Modern Husbandry* (London, 1805); W. Stevenson, *General View of the Agriculture of the County of Surrey* (London, 1809).

³⁴⁵ T. Allen, *History of the Counties of Surrey and Sussex* (London, 1829); E. W. Brayley and E. Walford, *A Topographical History of Surrey* (London, 1841); J. Caird, *English Agriculture in 1850-51* (London, 1852). Malden (ed.), *VCH Surrey*.

³⁴⁶ Manning, *History and Antiquities*

³⁴⁷ *National Archives research guides*, <<http://www.nationalarchives.gov.uk/help-with-your-research/research-guides/agricultural-statistics-england-wales/>>, accessed 7 April 2016; A. G. Barton, 'The 1801 Crop Returns for the County of Surrey', *Surrey Archaeological Collections*, 64 (1967).

³⁴⁸ *TNA Research Guide: Tithes*, <<http://www.nationalarchives.gov.uk/help-with-your-research/research-guides/tithes/>>, accessed 7 April 2016; B. P. Hindle, *Maps for Historians* (Chichester, 1998a), pp. 48-53; David Young and Surrey History Centre, Surrey Tithe Records Project Database. My thanks to David Young for his assistance.

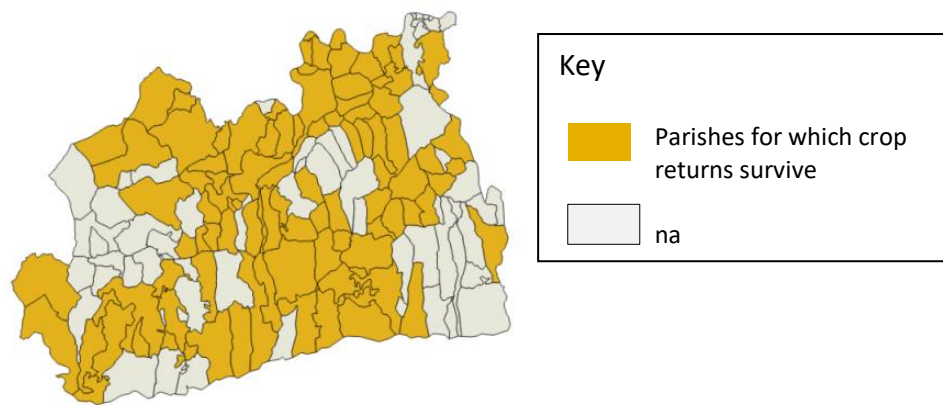


Figure 81 1801 Crop Returns – parishes for which returns survive

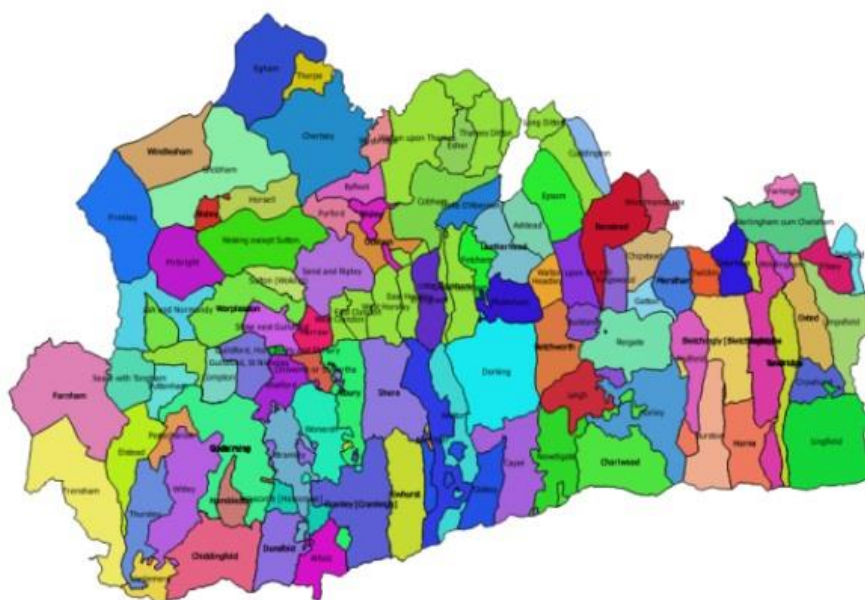


Figure 82 Parishes from historical county of Surrey included in Surrey History Centre's tithe maps and apportionments project.

Probate inventories

A source conventionally used for the study of agriculture and agricultural change is probate inventories. Probate inventories were intended to record the personal moveable property of a deceased person. Taken shortly after the death they generally included and provided values for the deceased's furniture and furnishings, clothing, crops, livestock, working tools, cash, and debts owed and owing by the deceased, costed according to their second-hand or selling prices. As described above (Chapter 2: Sources and Methods) they are a source of considerable value, especially before

the late seventeenth century, and they have been used to explore many aspects of early modern society, including agriculture. Their limitations are also well established – in particular they are biased towards older people, the better off and towards men, they record only some of a person's assets, and they do not record all of a person's agricultural activities. Their use within Surrey is further compromised by their patchy survival with those that survive being from earlier in the period in some parts of Surrey but from later in the period in others. Attempting to construct a comparison of agriculture between different geographical areas based solely on surviving inventories is therefore seriously compromised and risks comparing inventories from different time periods; similarly, comparisons between different time periods are likely to involve comparing inventories from different geographical areas.

Marriage seasonality and agriculture

Introduction

An additional and valuable source of evidence on agriculture derives from Kussmaul's finding that it is possible to observe patterns of agriculture through the timings of marriages. This approach depends on two fundamentals. One is the characteristics of marriage in England in the period and its link with the couple's economic circumstances. The other is the different seasonal patterns of different types of agriculture, both in terms of the busy and quieter times of year and in terms of when they produced their main profit, in other words their 'harvest', either of crops or of stock.

Key characteristics of marriage in the period were that most people married, that they tended to delay marriage until they could set up as an independent economic household, and that most marriages were recorded in parish registers. First, most

people in early modern England married: around 90 per cent of adults in the sixteenth century were married at some time in their lives, falling to around 80 per cent in the seventeenth century, and rising to around 95 per cent in the later eighteenth century.³⁴⁹ So marriage records are records of most people. Second, both men and women tended to marry in their mid to late 20s, the average age of first marriage for men being around 26 to 28, and for women a year or two less, 25 or 26.³⁵⁰ The reason for delaying marriage until this age was that when a couple married they usually expected to establish a neo-local residence, forming the core of a new nuclear family as an independent household both residentially and economically. This expectation of independence implied the delay of marriage until the couple were sufficiently socially mature and economically secure with the accumulation of sufficient resources to establish and support a household.³⁵¹ Third, until the growth of Nonconformity in the eighteenth century, and with the exception of the period 1653-1660 when marriage was treated as a civil matter and took place in front of a JP, a ceremony in an Anglican church was widely regarded as the only means of legitimising a couple's union, and the law required these marriages to be recorded in parish registers.³⁵²

Turning now to the influences of the local agriculture on marriage timings, Wrigley and Schofield noted, based on the sample of 404 parishes which they used for their study of England's population, that the seasonality of marriage varied across the country.³⁵³ They observed that parishes in the north and west tended to have peak marriage months in the spring or early summer whereas those in the south and east

³⁴⁹ Wrigley and Schofield (eds.), *Population History of England*, p. 262.

³⁵⁰ *Ibid.*, p. 424.

³⁵¹ Wrightson, *English Society*, p. 68; M. Ingram, *Church Courts, Sex and Marriage in England, 1570-1640* (Cambridge, 1987), p. 130; Wrightson, *Earthly Necessities*, pp. 31-2.

³⁵² Wrightson, *English Society*, p. 67; Ingram, *Church Courts, Sex and Marriage in England, 1570-1640*, pp. 132-4.

³⁵³ Wrigley and Schofield (eds.), *Population History of England*, pp. 302-4.

had peaks in the autumn, and they suggested the existence of a link between the timings of marriage peaks and the main type of agriculture practised, writing ‘the peak seasons of marriage occurred at the points in the agricultural year when there was not only leisure to celebrate in church and at the table, but also a relative abundance of material wealth after the “harvest”, whether of crops or livestock’.³⁵⁴

Kusssmaul developed Wrigley and Schofield’s observations further, describing how arable and pastoral farming differed both in the seasonality of their activity and of their creation of wealth.³⁵⁵ Reinforcing this seasonality of marriage was the timing of hiring fairs following which agricultural servants were likely to be free of their annual service contract and to have their wages, fairs which tended to be timed to fit the seasonality of the area’s agriculture.³⁵⁶ Description of farming as ‘arable’ or ‘pastoral’ reflects the balance between various crops and livestock, not that farms were exclusively arable or pastoral: farming in early modern England was mainly mixed farming, involving both the keeping of livestock and the growing of crops. For arable farming the harvest was the most demanding of both time and of labour and was also the time when the profits of the year’s farming were most certain. The store of food provided by the harvest or the money earned over the previous year as farm servants or payment for work as labourers in the harvest could provide a couple with the confidence to set up on their own as a new independent household, paying costs such as the lease of a farm or cottage and the purchasing of household furnishings and agricultural equipment, seeds, stock etc. A comparable pattern was present in areas of pastoral farming involving the rearing of cattle and sheep. In these areas the busiest and most hazardous period was when stock was born, with risk to both the new-born

³⁵⁴ Ibid., p. 305.

³⁵⁵ Kusssmaul, *General View*, pp. 14ff.

³⁵⁶ Ibid., p. 24.

stock and their mothers, and again it was after this when a couple might feel sufficiently financially confident to marry. Other types of farming, and also non-farming activities, were likely to be less seasonal or to have different seasonal patterns. Pastoral farming which involved dairying, for example, and market gardening, an increasing activity in northern Surrey, were less strongly seasonal both in activity and profit than pastoral farming which involved stock breeding and rearing. In urban or industrial parishes, work was less linked to the seasons of the year. Occupations which involved men's absence from home for a part of the year would have resulted in marriages concentrated in the times they were at home.

The differing timings of the financial benefit to be obtained from arable and pastoral farming is illustrated in the changing relative values of stock and crops in Surrey inventories during the course of the year (Figure 83). The comparison is based on 280 inventories taken between March and September between the mid-sixteenth and the mid-eighteenth centuries of yeomen, husbandmen and farmers. The value of crops as a percentage of the combined total value of crops and livestock rose from March when crops would have begun to be sown, through the spring and summer as crops grew and matured, until harvest in September when fewer crops remained in the ground. It suggests the value assigned by assessors of inventories to crops in the ground increased over the year as the crops grew, until they were harvested: in other words the assessors regarded the crop as vulnerable while it was in the ground and took the view that its value could only be based on its condition at the time of the inventory. In contrast it suggests that stock was regarded as less vulnerable and that the key event was an animal's birth: once the animal was born it was most likely to survive and its value could be fairly well relied on.

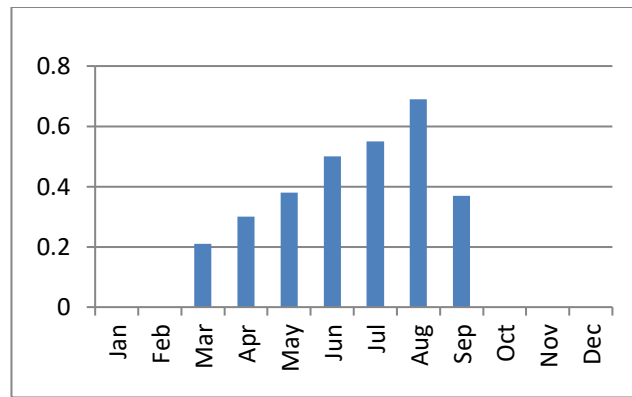


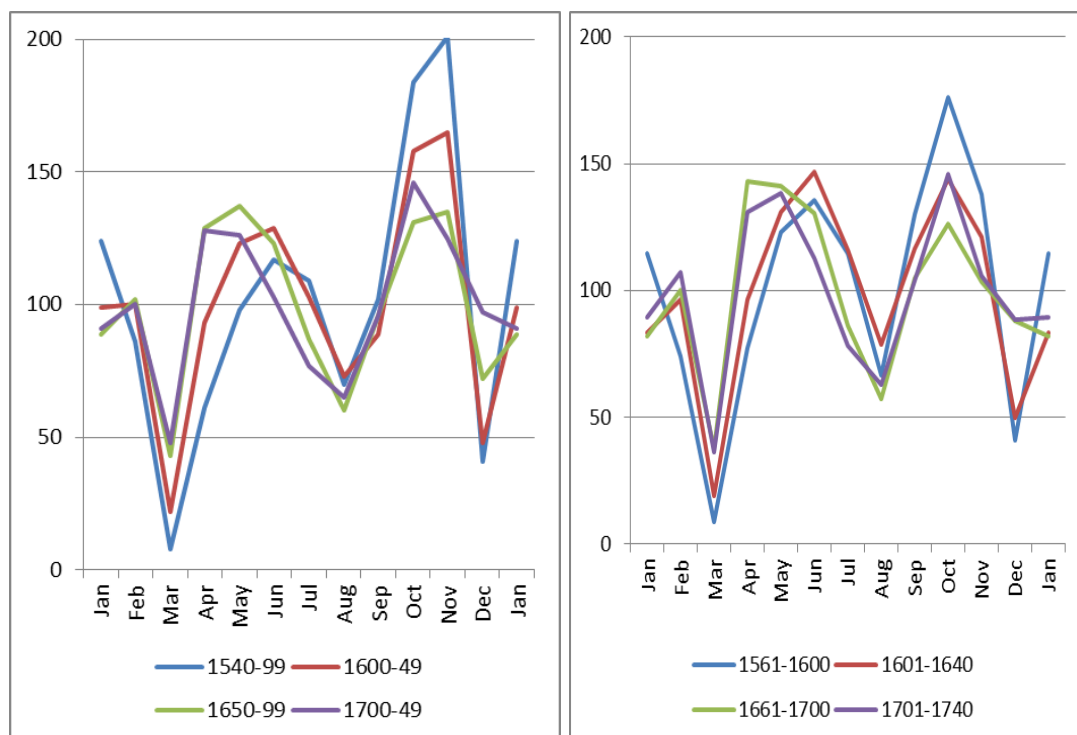
Figure 83 Probate valuations of crops in the ground as proportion of the value of both crops in the ground and livestock³⁵⁷

These influences on the timings of marriage contributed to the seasonality of marriages. At a national level, timings of marriage identified by Wrigley and Schofield (Figure 84 (a)) show marked consistencies between the mid-sixteenth and mid-eighteenth centuries and also marked differences. Throughout the period, marriages were low in August, had peaks in spring and autumn, and dipped in March; in the earlier part of the period, marriages were less common also in December. The sixteenth century sharp falls in the numbers of marriages in March and December reflected the pre-Reformation prohibitions on marriage in Lent and Advent.³⁵⁸ From the mid-sixteenth century these restrictions disappeared though the timings of marriages took time to react.³⁵⁹ The dip in marriages in December had disappeared by the eighteenth century but the dip in marriages in March remained, though in a reducing form. The August dip, at the time of harvests and haymaking, remained throughout.

³⁵⁷ see Chapter 2: Sources and Methods for details of sources used for inventories.

³⁵⁸ D. Cressy, *Birth, Marriage, and Death: ritual, religion, and the life-cycle in Tudor and Stuart England* (Oxford, 1997), pp. 298-305.

³⁵⁹ Wrigley and Schofield (eds.), *Population History of England*, pp. 298-301.



(a) *Marriages in England, 1540-1749*³⁶⁰ (b) *Marriages in non-metropolitan Surrey, 1561-1640, 1661-1740*³⁶¹

Figure 84 Seasonality of marriages (indexed), England and non-metropolitan Surrey

The seasonality of non-metropolitan Surrey's marriages mirrored this national picture (Figure 84 (b)). The spring and autumn peaks in marriages, and the dips in numbers of marriages in August and in Lent (March) and Advent (December) were similar to those observed across England, as are the virtual disappearance of the Advent dip by the later seventeenth century and the reduction but persistence of the Lent dip.

This county-wide view, though, conceals considerable variations between parishes, variations which were tied in with the agriculture of those parishes and its effects on the seasonality of marriages. Pirbright is a parish in the west of Surrey, Capel is in the south, and the parish of Croydon which contained the town of the same name is in the

³⁶⁰ Ibid., p. 299.

³⁶¹ West Surrey Family History Society, WSFHS Surrey marriages to 1837 Index (CD 2)

east (Figure 85). In the period 1661-1740 all three parishes show similar overall patterns (Figure 86) - spring and autumn peaks in marriages and dips in March and August. But the relative sizes of the spring and autumn peaks differed substantially between them, reflecting their different agrarian economies. In Pirbright, on the light soils in the west of Surrey, marriages peaked in autumn, suggesting the importance of arable farming to the parish. In Capel on the heavy clay soils of the Wealden area, marriages peaked in spring, suggesting the importance of pastoral farming to the parish. And in Croydon, a parish where many of its inhabitants lived in the town of Croydon, the spring and autumn peaks were more similar, a pattern consistent with a more urban area. These differences in the seasonality of marriages, differences which are consistent with the differing characteristics of the three parishes, are at the heart of Kussmaul's approach and underline the potential of the method to gain insight into the agriculture of Surrey's parishes.

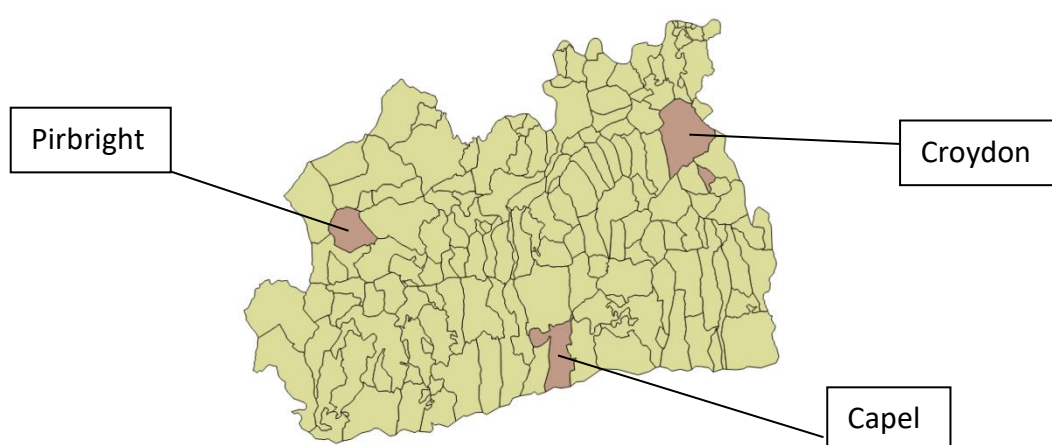


Figure 85 Surrey parishes, showing Pirbright, Capel, Croydon

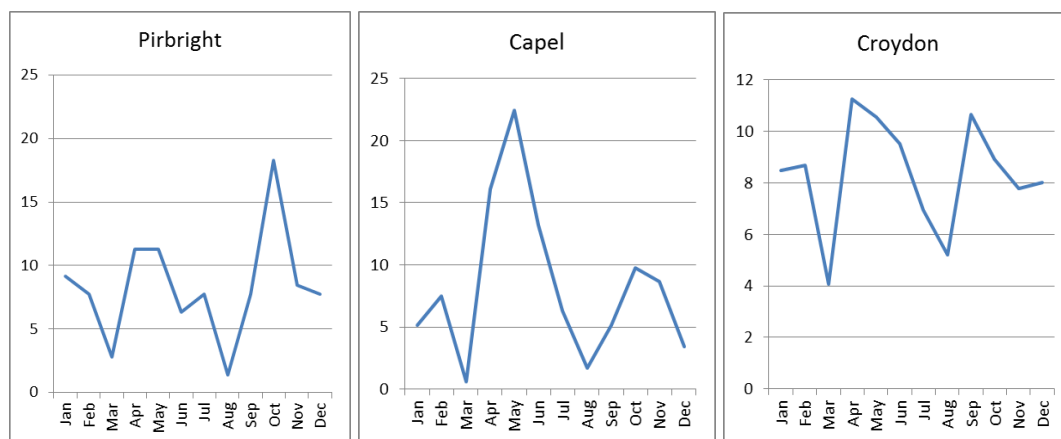


Figure 86 Marriage seasonality (percentage marriages per month) in three parishes, 1661-1740³⁶²

Kussmaul's study

Kussmaul's study of marriage seasonality used parish marriage registers from 542 parishes across England (of which 404 were from Wrigley and Schofield's study) containing records of close to a million marriages between 1538 and 1840.³⁶³ As described above she found that marriage seasonality correlated with patterns of rural work. She also found evidence of changing patterns of agriculture over time. Noting the 'disappearance of the sixteenth century's nearly uniform blanket of very high autumn seasonality,' she explored the timings of the move from a largely arable, locally orientated agriculture in the sixteenth century to one which was regionally differentiated with a predominantly pastoral west and a markedly arable east.³⁶⁴ She interpreted her findings as follows. In the early part of her study, 1561-1640, the two types of farming, arable and pastoral, were scattered fairly evenly across the country. Over time, population growth and rising prices encouraged the production of grain and increased commercialisation of its production, grain farmers using their profits to buy the other agricultural products they needed. By the next period of the study, 1661-

³⁶² Pirbright (142 marriages), Capel (174 marriages), Croydon (863 marriages)

³⁶³ Kussmaul, *General View*, pp. 46-8.

³⁶⁴ *Ibid.*, pp. 58 ff..

1740, regional differences were emerging with nationally a pastoral west and an arable east. There was increased regional and inter-regional trade and market integration, improving transport and increasing agricultural productivity. She concluded that ‘large portions of England had stopped producing their own grain by the end of the seventeenth century’.³⁶⁵ Thus, in terms of the ‘agricultural revolution’ debate, she identified the later seventeenth and early eighteenth century as the ‘latest possible dating for the regional differentiation.’³⁶⁶ She inferred this from the lower proportion of autumn marriages (implying less arable farming) by that date, *prima facie* evidence of market orientation since it could only mean those places were dependent on grain for bread from elsewhere. Some evidence from inventories supports Kussmaul’s finding of a late seventeenth century increase in regional specialisation. Overton, for example, reported evidence from several parts of the country - Norfolk, East Worcestershire, Shropshire, Hertfordshire, and the Midlands – which was consistent with the patterns Kussmaul identified.³⁶⁷

The interpretation of the timing of marriage peaks has complexities. A strong spring peak is the most simple to interpret. Kussmaul wrote ‘The only semblance of truth in exclusive interpretations of the Seasonal Types comes with the P-Type [that is, an area with pastoral farming]; a high spring/summer index of marriage seasonality was probably an accurate indicator of all-rearing [that is, agriculture focussed on rearing, as opposed to fattening, stock]’.³⁶⁸ It suggests the parish was heavily involved in pastoral farming, with limited grain production. This could occur only in circumstances where there was market integration with the parish able to buy in grain

³⁶⁵ Ibid., p. 67.

³⁶⁶ Ibid., p. 175.

³⁶⁷ Overton, *Agricultural Revolution*, p. 104.

³⁶⁸ Kussmaul, *General View*, p. 154.

from elsewhere. But the reverse, the absence of a strong spring peak, does not necessarily indicate the absence of pastoral farming. It is only stock rearing which produces the spring peak; pastoral areas with dairying or pastoral areas where stock was fattened - bought in the spring, fattened over the summer, and sold in the autumn - would have had different marriage seasonalities. A strong autumn peak is more complex still: it is ambiguous, capable of supporting two very different interpretations. It suggests the parish has high levels of grain production, but not the cause of that production. It may be due to low market integration and diversified agriculture with most people growing some grain for their own consumption or for sale in local markets. Or it may be due to a very different scenario, high market integration, in which those farmers for whom it was most profitable concentrated on arable farming.

This approach, of exploring the changing agriculture of the country through its effects on the time of year people chose to marry, has generally been well received, described as 'a simple but clever idea' though with the caveat sometimes that it seems 'complex' and 'difficult'.³⁶⁹ Criticisms have focused on two main concerns, the complexity of some of the analytical tools used and the simplifications employed both in terms of agriculture and in terms of the characterisation of particular areas. Kussmaul readily acknowledged that her approach was unable to study the full range of people's economic activities, omitting activities such as women's work, dairying, stock fattening or fishing.³⁷⁰ An extreme example of the method's limitations is Robin Hood's Bay in North Yorkshire, where marriages of the many who worked as either

³⁶⁹ Humphries, 'Review: Kussmaul *A General View*' (1991); J. M. Bennett, 'Review: Kussmaul *A General View*', *The Journal of Interdisciplinary History*, 22 (1991); P. Edwards, 'Review: Kussmaul *A General View*', *Social History*, 16 (1991).

³⁷⁰ Kussmaul, *General View*, pp. 16-7.

sailors or deep-sea fishermen occurred more often in the winter when the men were back home for a period.³⁷¹ Such criticisms do not invalidate her approach but do emphasise the need to use it with care, taking account also of local circumstances. Another limitation is that its technique is restricted to reflecting patterns of work of marrying people, who were not necessarily typical of all workers.³⁷² And given that most farms had both livestock and crops, in practice what it may be measuring is the balance of time spent on arable compared to pastoral work, or the balance of the financial reliance on crops compared to livestock, or the numbers of people engaged in each of the two types of farming, or – more likely – a combination of all three.

Some local studies have by chance considered marriage seasonality in parishes included in Kussmaul's study.³⁷³ Consideration of these underlines the complexity of summarising the experiences of individual parishes and reinforces the need to use the methodology with care. Kussmaul classified marriages in the Nottinghamshire parish of Gedling as A-type (arable, i.e. autumn peak) in both 1561-1640 and in 1661-1740, but as X-type (no peak) in 1741-1820. Bradley found it to have an autumn peak in marriages in 1601-10, a spring peak in 1721-30 and no peak by 1821-30.³⁷⁴ Burton Joyce in Nottinghamshire was classified by Kussmaul as A-type in 1561-1640, X-type in 1641-1740 and A-type in 1741-1820. Massey considered it had a more mixed pattern with the strongest A-type pattern occurring in the early eighteenth century.³⁷⁵ Rowley's study of Oswaldkirk in the North Riding of Yorkshire suggested a similar pattern to that identified by Kussmaul of an A-type peak in marriages in 1561-1640

³⁷¹ A. Storm, 'Seasonality of Births and Marriages in a Seafaring Community Before the Age of Steam', *Local Population Studies*, 52 (1994).

³⁷² Bennett, 'Review: Kussmaul *A General View*' (1991).

³⁷³ see Kussmaul, *General View* p. 182ff. for list of parishes included in her study.

³⁷⁴ L. Bradley, 'An Enquiry into Seasonality in Baptisms, Marriages and Burials. Part One: Introduction, Methodology and Marriages', *Local Population Studies*, 4 (1970)

³⁷⁵ M. Massey, 'Seasonality, Some Further Thoughts', *ibid.* 8 (1972)

but a less clear seasonality subsequently.³⁷⁶ Hey highlighted discrepancies relating to two parishes of which he had specific knowledge.³⁷⁷ He described Dronfield in Derbyshire as having had a mixed economy, pointing out that 'the parish register data relates not to the market centre but to an outlying chapel of ease' and in consequence felt that Kussmaul's classification based on marriage seasonalities of Dronfield as industrial throughout the period was 'too crude a measure.' And he described Brodsworth in Yorkshire as 'a classic estate village throughout the eighteenth and nineteenth centuries' and its classification in Kussmaul's analysis as industrial by the late eighteenth century as 'absurd'. Rosen regarded as unlikely the classification of Banbury as mainly arable given the size of the town within the parish.³⁷⁸

Studies of elsewhere in the world have shown links between marriage seasonality and agriculture, reinforcing its value as an approach. Cressy, for example, looked at marriage seasonality in one part of eighteenth-century France and in seventeenth century New England and found distinct seasonal patterns in marriages related to patterns of agriculture.³⁷⁹ Gunn established that in rural Tasmania Europeans adapted the timing of their marriages in rural areas to occur when the relevant agricultural labour was less demanding.³⁸⁰

³⁷⁶ P. Rowley, 'Seasonality in the Parish Church of Oswaldkirk, North Riding, Yorkshire', *ibid.* 11 (1973).

³⁷⁷ D. Hey, 'Review: Kussmaul *A General View*', *Albion: A Quarterly Journal Concerned with British Studies*, 23 (1991).

³⁷⁸ Adrienne Rosen, personal communication.

³⁷⁹ D. Cressy, 'The Seasonality of Marriage in Old and New England', *The Journal of Interdisciplinary History*, 16 (1985); see also P. Ogden, 'Patterns of Marriage Seasonality in Rural France', *Local Population Studies*, 10 (1973); R. V. Wells, 'Marriage Seasonals in Early America: Comparisons and Comments', *The Journal of Interdisciplinary History*, 18 (1987).

³⁸⁰ P. A. Gunn, 'Productive Cycles and the Season of Marriage: A Critical Test', *ibid.* 21 (1990).

Application of Kussmaul's approach to Surrey's agriculture

The technical details of applying Kussmaul's methodology are described above (Chapter 2: Sources and Methods). As explained there, a slight variant of the index developed by Kussmaul has been applied in this study. It was decided to use this variant (referred to as Variant 3 (Composite rule)) as it distinguished, as Kussmaul, between arable-type and pastoral-type parishes but takes a somewhat more nuanced view of marriage seasonalities by incorporating also a sense of the strength of the seasonalities.

Application of the approach to non-metropolitan Surrey required the development of a database of the records of the marriages in Surrey's parishes. This included the great majority of marriages in non-metropolitan Surrey in the period of this study, in all about 70,000 marriages. The database included the parish where the ceremony took place (or, in about 5,700 cases, mostly later in the period, that the marriage was by a marriage licence), the date of the ceremony, the names of the bride and groom and, where given, the couples' home parishes. The database was developed from transcriptions of marriages undertaken by WSFHS.³⁸¹ In terms of the quality of the transcripts, as described above (Chapter 2: Sources and Methods) comfort was available from the known calibre of other work by those overseeing the transcriptions and by checking some transcripts with original register. No errors of substance were noted. The database was made use of in this chapter to consider the seasonality of marriages; it is also used in Chapter 7: Migration to explore the mobility of people on marriage.

³⁸¹The assistance of WSFHS, especially Tim Wilcock, in making their records available is gratefully acknowledged. The form in which the records had been created was not suitable for the analyses used here so it was necessary to restructure it.

Surrey's agriculture

Introduction

In 1572 William More of Loseley near Guildford compiled the 'state of my living' within which he recorded the agriculture of his manors of Loseley and Polstead in the west of Surrey.³⁸² His 159 acres of crops were divided between similar acreages of wheat, rye, barley and oats together totalling 140 acres, plus smaller acreages of peas and tares, typical of farmers at that time.³⁸³ He also had small quantities of hops and fruit. His livestock included cattle (milk cows, bulls, bullocks, oxen, calves), over 400 sheep, and horses, pigs, poultry, rabbits and fish. A century later, accounts from Loseley provide a comparison. They recorded some of the crops grown between 1690 and 1741 but unfortunately do not record livestock (other than from time to time as being consumers of crops).³⁸⁴ The crops mentioned are similar to the sixteenth century list – wheat, barley, oats, rye, peas and beans. The crops seem to have varied in quality. Aubrey, writing in 1673 or shortly thereafter, commented that in Loseley Park 'The Wheat growing hereabouts, and in all Low Surrey, viz. red Straw Wheat, is very good, much the same with that of Sussex, and much the same Price with it'.³⁸⁵ But the oats grown included both black oats and white oats. Oats are generally hardier than other grains and tolerant of poorer soils: black oats are very hardy, best suited to sandy or loamy soils and to places where other forms of oats struggle.³⁸⁶ The records also indicate some uses to which crops were put. Barley was used for malting and fed to pigs; peas were fed to poultry and to pigs; oats were fed to pigs and to horses.

³⁸² SHC 6729/7/56/2,11

³⁸³ Overton, *Agricultural Revolution*, p. 10.

³⁸⁴ SHC LM/1087/1/7

³⁸⁵ Aubrey, *Natural History and Antiquities of Surrey*, Vol. 3, p. 321.

³⁸⁶ US Dept Agriculture *Plant Guide*, <<https://plants.usda.gov/plantguide/pdf/pg_avst2.pdf>>, accessed 16 Oct 2017 ; University of Wolverhampton *Dictionary of Traded Goods and Commodities 1550-1820*, <<http://www.british-history.ac.uk/no-series/traded-goods-dictionary/1550-1820/black-ginger-black-oats>>, accessed 19 February 2019, accessed 19 Feb. 2019.

Records such as these provide some evidence of Surrey's agriculture but they are restricted to one area of Surrey and provide only a limited indication of changes over time. Surrey's farmers were likely to have experienced contrasting pressures between the sixteenth and the eighteenth centuries. On the one hand the period saw a move nationally for increased specialisation which nationally resulted in a more arable east of the country and a more pastoral west, influenced by their different soils and landscapes. Related to this, the proximity of Surrey to London would have been likely to reinforce the pressure to adopt arable farming as transporting grain over the comparatively short distances from Surrey to London was easier than over the long distances required from more distant counties. But on the other hand, Surrey's farmers would have had to decide what was best for them given the nature of the soils their farms lay on. Not all Surrey's soils were suited to arable farming and as a result some of its farmers may not have been able to increase their arable acreages profitably.

The remainder of this chapter considers the geographical patterns of agriculture across non-metropolitan Surrey and its changing forms over time. The area's geology and soils and its patterns of landownership and occupation are described first, followed by its agriculture. Then, the course of agricultural change in non-metropolitan Surrey is considered through the use of both conventional sources and Kussmaul's marriage seasonality approach. Finally, some of the possible economic consequences of this agricultural change are discussed.

Geography

Differences in drainage, soil type and fertility would have had consequences for the types of farming undertaken in different parts of Surrey. Surrey was not an agriculturally rich county, often lacking fertility of soils and ease of ploughing. The

distribution of Surrey's various geological forms is illustrated in Figure 87. In places its soils are fertile, such as along the Thames Valley and in the Vale of Holmesdale, a narrow band of soils to the south of the North Downs but much is of relatively poor fertility. To the south the wooded Low Weald is low lying with soils mostly of heavy clay and difficult to plough. In the extreme south-east a little of the sandstone Hastings Beds of the High Weald are within the Surrey boundary, an area also well wooded but, in contrast to the Low Weald, higher and well drained. To the north and west of the Weald is the Greensand, an area of freely draining light acid soils that varied considerably in fertility, in places supporting arable farming while elsewhere containing extensive heaths. Further north is a band of chalk, the North Downs. Wide in the east of the county it tapers to a narrow ridge, the Hog's Back, in the west. The soil is thin and in the east mixed with clay and flints making it hard to plough. Between the Downs and Surrey's northern border with the Thames are three main areas. To the north and east is London Clay, another area suited to trees and commons. Closer to the Thames are terrace gravels which provided light, well drained soils suitable for agriculture. To the north west of the county are the Bagshot Sands, much of which was heathland and whose soils Kerridge characterised as 'among the worst in England'.³⁸⁷

³⁸⁷ Hunt, *Hidden Depths: an archaeological exploration of Surrey's past*, pp. 11-2 ; Gray, *Farmsteads and Farm Buildings in Surrey: a preliminary survey*, pp. 7-8; Turner, *Surrey*, p. 73; Kerridge, *The Agricultural Revolution*, p. 77.

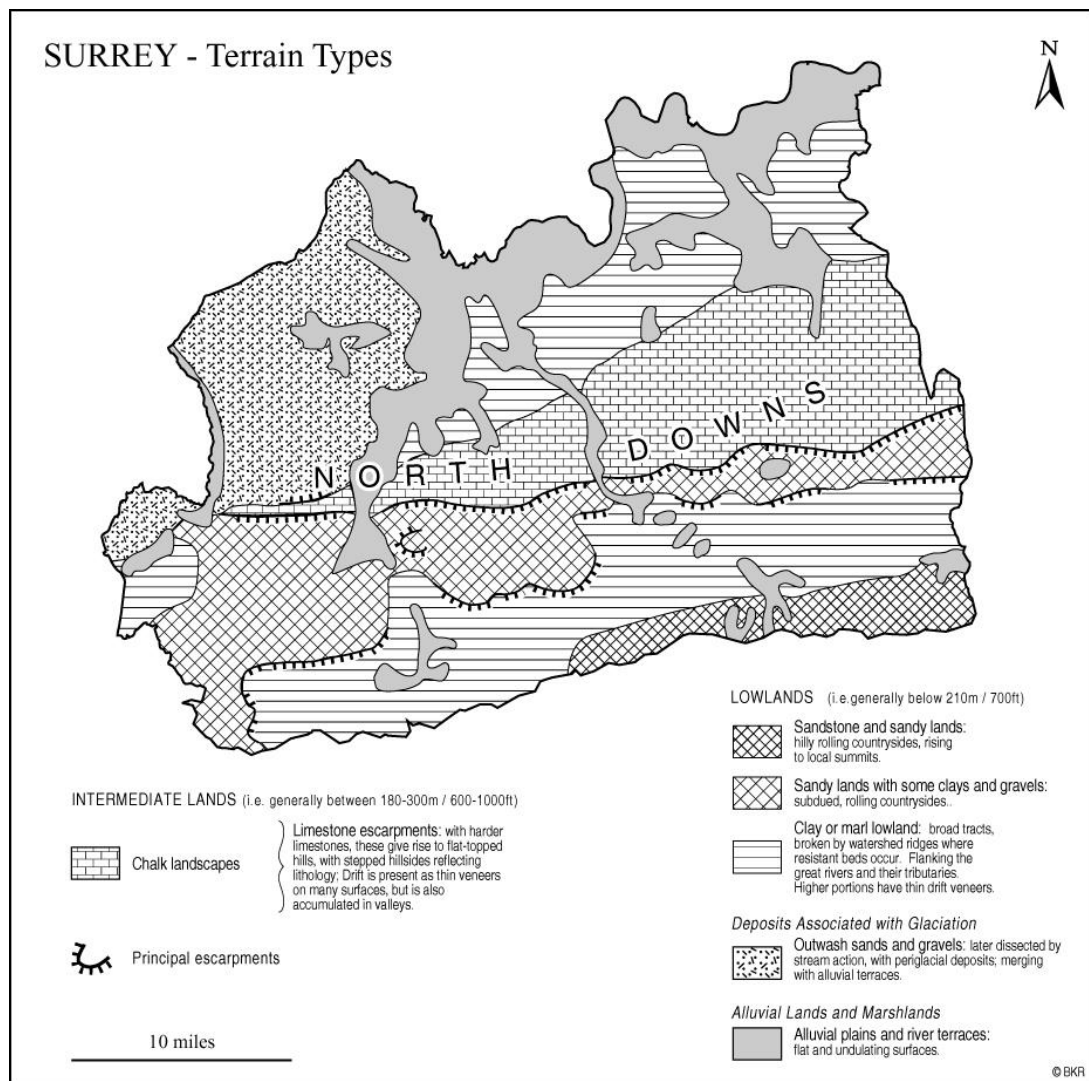


Figure 87 Surrey terrains³⁸⁸

Descriptions of soils and landscapes for each parish are available in Manning and Bray and in the Victoria County History of Surrey.³⁸⁹ These descriptions are valuable but can also be somewhat unwieldy. An alternative approach which provides a useful visual overview of the area's soils is possible using descriptive indices available from LandIS (Land Information Systems, operated by Cranfield University).³⁹⁰ LandIS coded various features of the soils and landscapes across England and Wales. Its data has been used in this study to map the soil of each parish based on the location of the

³⁸⁸ reproduced from BA Hearth Tax Project

³⁸⁹ Manning, *History and Antiquities*; Malden (ed.), *VCH Surrey*.

³⁹⁰ Landis *Soils*, <<http://www.landis.org.uk/soils>>, accessed 2 Mar 2018.

parish church.³⁹¹ Clearly this cannot provide a full description of Surrey's soils as the church's location generally reflects the site of the village rather than the range of soils contained within the parish. Limitations are particularly strong in the representation of parishes which cover two or three of the main soil types, often the case with parishes which run down the slopes of the Downs. Particularly striking examples of such parishes are Abinger and Tandridge both of which stretch from the centre of the county to its southern boundary. In Abinger, Malden described the soils thus: 'The northern portion of the parish is on the chalk downs, nearly 700 ft. above the sea. It runs southward over the narrow Upper Green Sand and Gault ... The southern part of the parish sinks rapidly down to the Wealden Clay.' Tandridge, a remarkably long and thin parish, no more than a mile wide, similarly includes chalk hills, Greensand and Wealden Clay.³⁹² Moreover, within a particular geological area there could be significant differences in soils. For example, Jervis described how the 'Weald clay in the west is lightened by a considerable content of silt and fine sand, but it still tends to give a damp heavy soil owing to the impregnable subsoil. The better drainage of the slightly upraised portions is notable... The London Clay too is lighter in the west'.³⁹³ Malden made a similar comment: 'land lying on the same subsoil may differ vastly in depth and quality. The chalk of chalk land, for instance, differs very greatly in soil. Sometimes the surface soil is very light and thin, sometimes it lies on a local bed of clay, and is heavy and strong'.³⁹⁴ Drainage could vary considerably. Jervis wrote how the Bagshot Sands 'consist largely of coarse sand; on the uplands the

³⁹¹ M. Salter, *The Old Parish Churches of Surrey* (Malvern, 2000), used to obtain grid references of parish churches.

³⁹² Malden (ed.), *VCH Surrey*, Vol. 3, p. 129, Vol. 4 p.321.

³⁹³ Jervis, 'Land Use and Rural Life in South-west Surrey: a survey of the human and historical geography of the Rural Districts of Guildford and Hambledon', p. 24, see also pp. 13ff.; also Ashworth, 'Some Aspects of the Historical Geography of Central Surrey: a study in economic change', pp. 11ff..

³⁹⁴ Malden (ed.), *VCH Surrey*, Vol. 4 p. 456.

ground is parched by rapid drainage while on flat and low-lying land [there is] ... impeded drainage and peat formation ... Good soils often occur at the edges of these formations'.³⁹⁵ In Pirbright, for example, most of the parish is on the Bagshot Sands but '[t]he village lies in the only fertile part of the parish, between higher ground both east and west, in the valley of a small stream'.³⁹⁶

Despite these limitations the LandIS-based classification provides a useful visual representation of the soils and landscapes of Surrey. Based on the location of the parish church LandIS suggests a dozen soil types within Surrey (Table 9 and Figure 88).³⁹⁷ Their geographical distribution gives an alternative perspective to the mapping of terrain types shown in Figure 87, a result of the different basis of the descriptions in the two maps but also, of course, of the LandIS map being based on the soil-type at the location of the parish church alone.

Soilscape Number	LandIS Description
3	Shallow lime-rich soils over chalk or limestone
6	Freely draining slightly acid loamy soils
7	Freely draining slightly acid but base-rich soils
8	Slightly acid loamy and clayey soils with impeded drainage
10	Freely draining slightly acid sandy soils
14	Freely draining very acid sandy and loamy soils
15	Naturally wet very acid sandy and loamy soils
18	Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils
20	Loamy and clayey floodplain soils with naturally high groundwater
21	Loamy and clayey soils of coastal flats with naturally high groundwater
22	Loamy soils with naturally high groundwater

Table 9 LandIS categories of soil types at location of parish churches

³⁹⁵ Jervis, 'Land Use and Rural Life in South-west Surrey: a survey of the human and historical geography of the Rural Districts of Guildford and Hambledon', pp. 24-5.

³⁹⁶ Malden (ed.), *VCH Surrey*, Vol. 3, p. 363.

³⁹⁷ Salter, *The Old Parish Churches of Surrey; Soilscales*.

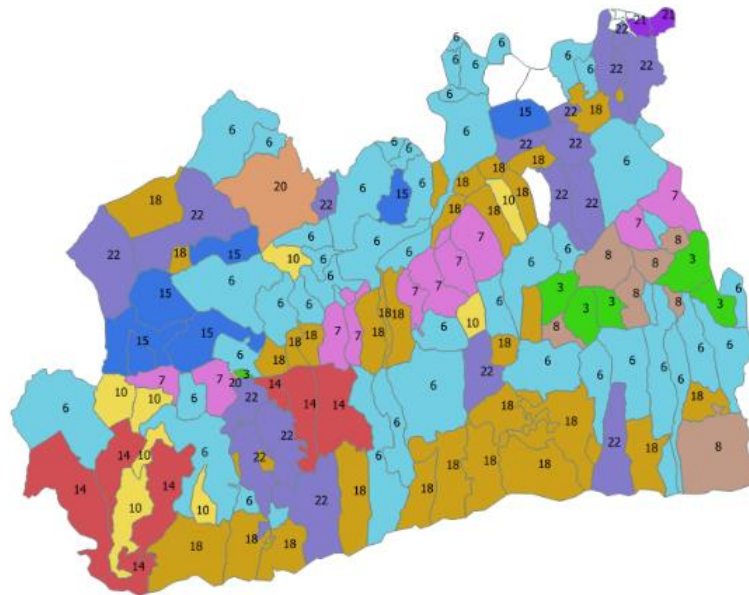


Figure 88 LandIS categories of soil types (for coding, see Table 9)

Within this broad categorisation three specific characteristics of Surrey's soils can be considered: drainage (Figure 89, categorised 1-4, where 1 is driest); soil texture (Figure 90, categorised 1-6 where 1 is most clayey and 6 is most sandy) and fertility (Figure 91, categorised 1-5, where 1 is lowest).

Much of Surrey was well drained, the most notable exception being the clay Wealden area to the south. But there are areas to the north and to the far west which appear to be wetter too, though this may in part reflect the locations of the villages and parish churches rather than the parish as a whole (for example Pirbright, discussed above, is one of these parishes). The soils map confirms the clayey Wealden area in the south, the sandy soils in the west, sandiest in the south west. The fertility map highlights the range of fertilities of Surrey soils and the lack of good soils, most being average or poor. The parishes with the highest fertility are some of those which include the slopes of the Downs. These differences in drainage, soil type and fertility would have had consequences for the types of farming undertaken in different parts of Surrey.

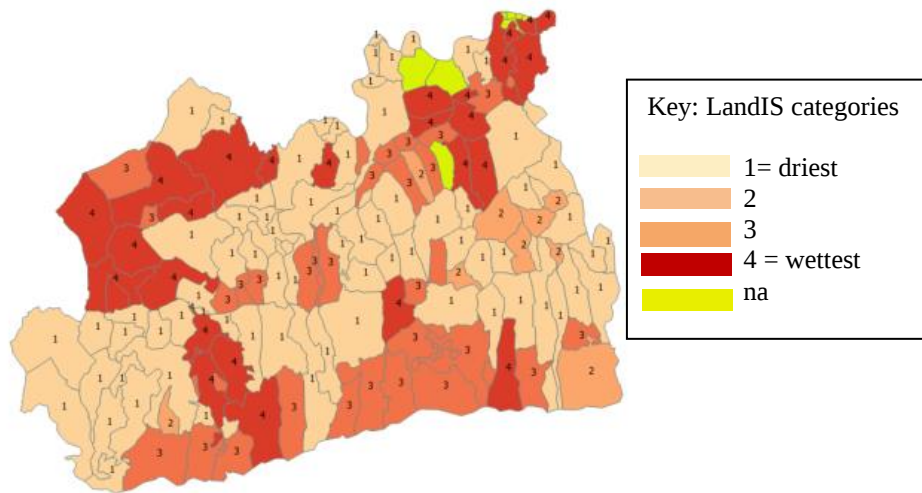


Figure 89 Drainage

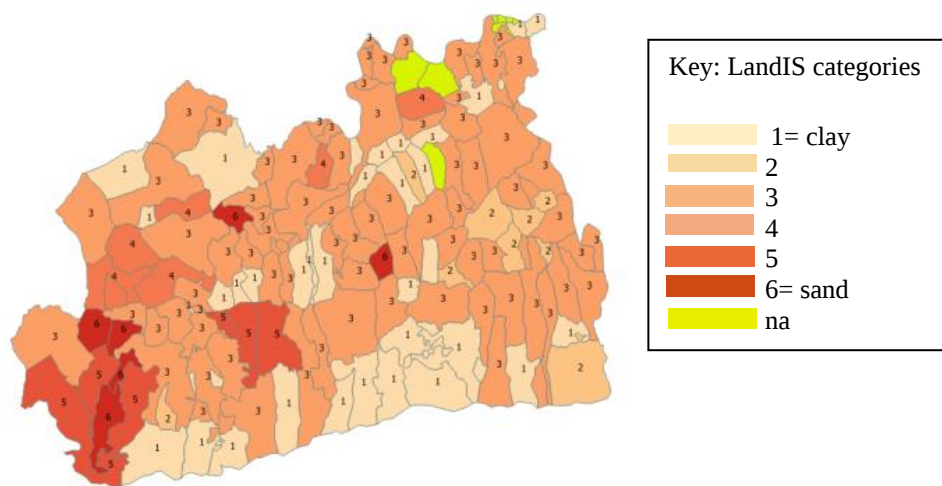


Figure 90 Soil texture

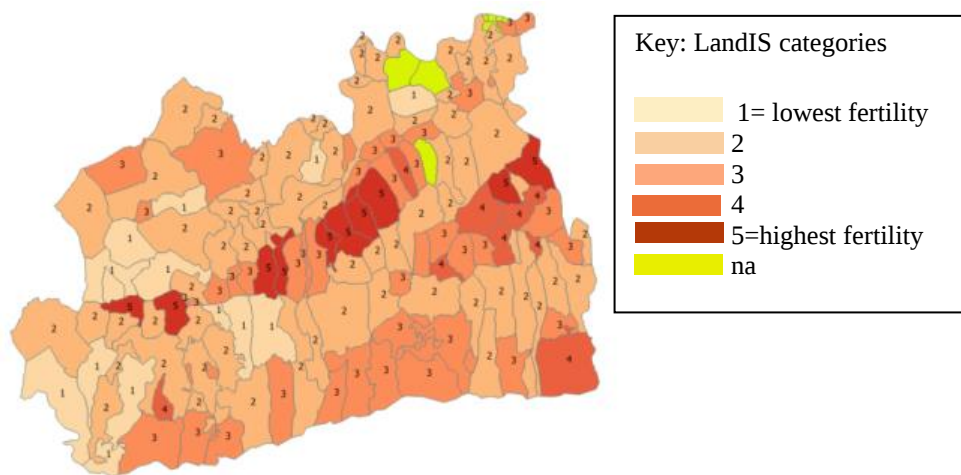


Figure 91 Soil fertility

Land ownership and occupation

Also relevant to Surrey's agriculture were its patterns of land ownership and occupation, the inheritance customs by which land was handed on between generations and the extent of enclosure. A certain amount is known about these in Surrey but not nearly as much as one would wish. They are topics on which more research would be most welcome, but detailed consideration of which is beyond the scope of this thesis.

Inheritance customs in Surrey differed between areas. As well as primogeniture, manors in some Surrey parishes used the custom of Borough English (inheritance by the youngest son, or sometimes brother or youngest daughter in the absence of sons). Faith identified 28 manors where it remained into the nineteenth century, some in the south of the county and others close to London.³⁹⁸ Gavelkind (partible inheritance), the predominant inheritance custom in the adjacent county of Kent, was present in the sixteenth and seventeenth century in the Wealden area of Surrey.³⁹⁹

The county appears to have had no very large landowners, based on tithe maps and apportionments for parishes in the part of the modern county of Surrey which were also in the historical county.⁴⁰⁰ The largest at the time of the tithe commutations in 1836 seem to have been the Earl of Onslow, Sir William Clayton and Henry Hope each owning around 6,500 acres. Onslow owned land in over a dozen parishes in the west of Surrey, Clayton's land was towards the south-east of Surrey and Hope had land in four parishes in and around Dorking. In addition, there were around a dozen

³⁹⁸ R. J. Faith, 'Peasant Families and Inheritance Customs in Medieval England', *The Agricultural History Review*, 14 (1966), pp. 82, 93ff..

³⁹⁹ Chalklin, *Seventeenth-century Kent : a social and economic history*, p. 1; Brandon and Short, *The South East from AD 1000*, p. 192.

⁴⁰⁰ Surrey Tithe Records Project Database. I am grateful to David Young for his assistance.

other landowners with holdings of at least 2,000 acres. Recovering the size of the average farm is problematic – inventories for example provide acreages only of sown arable crops – but there is the possibility that the observation noted above (Chapter 5: Economy) may perhaps be relevant. It is hypothesised there that the relatively low proportion of labourers compared to farmers identified may suggest a relatively low level of agrarian capitalism in non-metropolitan Surrey in the early eighteenth century and the continuing importance of family farms. If so, the implication would be that many farms would have been small, under about 50 acres.⁴⁰¹

Tate described Surrey as ‘in the main a county of early enclosure’.⁴⁰² Early modern commentators quoted by Tate include Blith who in 1649 described Surrey as an enclosed county, Meager in 1697 who included Surrey among the enclosed counties where the people can ‘live happily and supply corn to the open field counties’ and the 1675 maps of Ogilby, which Gonner calculated showed Surrey as ranking 23rd lowest of the 37 counties listed in order of the percentage of open land still remaining, with a total enclosure of some 27 per cent.⁴⁰³ Surrey lay outside the Midland system of two or three open fields, having instead what Hall described as fields systems which were ‘irregular with limited dispersion that sometimes involved the use of closes, and had no communal cropping regulation’.⁴⁰⁴ Only a few open fields survived in Surrey until the era of Parliamentary enclosure which began in the late eighteenth century: Gray showed that in the modern county by that date they remained present only in a section

⁴⁰¹ Shaw-Taylor, 'The rise of agrarian capitalism and the decline of family farming in England' (2012).

⁴⁰² W. E. Tate, 'Enclosure Acts and Awards Relating to Lands in the County of Surrey', *Surrey Archaeological Collections*, 48 (1943), pp. 132-3.

⁴⁰³ *Ibid.*, p. 134.

⁴⁰⁴ D. Hall, *The Open Fields of England* (Oxford [Oxford Scholarship Online], 2014), p. 321.

of the dip slope of the Downs and in a small area on the scarp slope between Dorking and Reigate (Figure 93).

Field sizes varied across the county. In the early nineteenth century, the tithe apportionments recorded the 'parcels of land' the area was divided up into, which Pearson and Collier regarded as referring to fields.⁴⁰⁵ They tended to be smaller in the south and greater in the west and north (Figure 92), a distribution consistent with the different soil types – a wood-pasture economy with smaller fields in the Wealden south and a sheep-corn economy with larger fields on the chalk and sandy soils. There remained not inconsiderable areas of commons and wastes: Maldon recorded that '[i]n the latter part of the eighteenth century one-sixth of the county, or 120,000 acres was considered to be waste', and Gray wrote that 'until the eighteenth century, much of the present area of Surrey was characterised by extensive commons and wastes'.⁴⁰⁶ His map of the modern county (Figure 93) shows areas of commons and heaths being present in many parts of it in the late eighteenth century, the main exception being the Wealden area.

⁴⁰⁵ A. Pearson and P. Collier, 'The Integration and Analysis of Historical and Environmental Data using a Geographical Information System: landownership and agricultural productivity in Pembrokeshire c1850', *Agricultural History Review*, 46 (1998); Hindle, *Maps for Historians*, p. 51.

⁴⁰⁶ Gray, *Farmsteads and Farm Buildings in Surrey: a preliminary survey*, p. 9.

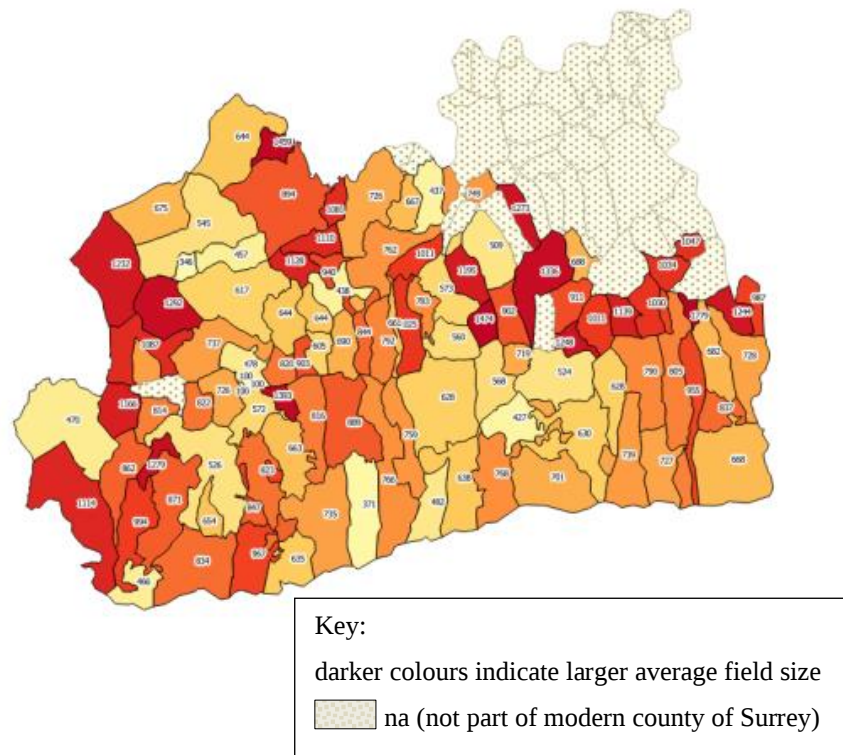


Figure 92 Average 'field' sizes (perches) per parish

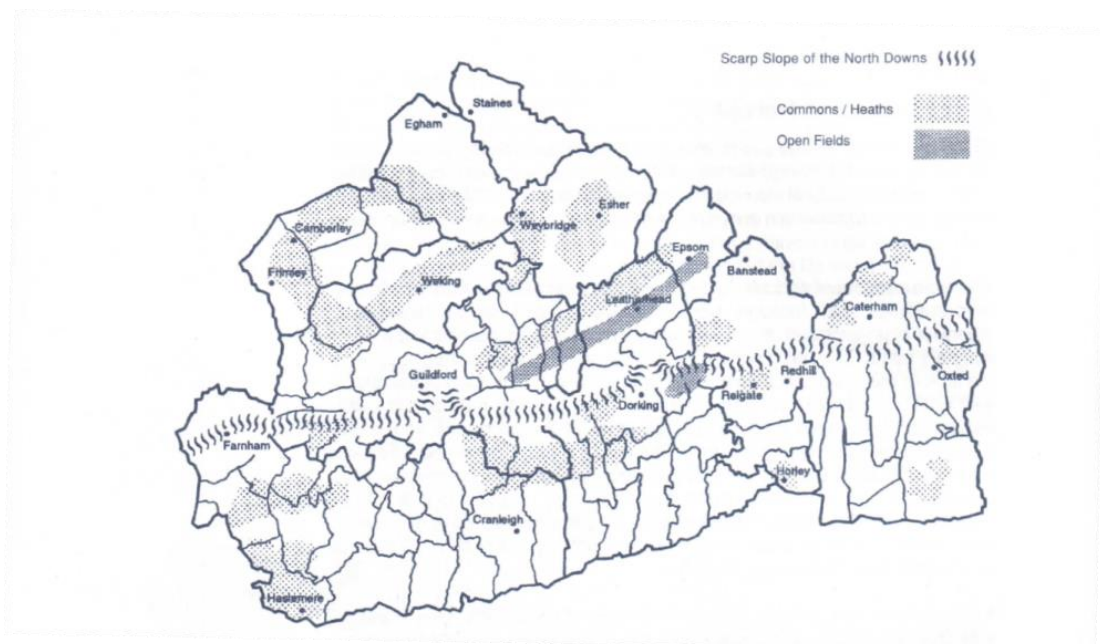


Figure 93 Map of commons, heaths and open fields in late eighteenth century Surrey (modern county)⁴⁰⁷

⁴⁰⁷ reproduced from *ibid.*, p. 10.

Agriculture by area

Differences between farming in the south of Surrey and further north in the Elizabethan period are evident from a comparison between the values of stock and the values of crops recorded in probate inventories. Mapping the 10 parishes where the ratio of the value of stock to crops was highest according to surviving inventories and the 10 parishes where the value of stock to crops was lowest (Figure 94) suggests stock was the more important source of wealth in the south of the county and crops the more important source further north. Although based on only a small number of inventories per parish this provides a preliminary, and quite clear, indication as to agricultural differences between different parts of Surrey.⁴⁰⁸

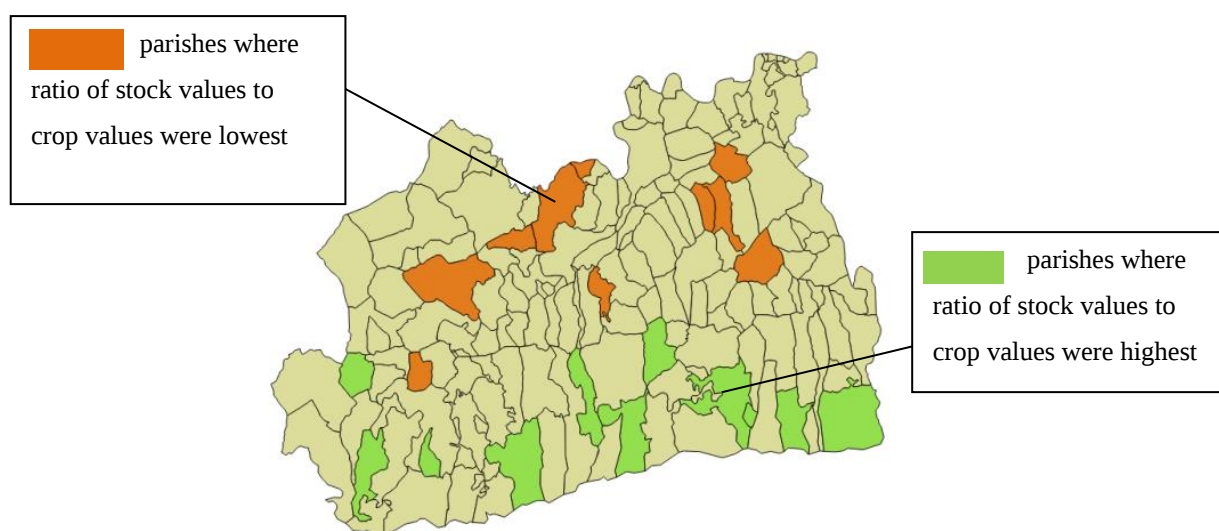


Figure 94 Stock and crop values in Elizabethan inventories

To consider the agriculture of Surrey in more detail, four areas of Surrey have been distinguished, providing a framework within which some of the main features of its differing agricultures geographically and over time are explored and discussed. These four areas are based on main geological and consequent agricultural distinctions

⁴⁰⁸ Most parishes had between two and six inventories, parishes with only a single inventory were not included and some parishes had no inventories for this period.

between different parts of the county and are broadly, though not wholly, homogeneous. They are referred to as ‘South’, ‘Mid’, ‘West’ and ‘North’ Surrey.

The South area comprises parishes in the Low Wealden clay, though some include also sandstone of the High Weald, or Greensand soil adjoining the Wealden clay to the north, places where the soils are lighter and more tractable. The soils are mostly clay, wet and heavy, but potentially fertile. It was an area where transport was historically difficult. Salmon described the Weald as ‘one of the dirtiest Countries in England’, continuing that

The Dirt, almost without bottom, goes on upon the Borders of Sussex for many Miles. ... The Men, and the Horses who draw their Corn to Market, of which seven, eight, or nine are in a Team, with a weight for which four are sufficient in other places, look as if they had wallowed in the Mud.⁴⁰⁹

The clay soils of the Weald were suited to a wood-pasture economy, Cobbett describing its oak as ‘finer than in any part of England’.⁴¹⁰ In Godstone the inventory of George Luxton gent (Jan 1679/80) recorded that he possessed ‘the Timber rough and hewed fifty three loades seaven hundred of Pales and some Posts and railles’ (value £41) and in Lingfield William Welfare yeoman (1676/7) had 29 acres of coppice land (£30).⁴¹¹ Trade in timber from the Weald created links with a wide area. When Nicholas Dane (Dean) of Godstone, farmer and carter (1746), died in an accident his inventory recorded that he owned a timber carriage, and £8 of wood cut and standing. But it also described something of the scale of his trade:

the said deceased had for about eleven Years before his Death rented and Occupied a small ffarm besides which for about seven years before such his

⁴⁰⁹ Salmon, *Antiquities of Surrey*, pp. 73-4.

⁴¹⁰ Cobbett, *Rural Rides*, p. 10.

⁴¹¹ PCC PROB 4/2947; PCC PROB 4/3934.

Death he was much employed in fetching and carrying Wood Coals and Timber from and to Places very Remote from his own House and in such Employ in carrying Timber from Sussex to Deptford, was Accidentally killed on the Road by means of his Attending such Timber Carriage.⁴¹²

The other part of the wood-pasture economy was stock rearing or fattening. The numbers of inventories which included cattle in this area tended to be greater than elsewhere in Surrey, and more were referred to as fattening beasts such as in Godstone where the inventory of Brian Stidolfe (1664) included 4 fattening cattle, 2 fattening oxen, 1 fattening steer and 6 fattening hogs, or in Lingfield where the inventory of Thomas Piggott (1731) included 20 fattening cows (£90) and 3 fattening cows and a bull (£14). The area also contained arable farming, including some of the largest arable acreages in the county recorded in surviving inventories, such as those of John Allen (yeoman, 1689, Burstow) with 121 acres and William Ledger (1684, Horne) with 90 acres.⁴¹³ The quantities of grain grown by these and other farmers in this area imply they were not solely for home use but also for market. This is mentioned explicitly in the inventory of William Greenfield of Capel (Dec 1680/1) which records that he had wheat, oats, peas in the barn but also wheat ‘att Markett’.⁴¹⁴

The Mid area consists of those parishes which include the chalk of the North Downs, though almost no parishes were wholly on the Downs. Those which run north of the Downs, on its dip slope, generally include, as well as the chalk of the Downs, London clay and sometimes a strip of Woolwich or Thanet beds (which contained a mix of sandy and clayey soils), while those which run to the south, on the Downs’ scarp slope, generally include Greensand and a certain amount of clay in addition to the

⁴¹² PCC PROB 31/302/793.

⁴¹³ PCC PROB 4/18720 ; PROB 31/308/470; PROB 4/16032; PROB 4/18129.

⁴¹⁴ PCC PROB 4/1554.

chalk. The chalk Downs, running east-west, form the ‘spine’ of Surrey and provide much of Surrey’s high land (though the highest point in the county is actually a little further south, on the Greensand Ridge). The Downland soils were light and hence capable of being ploughed by horses rather than oxen. For example, the inventory of William Menheire, gent (June 1671) of Ashstead listed 8 horses (but no oxen) and 110 acres of crops valued at £170.⁴¹⁵ There were substantial flocks of sheep on the Downs, and farmers combined them with growing a variety of grains and other crops. For example in Walton on the Hill Richard Denby, gent (Aug 1689), had 380 sheep, 94 acres crops and 45 acres of ‘New Hay, Nonesuch, Clover and Sinkefloyle’.⁴¹⁶ In Coulsden, widow Anne Lambert (Jul 1685) had 271 sheep and lambs (£110), wool (£44), and crops of wheat, oats, barley, peas and tares (£187).⁴¹⁷ Some inventories mention trees or orchards, probably located on the clay areas of these parishes. For example, in Betchworth (its southern part is on Wealden clay) the inventory of Thomas Arnold (May 1703) included £30 of timber.⁴¹⁸

The West area combines the two broad areas of sandier soils, the Bagshot Sands to the north-west of the county and the Greensand to the south-west. Within the northern part of this area are also some alluvial soils adjacent to the Rivers Wey and Thames. The soils in the western part of Surrey are mainly light, sandy, dry and of low fertility. Some areas within the Greensand were quite fertile: Cobbett described ‘all these nice light and good lands round about Godalming’.⁴¹⁹ In contrast, in the north-west, some soils are extremely poor: Defoe described some of them as ‘a sandy desert ... given up to barrenness, horrid and frightful to look on, not only good for little, but good for

⁴¹⁵ PCC PROB 4/1674.

⁴¹⁶ PCC PROB 4/3199.

⁴¹⁷ PCC PROB 4/5816.

⁴¹⁸ PCC PROB 5/2130.

⁴¹⁹ Cobbett, *Rural Rides*, p. 60.

nothing'.⁴²⁰ The area's light soils were likely to have been easy to plough, and this is supported by the presence on some farms of only horses as draught animals, and no oxen. For example in Farnham, yeoman John Turner's inventory of May 1621 mentioned crops and included 5 horses and 'a harness for his horse harrowes' but no oxen or ox-drawn equipment.⁴²¹ While not as important a part of the economy as on the Downs, sheep for meat were of some value, particularly in the north of this area and in the late seventeenth century Aubrey described in Bagshot 'The sweet but little Mutton hereabout is taken Notice of by Travellers'.⁴²²

Finally, **the North area** is the least homogeneous. Much of the soil is London clay but there are also areas of alluvial soils adjacent to the Rivers Thames, Mole, and Wandle and a certain amount of gravels too. Being much closer to London the problems clay soils caused for transport further south in Surrey would have been less of an issue. Stock on some farms was most likely for the London market. Some included cattle brought by drovers from Wales, such as the 12 Welsh runts (£18) recorded in the inventory of Philip Gaynes of Streatham (Aug 1685) or the 33 Welsh beasts in the inventory of yeoman Richard Edwards (Aug 1700) in Barnes, presumably being fattened up after their journey in preparation for sale in London.⁴²³ Other farmers may have been keeping cows for dairying such as in Streatham where yeoman Ambrose Gray (June 1693) had 11 cows valued at £25 and in Merton where William Sutton, yeoman (June 1677) had 15 cows and a bull, valued at £45.⁴²⁴ As in

⁴²⁰ Defoe, *Tour*, p.156.

⁴²¹ HRO 1621B/58.

⁴²² Aubrey, *Natural History and Antiquities of Surrey*, Vol.3, p. 213; Cox, *Magna Britannia Antiqua & Nova*, p. 440

⁴²³ PCC PROB 4/1556; PCC PROB 4/3178. Runt was the description used in England for Welsh black cattle, see W. Smith, *The Drovers' Roads of the Middle Marches* (Herefordshire, 2013), pp. 13-4.

⁴²⁴ PCC PROB 4/1523; PCC PROB 4/17943.

the clay area of the Weald, the areas of the London Clay included woods. For example the inventory of John Brownwend (Brownent), of Long Ditton, clerk and parson, (1599) listed amongst the tithes he was owed ‘Tithe wood in the woods not yet brought out of the woods’ , and that ‘Barnard Edmondes owethe for 13 lod of tythe wood in Copte grove’.⁴²⁵ The Thames was an important means of transporting this timber, and other goods, to London. The inventory of yeoman Edward Knight (Ellis) (1669) of Cobham, recorded that he had wood, valued at £10 15s, at Walton wharf (on the Thames).⁴²⁶ Market gardening was another activity in the area. There were numbers of gardeners in parishes in the north of the county. In 1693, the inventory of William Blind, for example, a gardener of Barnes, recorded ‘Trees, fflowers and Plants in the Gardens’, listing a range of flowers, bulbs, ornamental trees, and fruit trees valued in all at over £170.⁴²⁷

Similarities and differences in the farming in these different parts of Surrey can be highlighted further by considering in aggregate probate inventories in these four areas in the Elizabethan period. The specific parishes included in the four areas comprise about two thirds of Surrey’s parishes and are a pragmatic choice which tries to take account of how the boundaries of parishes fall in relation to the various geologies of Surrey (Figure 95). They were chosen to be relatively homogeneous areas in their soil types and hence to provide a reasonably coherent basis for choosing inventories representative of the main types of soil and agricultures of different parts of Surrey. The North area included 16 parishes, Mid included 30 parishes, South included 14 parishes and the West included 21 parishes.

⁴²⁵ Herridge (ed.), *Surrey Probate Inventories, 1558-1603*

⁴²⁶ PCC PROB 4/3918.

⁴²⁷ LPA VH 96/271.

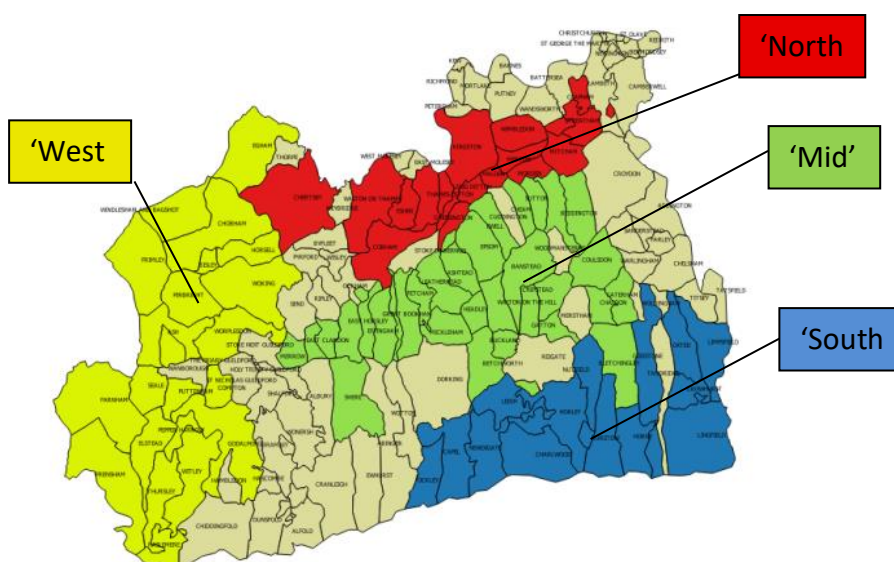


Figure 95 Parishes included in the four areas

The average arable acreages, as recorded in inventories in the Elizabethan period were modest and did not differ substantially between these areas (Table 10). While the mean acreages appear to suggest that the Mid and North areas perhaps had on average larger farms than the other two areas, the much lower median values in these two areas compared to their means suggests a combination of a majority of smaller farms and a few large farms.

Average arable acreage recorded (Elizabethan inventories)	Mean	Median
West (73 inventories)	12	8
South (10 inventories)	9	5
Mid (31 inventories)	18	6
North (25 inventories)	18	6

Table 10 Elizabethan inventories– average acreages by area

The Elizabethan inventories also suggest both similarities and differences between the four areas in their agriculture in the sixteenth century (Table 11 and Table 12). They suggest - at a broad level - similarities in the agriculture practised, at least in the larger farms which tend to feature mostly in probate inventories. The differences observable are, nevertheless, indicative, consistent with some differences between the areas

resulting from their differing soils. Wheat, suitable for more fertile soils, was more common on the clay soils in the South and (in terms of acreage) in the North than elsewhere and there was a small amount of French wheat (suitable for poor soils) grown in the sandy soils of the West but not elsewhere. Rye, a cheaper grain than wheat for bread, was more often grown in the North and West. Oats, often used for fodder, were more common in the South. Wood or timber was mentioned more often in the South than elsewhere. The South contained high proportions of stock including cattle of all sorts – oxen, dairy cattle and beef cattle were all mentioned more often than in other parts of the county and were more often referred to as ‘fatting’. These high numbers of cattle were doubtless associated with the high level of growing of oats, a fodder crop, in the same area. Pigs too were mentioned in more inventories from the South than from elsewhere, though the numbers mentioned per inventory was similar. In the South they were often referred to as ‘fatting’ so were being reared for sale while elsewhere it is more likely they were for home use. The numbers of inventories mentioning sheep was similar in all areas but there was a considerable difference in the size of the flocks, which were substantially larger on the Downs, and smallest in the South.

Percentage of inventories mentioning specific crop	South (29 inventories)	West (162 inventories)	Mid (57 inventories)	North (47 inventories)
wheat	41%	19%	32%	32%
rye	21%	35%	16%	40%
wheat and rye	7%	7%	12%	6%
barley	3%	17%	39%	28%
oats	45%	36%	28%	34%
pulses	3%	18%	37%	34%
corn	10%	12%	12%	9%
French wheat		2%		
timber/wood	10%	3%	4%	2%
Percentage of acreages (where acreage specified)				
wheat	23%	15%	17%	27%
rye	4%	19%	6%	20%
wheat and rye	10%	7%	14%	3%
barley		10%	25%	13%
oats	64%	21%	15%	15%

Table 11 Elizabethan inventories – crops by area

Percentage of inventories mentioning specific stock	South (29 inventories)	West (162 inventories)	Mid (57 inventories)	North (47 inventories)
oxen	28%	22%	19%	13%
kine	83%	65%	61%	62%
other cattle	79%	62%	54%	57%
horses	76%	61%	54%	64%
sheep	55%	54%	53%	49%
pigs	83%	65%	61%	62%
Average number of stock per inventory				
oxen	5	4	4	5
kine	5	4	4	4
other cattle	7	6	5	5
<i>All cattle</i>	<i>17</i>	<i>14</i>	<i>13</i>	<i>14</i>
horses	2	3	3	3
sheep	15	34	57	34
pigs	5	6	6	5

Table 12 Elizabethan inventories – stock by area

Agricultural change over time

Introduction

The late seventeenth- and early eighteenth-century accounts from Loseley suggest the presence of changes in its farming.⁴²⁸ They include some evidence of the dates by which new crops had appeared and others declined. Rye is mentioned in these accounts less often than other grains and not after 1714. The first record of French wheat was in 1702 and of clover was in 1717. Clover was grown in England as a nitrogen-fixing crop from the early seventeenth century and Aubrey wrote that in the south-western Surrey parish of Elstead ‘and in parts adjoining, Clover Grass has reduced the price of Meadow Hay from three Pounds to twenty Shillings per Load’.⁴²⁹ In Worplesdon, a few miles north of Elstead and mainly on Bagshot Sands, Aubrey wrote that ‘here is excellent Grass, call’d Nonesuch ... and is equal to Sanfoine, and has been cultivated in these Parts not above 30 Years’.⁴³⁰ Non[e]such was a form of clover. In 1672 Richard Haynes of Sussex was awarded a patent for treating a seed ‘called nonesuch trefoye or hop clover’ and Coke in Norfolk in 1721 included ‘Clover Rye Grass or Nonsuch’ in his tenants’ crop rotations.⁴³¹

County-level perspective

As described above the inconsistent survival of probate inventories limits their effectiveness for consideration of changes in agriculture over time in Surrey. This

⁴²⁸ SHC LM/1087/1/7.

⁴²⁹ Overton, *Agricultural Revolution*, p.110; Aubrey, *Natural History and Antiquities of Surrey*, Vol. 3, p. 363.

⁴³⁰ Aubrey, *Natural History and Antiquities of Surrey*, Vol. 3, p. 326.

⁴³¹ C. Lane, ‘The Development of Pastures and Meadows during the Sixteenth and Seventeenth Centuries’, *The Agricultural History Review*, 28 (1980), p. 28-9; C. P. Timmer, ‘The Turnip, The New Husbandry, and The English Agricultural Revolution’, *The Quarterly Journal of Economics*, 83 (1969), p. 381.

section therefore considers changes in Surrey's agriculture over time based on analysis of marriage seasonality.

The marriages for each parish (for which marriage registers survive) were grouped into four time periods of equal length, 1561-1600, 1601-1640, 1661-1700, 1701-1740. These were long enough to provide a good likelihood of sufficient marriages to analyse, they omitted the record hiatus which some parishes experienced during the Civil War and Interregnum and they coincided with the first four periods of Kussmaul's analysis. Parishes with less than 24 marriages in a particular time period were excluded. The Composite Kussmaul-variant Index (Variant 3) described above (Chapter 2: Sources and Methods) was used to identify the main agricultural type of each parish for each of these time periods, and these were then mapped (Figure 96) to display the changing pattern of agriculture in Surrey over time.

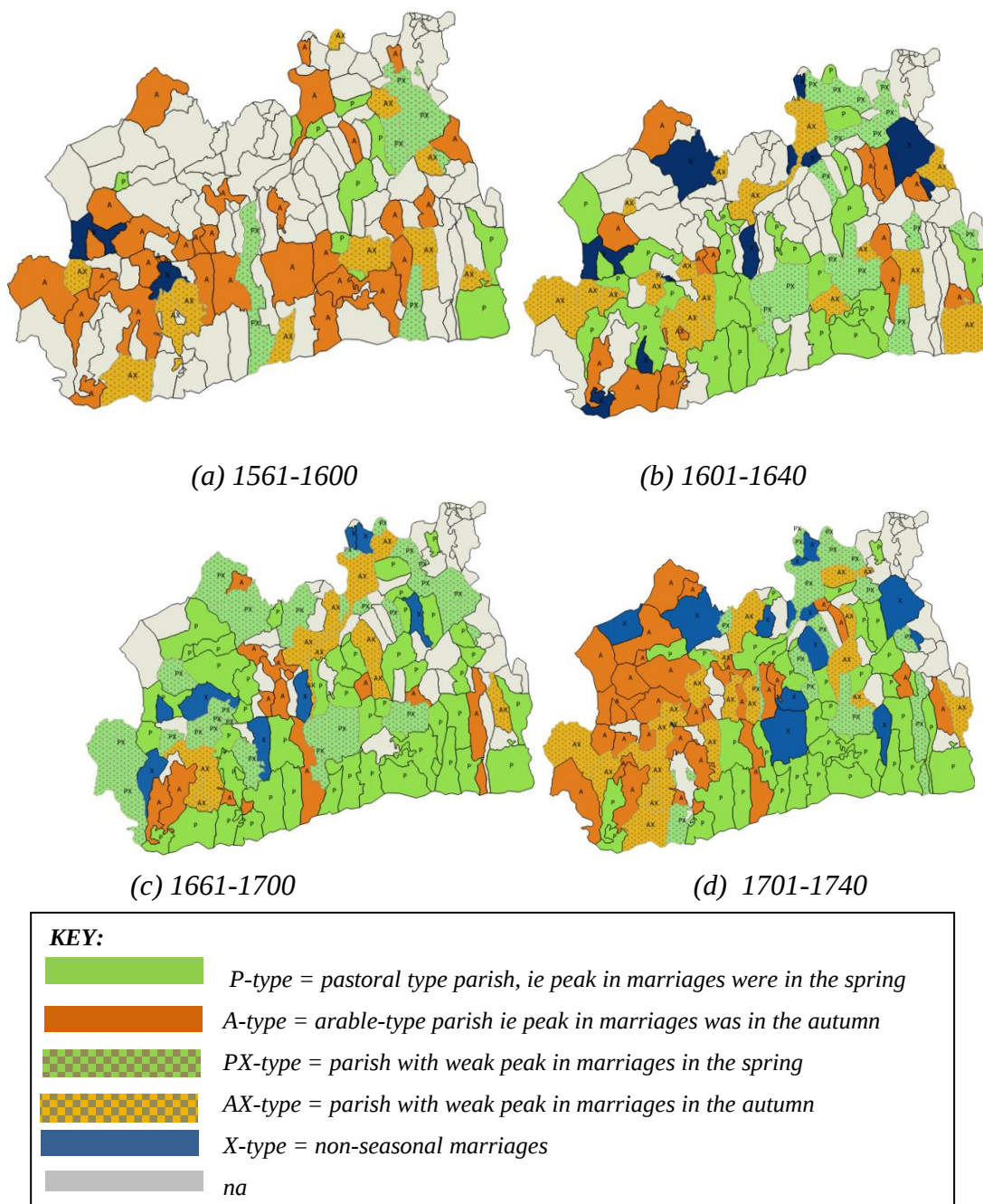


Figure 96 Marriage seasonality by period

They show a clear pattern of both continuity and change in Surrey's agriculture. They suggest that in the earliest period, 1561-1600 the majority of parishes had an arable-type marriage seasonality. Interpretation of this needs care. As Kussmaul discussed, the arable-type seasonality can have either of two very different causes. It may result from arable agriculture with high levels of grain production for integrated markets across a wide area. Or, in contrast, it may result from a system of diversified farming

with locally focussed production of grain as a result of a lack of market integration.⁴³² Overton estimated that at the start of the sixteenth century the great majority, perhaps around eighty per cent, of farmers in England were living at subsistence levels, that is they were ‘farmers [who] produced no more than was necessary for their subsistence, and were not producing food for its exchange value in the market. However they would have been trading in the local market and may not have directly consumed what they produced’.⁴³³ A widespread pattern of autumn marriage seasonality was identified by Kussmaul as present nationally in the later sixteenth century, a pattern she interpreted as resulting at that time from a locally based pattern of farming.⁴³⁴ In later sixteenth century Surrey it seems likely that this latter interpretation, of a mixed farming regime with grain being grown either for household consumption or for sale in local markets, is the relevant one.

In the seventeenth century there appears to have been a shift in Surrey’s agriculture. The map for 1601-1640 and, more so the map for 1661-1700 show marriages in much of the county tending more often to peak in spring. Such a pattern is relatively easy to interpret. As Kussmaul wrote, ‘Low autumn seasonality ... is *prima facie* evidence for market orientation; it can only mean that the area is dependent on interregional trade for its supply of breadstuffs’.⁴³⁵ Moreover, it suggests the shift was to stock rearing for it is stock rearing which would be expected to produce this pattern of a spring peak in marriage seasonality. Thus the evidence is of a shift to more pastoral farming in Surrey from the early seventeenth century, indicating a move towards market specialisation was becoming well established in Surrey before the mid-

⁴³² Kussmaul, *General View*, p. 103.

⁴³³ Overton, *Agricultural Revolution*, p. 22.

⁴³⁴ Kussmaul, *General View*, p. 123.

⁴³⁵ *Ibid.*, p. 103.

seventeenth century. This is in line with Kussmaul's findings for areas close to London, though provides an interesting contrast with some who, in terms of the broader national picture of market integration, have suggested a range of dates for such a move.⁴³⁶ But this was not the case in all of Surrey. In the south-west, there remained a small group of parishes with an autumn peak in marriages, an arable pattern of marriage seasonality. Such a pattern could be indicative either of a continuation of the growing of grain as part of mixed farming or of a developing specialisation in arable. The latter seems the more likely explanation as the soils in the west of the county were amongst those most suited to ploughing in the county. Nevertheless in much of the west, as elsewhere in Surrey, it is notable that there was a move towards pastoral.

Then in the early eighteenth century, the pattern of agriculture in Surrey changed again. The map for 1701-1740 shows a considerably larger area of arable - an area in the west of the county which had moved from pastoral to an arable pattern, an autumn marriage peak. It was an area where access to the London market for grain had recently improved with the construction of the Wey Navigation between Guildford and the Thames in the later seventeenth century. A further factor may have been the disparking by the mid-seventeenth century of the Royal Forest of Windsor, which had included several north-western Surrey parishes, and hence the ending of forest law with its detrimental effect on inhabitants and those owning land within the Forest by restricting their ability to use their land as they wished.⁴³⁷ As an illustration of the harmful effect of forest law, towards the end of Henry VIII's reign, in 1548, inhabitants of parishes in the nearby Hampton Court Chase (also part of Windsor

⁴³⁶ Ibid., pp. 100-1.

⁴³⁷ see Chapter 3: Study Area for the parishes included in the Forest; J. Winters *Forest Law*, <<https://earlyenglishlaws.ac.uk/reference/essays/forest-law/>>, accessed 24 April 2020.

Forest) petitioned the Privy Council complaining they were impoverished by the damaging effects of deer on their 'commons, meadowes and pastures'.⁴³⁸

Elsewhere in Surrey some pastoral parishes remained pastoral while some seem to have moved to a non-seasonal pattern of marriages, suggesting either they were parishes which were increasingly urban or they contained a mix of types of agricultures with no simple overall pattern of marriage seasonalities.

This provides a plausibly coherent picture of change in Surrey's agriculture. The strength of the findings is boosted by the consistency of experience across numbers of parishes. It is not just in individual parishes in which marriage seasonality shifted but in groups of adjacent parishes on similar soils, cumulative evidence which is more persuasive than observing a changing pattern of marriage seasonality in any individual parish would be.

The changes observed in Surrey are consistent with Kussmaul's findings at a national level. She wrote:

The evidence for the sixteenth and early seventeenth centuries suggests a predominant pattern of local or limited regional markets for the most important foodstuff, grain; the later disappearance of pronounced autumn seasonality over so wide a swath of the map mirrors, I have argued, the regional specialization of the rural economy and its necessary concomitant, the growth of far wider grain markets, supplying regions that had once been, but were no longer, dependent on local sources.⁴³⁹

Surrey seems to have experienced a move towards specialisation of agriculture from the early seventeenth century. The nature and timing of Surrey's experience, though,

⁴³⁸ quoted in Thurley, 'The Impact of Royal Landholdings on the County of Surrey' p. 159.

⁴³⁹ Kussmaul, *General View*, p. 123.

differs in its form from the national shifts between arable and pastoral described, for example, by Overton. In Surrey the move was initially from mixed farming involving production of grain by farmers for their own consumption or for sale more locally towards pastoral. Later in the seventeenth century, some areas moved towards arable. In contrast Overton suggested the national picture was one in which in the sixteenth century there was move towards arable at the expense of pasture in response to rising population and differential price movements for livestock and crops. Then the trend reversed after 1650 which saw the extension of pasture at the expense of arable.⁴⁴⁰

Parish-level perspective

The broad changes in agriculture suggested by marriage seasonalities are supported by consideration of the experience of individual parishes and also by contemporary writings. As above, the discussion is structured round the four areas, West, South, Mid and North areas of Surrey.

In the West of the county the marriages seasonality index suggests a move to more arable farming by the early eighteenth century. The light soils of the area, and the fairly level nature of at least the more fertile parts, made it a candidate for arable use, as did the area's mean rainfall of mostly less than 30 inches per annum.⁴⁴¹ Such a change – from a pastoral-type spring peak in marriages to an arable-type autumn peak – is evident at the level of individual parishes, such as Witley in the south-west, mainly on the lower Greensand (Figure 97).

⁴⁴⁰ Overton, *Agricultural Revolution*, p. 93.

⁴⁴¹ Jervis, 'Land Use and Rural Life in South-west Surrey: a survey of the human and historical geography of the Rural Districts of Guildford and Hambledon', p. 26.

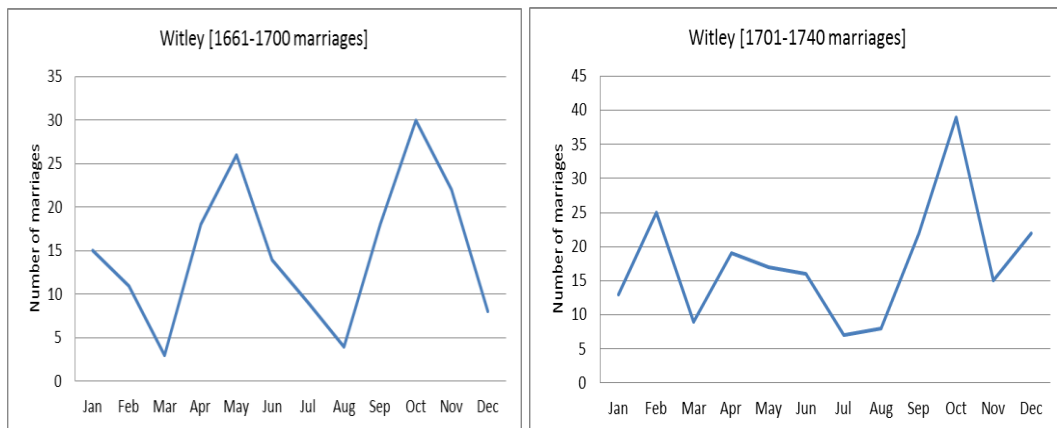


Figure 97 Marriage seasonality: Witley, 1661-1700 (178 marriages) and 1701-1740 (212 marriages)

And similarly in Ash towards the north, mainly on Bagshot Sands (Figure 98). Ash was one of the parishes previously in Windsor Forest which would have benefitted from its disparking.

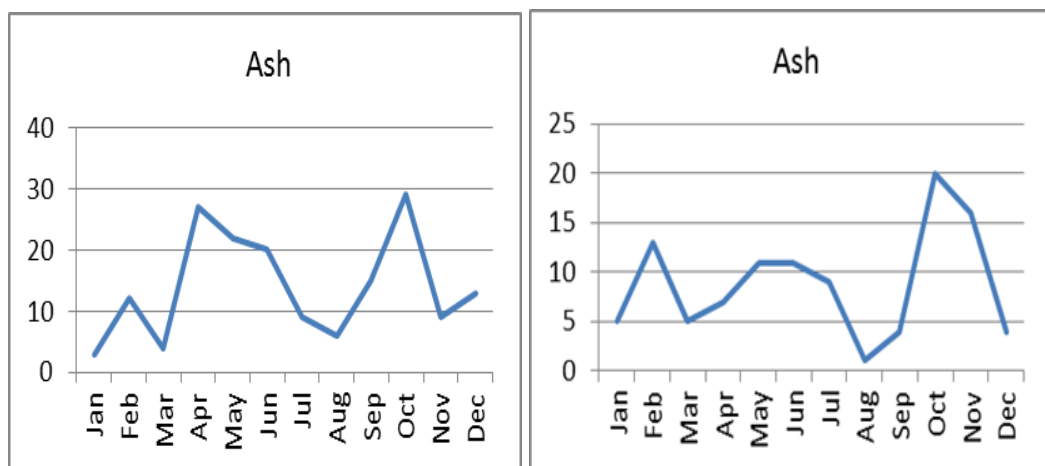


Figure 98 Marriage seasonality: Ash 1661-1700 (169 marriages) and 1701-1740 (106 marriages)

The importance of arable in the area by the end of the seventeenth century is supported by comments of contemporaries. Salmon in 1736 described Godalming, the parish next to Witley mentioned above, as having recently increased its arable land:

This Hilly Country was almost over-run with Wood: There is a great deal growing now. And much of that which is turned to Arable on both sides the

Wye [that is, the river Wey, which runs through the parish] looks as if it had not been long grubbed up.⁴⁴²

Guildford and Farnham seem to have been major destinations for these crops. Aubrey in his survey of Surrey dated 1673 wrote of the 'great Cornmarket on Saturdays' in Guildford.⁴⁴³ And Defoe commented in the 1720s on the great size of the corn market in Farnham:

... without exception the greatest corn-market in England, London excepted; that is to say, particularly for wheat, of which so vast a quantity is brought every market-day to this market.⁴⁴⁴

Wheat, because of its greater value, would have been transported to London from further afield than oats or rye.⁴⁴⁵ Located on the border between Surrey and Hampshire Farnham's market would doubtless have attracted sellers from both counties. Defoe's description is supported by the records of the Farnham market tolls which were £33 in 1631, had doubled by the time of the Civil War, and were £340 by the end of the seventeenth century.⁴⁴⁶

Contemporary writings point to some of the processes by which this increase in arable farming was achieved. Evelyn described improvements to the soil of the county enabling greater production of grain:

The barren Hills, formerly cover'd with a fine Carpet of Turf, have, with in these forty Years, been exceedingly improv'd by Devonshiring as we call it, that is, by paring off, drying, burning, and spreading the Swarth. Formerly they

⁴⁴² Salmon, *Antiquities of Surrey*, p. 128.

⁴⁴³ Aubrey, *Natural History and Antiquities of Surrey*, Vol. 3, p. 314.

⁴⁴⁴ Defoe, *Tour*, p. 155.

⁴⁴⁵ Schofield, 'What Did London Do for Us? London and Towns in its Region, 1450-1700', p. 187.

⁴⁴⁶ Malden (ed.), *VCH Surrey*, Vol.4, p. 429 (footnote).

were full of Sheep feeding among the Wild Thyme, now they are sown with Corn, and maintain'd in Heart with Liming, and other Manuring.⁴⁴⁷

This method of Devonshiring, also known as denshiring, was noted by Kerridge as being used in the manor of Wisley where, he remarked, by the end of the sixteenth century parts of the Bagshot heathlands 'were brought into tillage ... these plots were forced to bear single crops of rye by paring and burning the heathy sward'.⁴⁴⁸

Later, in 1809, Stevenson commented that the soils in the area were capable, with improvement, of carrying a crop of grain:

the general rotation on the light lands brings in a crop of clover after turnips and barley, and of course these lands, which were long deemed unsuitable for wheat, by receiving this crop on a clover-ley, are found to be as productive of this valuable grain as soils of a stronger class.⁴⁴⁹

Stevenson also noted an improvement promoted by the involvement of a local man, Mr Ducket of Esher, the encouragement of the use of drill husbandry in the western part of Surrey:

The drill husbandry ... appears to have been introduced, or at least recommended, to the notice of the farmers on the sandy loams in the western division of the county, by the late Mr. Ducket, of Esher, who is well known to have been a strong advocate for drilling all sorts of grain ... At present, the drill husbandry is almost entirely confined to the parishes of Bagshot, Chobham, Ockham, Cobham, Esher, Send, Ripley, Bramley, and the district immediately adjoining, and is seldom practised, except on light loams, or sandy soils.⁴⁵⁰

⁴⁴⁷ Aubrey, *Natural History and Antiquities of Surrey*, Vol. 1 Mr Evelyn's letter to John Aubrey (unpaginated).

⁴⁴⁸ Kerridge, *The Agricultural Revolution* p. 78, using a 1594 survey of demesne lands of the manor of Wisley (SHC LM/959)

⁴⁴⁹ Stevenson, *General View of the Agriculture of the County of Surrey*, p. 202.

⁴⁵⁰ Ibid., pp. 157-8.

The Mr Ducket of Esher referred to was probably Mark Ducket, inventor of the horse-hoe.⁴⁵¹

Another improvement was liming. The soils in this area are acidic and crops grow better if they are limed to reduce acidity. By the later seventeenth century, farmers were including liming in their management of their soils. In Thursley in 1666, the inventory of Edmond Yalden included £8 for ‘Chalke dunge and fewell for to burne lime’ and in Egham in 1670, George Hynde had ‘Lyme in the Lime house’.⁴⁵² In the early nineteenth century Allen commented on the increased use of chalk, a source of lime, on sandy soils in Surrey:

The application of chalk was formerly confined to the stronger lands; but it has latterly been applied with equal, if not greater effect, to the light loams, and even to the sandy soils.⁴⁵³

A newer crop, and one which was more suited to poorer sandy soils, was buckwheat or French wheat, more properly referred to as a pseudocereal. Thirsk described it as

grown on barren, sandy land which would not grow much else and was supremely good for fattening poultry and pigs, while in years of dearth it was used by the poor, mixed with barley, to make “a very hearty and well-relished bread”.⁴⁵⁴

Farmers in the west of Surrey increasingly incorporated French wheat into their cropping from the late sixteenth century. In Witley in May 1623, yeoman John Fulvyn’s inventory, for example, included 67 acres of crops of which 11 acres was French wheat.⁴⁵⁵

⁴⁵¹ A. F. M. Willich, *The Domestic Encyclopaedia* (London, 1802), Vol.2, pp. 466-7.

⁴⁵² SHC 1225/13; PCC PROB 4/18200.

⁴⁵³ Allen, *History of the Counties of Surrey and Sussex*, pp. 18-9.

⁴⁵⁴ Thirsk et al. (eds.), *The Agrarian History of England and Wales*, Vol. 4, p. 172.

⁴⁵⁵ HRO 1623B/19.

Hops, introduced to England in the mid-sixteenth century, came to be grown quite extensively on the Greensand in the Farnham area. Aubrey, writing in 1673 or shortly thereafter, described their cultivation around Farnham:

About this Town are Hops in as great plenty as in any Part of England, if not greater ... now about this Town are no less than 300 Acres of Hop-Yards.⁴⁵⁶

Inventories recording hops included those of Edmund Fanchin (February 1660/1) who had £2 10s worth of hop poles and of Peter Coldham, gent, (Feb 1732/3) which listed 'In the Hop Garden Item a Stock of Poles' (valued at £49-13s-9d).⁴⁵⁷ The harvesting of hops is labour intensive and they are picked in late August and early September, a timing which may have contributed to the autumn marriage seasonality observed around Farnham.⁴⁵⁸

As well as improving yields, another influence on the area which was likely to have made the production of grain more profitable was the improved transport provided by the opening of the Wey Navigation, initially in 1653 but more fully over the later part of the century. Defoe commented on the value of the Navigation to the area:

The river which according to Mr Camden is called the Wey, and which falls into the Thames at Oatlands, is made navigable to this town [Guildford], which adds greatly to its trade. This navigation is also a mighty support to the great cornmarket at Farnham.⁴⁵⁹

By the late seventeenth century, the Wey Navigation provided a greatly improved means of transport for heavy bulky goods between Guildford and Weybridge and

⁴⁵⁶ Aubrey, *Natural History and Antiquities of Surrey*, Vol. 3, p. 347; the scale of hop growing was also commented on by Salmon, *Antiquities of Surrey*, p. 137.

⁴⁵⁷ PCC PROB 4/1587; PCC PROB 3/32/24.

⁴⁵⁸ Stevenson, *General View of the Agriculture of the County of Surrey*, p. 360.

⁴⁵⁹ Defoe, *Tour*, p. 158.

hence via the Thames to London.⁴⁶⁰ By the 1740s it was sufficiently profitable as to encourage its extension south to Godalming. Some of the timber and grain it carried came from some distance away. For example, in Thursley in the south of the county, the inventory of Henry Stovell, yeoman (Apr 1722) recorded him having ‘Wheat at Guildford’ and ‘Timber at Guildford’, both presumably for transport either to London or to some intermediate place for sale.⁴⁶¹

In the South of the county, the Wealden area, marriage seasonality suggests that there was a move to a greater emphasis on pastoral farming by the seventeenth century, a pattern which remained until at least the mid eighteenth century. For example, in Horley there appears to have been a change from a modest emphasis on pastoral to a stronger one (Figure 99).

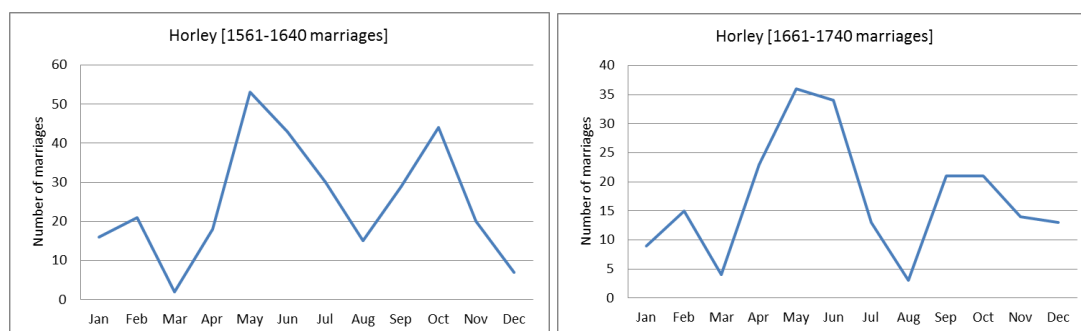


Figure 99 Marriage seasonality: Horley, 1551-1640 (298 marriages) and 1661-1740 (206 marriages)

In nearby Capel, the parish’s concentration of pastoral farming at the expense of arable was commented on by Aubrey the late seventeenth century:⁴⁶²

This parish more naturally produces Wood than Corn or Grass, and was formerly so ill cultivated, that had not the Inhabitants supplied their Want of Corn from their neighbouring Markets, they might have eat Acorns instead of Bread ...⁴⁶³

⁴⁶⁰ Jones, 'Bargemen of the Wey Navigation, 1650s to 1750s'.

⁴⁶¹ PCC PROB 3/21/113.

⁴⁶² The nineteenth century tithe apportionments confirm this later growth in arable farming.

⁴⁶³ Aubrey, *Natural History and Antiquities of Surrey*, Vol. 4, p. 175.

Marriage seasonality confirms a strong emphasis on pastoral farming in the period 1661-1740 in Capel (its parish registers do not survive before this date) (Figure 100).

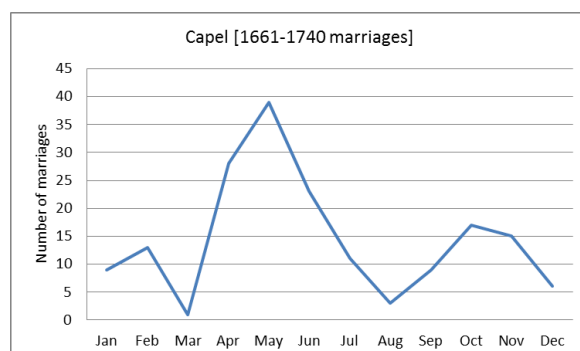


Figure 100 Marriage seasonality: Capel, 1661-1740

The picture was, though, more complex than this suggests. Aubrey also pointed to changes in the area which were leading it towards greater use of arable farming:

... but as they have now learned the Art of improving their Land, by manuring it with Lime and Chalk, they are so far from needing Corn from others that are able daily to supply the Markets with plentiful Store of Wheat, Oats and Pease; and the Wood, which was formerly of so inconsiderable a Value in a few Years has become more scarce than ever the Corn was formerly.⁴⁶⁴

Using chalk and lime would have improved the soils, making ploughing easier, and, if acidic, improving their fertility. For example the inventory of William Burgess, 1684, yeoman, of Godstone, recorded that he had 57 loads of chalk brought to the kiln, 3000 faggots, and 4 kilns of lime.⁴⁶⁵ A mix of arable and pastoral farming is evident, along with liming, in the inventory of Richard Sutton, yeoman of Crowhurst taken in May 1721.⁴⁶⁶ Crowhurst is in the Low Weald on clay. According to Manning and Bray ‘the land is in general poor’.⁴⁶⁷ The inventory, valued at £928 showed him to be a substantial farmer. He had 123 acres of crops, valued at £218. He also, although

⁴⁶⁴ Ibid., Vol. 4, pp. 175-6.

⁴⁶⁵ PCC PROB 4/3141.

⁴⁶⁶ PCC PROB 3/21/16.

⁴⁶⁷ Manning, *History and Antiquities*, Vol.2 p. 362.

it was May, had a considerable quantity of stored wheat, oats and tares all described as threshed and unthreshed, in total valued at £176. That he should have had such a substantial stock of grain in store as late as May suggests a considerable scale of arable farming. He was improving his soil as he had 2 kilns of chalk and faggots to burn in the kilns. He also had a mix of livestock, both cattle and sheep, valued in total at about £265. Of these about half the value was in 17 fattening runts, valued at £117, suggesting he was fattening cattle bought from Welsh drovers before resale.

Inventories also record the uptake of new crops in the Wealden area. Hops, although not grown as extensively as in the west of the county, were recorded in several inventories from the Wealden area, such as in Godstone where the inventory in 1664 of Brian Stidolfe included hop poles valued at £7 and in Burstow that of John Allen, yeoman, taken in 1689, recorded an acre of hops valued at £5.⁴⁶⁸ Later, in 1754 in Nutfield, as well as £6 worth of hop poles, Nathaniel Coulstock had clover too - 6 loads clover hay, 4.5 bushels of old clover seed and 8 acres of clover seed on ground.⁴⁶⁹

In parishes in the Mid area, centred on the Downs, marriage seasonalities of Carshalton and its neighbours Beddington and Coulsden all show spring marriage peaks, suggesting the continuation of a pastoral emphasis (Figure 101).

⁴⁶⁸ PCC PROB 4/18720 ; PCC PROB 4/16032

⁴⁶⁹ PCC PROB 3/53/20.

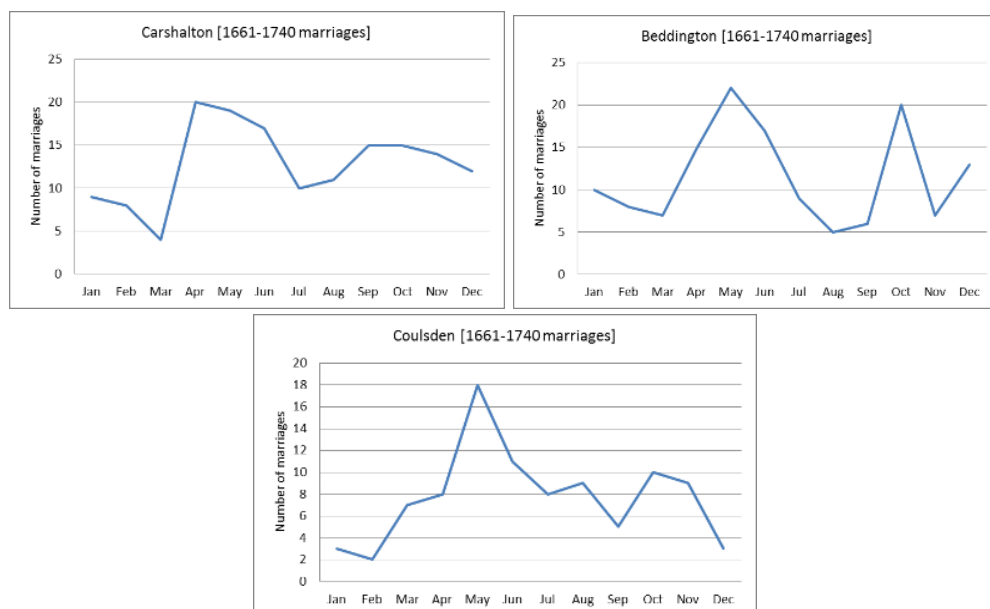


Figure 101 Marriage seasonality: Carshalton, Beddington, Coulsden 1661-1740

The inventory of John Savignac, of Carshalton (Mar 1742) confirms the continuing role of sheep and wool in the area's economy. The contents of his warehouse included 'nine hundred of Sheep Pelts ... nine hundred twenty Six pound of Small Cooms Wooll three hundred Seventy eight Pounds of Lusty Coome Wooll two hundred Seventy four Pound of fine and Broad head Wooll two hundred thirty three Pounds of Middle and Bay Wooll fifty Pound of Black Wooll'.⁴⁷⁰

There appears, though, to have been a greater emphasis on arable farming in parishes towards the western end of the Downs. In West Horsley and in nearby Effingham the marriage seasonality suggests a modest arable emphasis (Figure 102). Individual inventories support this suggestion. The inventory of Sir Edward Nicholas (Sep 1669) of West Horsley recorded £200 of corn and grain in barns and in a granary, £80 for sheep, £60 for cows and other beasts, £10 for hogs, pigs and poultry.⁴⁷¹ Taken in September this inventory is likely to have recorded the farm at a time when the value of crops was at its greatest while the value of stock may have been declining due to

⁴⁷⁰ PCC PROB 3/42/40.

⁴⁷¹ PCC PROB 4/6680 (Sir Edward was Secretary of State to Charles I and Charles II).

sale or slaughter of some animals. A similar mix of arable and pastoral is suggested by the inventory of Abel Stint, yeoman, also of West Horsley (May 1639).⁴⁷² It listed a quite substantial acreage, 36 acres, of crops (12 acres wheat, 5 acres barley, 7 acres peas, 12 acres oats) valued together at £42, but a greater value of stock, made up of 4 kine, 1 bull, 1 yearling bullock, 3 weaner calves, 5 horses, 98 sheep and 15 lambs valued together at £64. His inventory was taken somewhat earlier in the year, in May, which is likely to have reduced the recorded value of his crops compared to his stock.

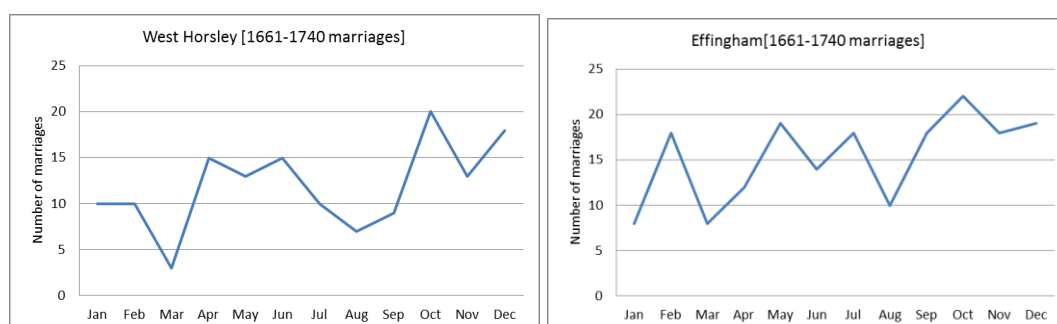


Figure 102 Marriage seasonality: West Horsley, Effingham 1661-1740

In the North of Surrey identifying agricultural change is more complex. The area contains a variety of soil-types, it had a more urban nature and it is clear it also had a more varied pattern of agriculture. Farming in this area included dairy cattle, kept to provide milk for Londoners. While not the only location, Wimbledon seems to have been a centre of this trade, In Wimbledon William Thackston's inventory of March 1678 included 9 milch kine valued at £18 and Lancelot Thackston's (June 1714) had 6 cows and a calf as well as a milk house and dairy which contained milk pans, cream pots and milk pails.⁴⁷³ Also in Wimbledon were Joseph Osborne (September 1688) who had 3 milch cows, John Shorter (February 1693/4) with 3 old milch kine and 8 younger cows and William Tanner (January 1683/4) with 3 milch kine and a calf.⁴⁷⁴ Dairy farming (as discussed above) although a pastoral activity does not produce a

⁴⁷² HRO 1639B/65.

⁴⁷³ LPA VH 96/2569; LPA VH 96/2570;

⁴⁷⁴ LPA VH 96/1900; LPA VH 96/2328; PCC PCC PROB 4/17063.

pastoral pattern of marriage seasonality because of its requirement to have calves born all year round to ensure the cow's continued production of milk. Another activity which was increasing in this area, and which is not amenable to identifying through marriage seasonality was market gardening, the growing of fruit and vegetables and ornamental plants, aimed especially at the London market (see above). The growing of market gardening crops in this area is also evident in the location of potatoes which the 1801 Crop Returns show were grown mainly in parishes near London (Figure 103).

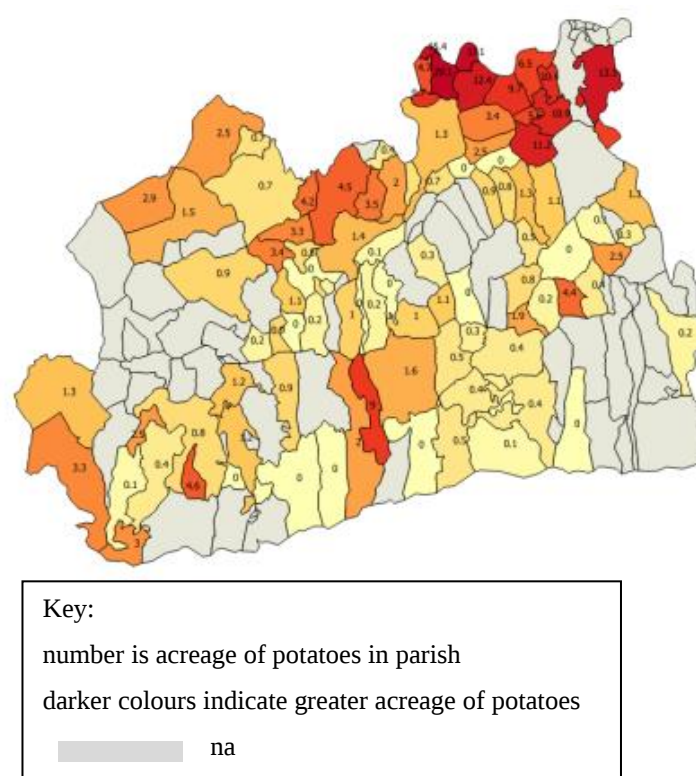


Figure 103 Percentage of acreage used for growing potatoes, 1801 Crop Returns

Such activities would all have contributed to the more mixed and less seasonal patterns of marriages observed in the areas of Surrey closest to the Thames and London. Marriage seasonality in these parishes shows a tendency to a mildly pastoral emphasis, such as in Cobham or to be non-seasonal, such as the largely urban parish of Kingston, (Figure 104).

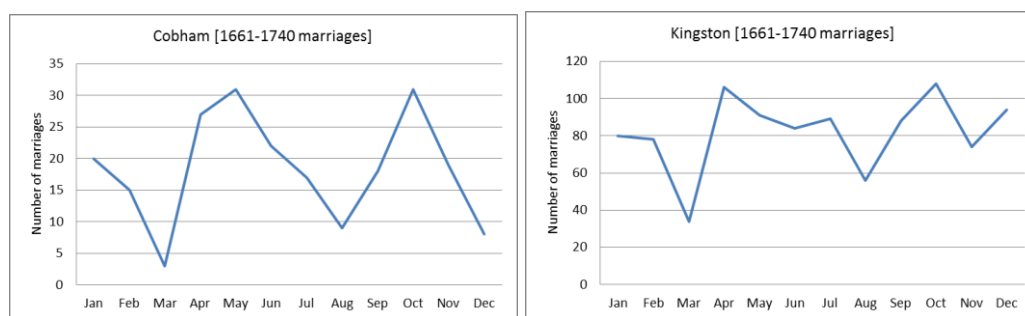


Figure 104 Marriage seasonality: Cobham (220 marriages) and Kingston (982 marriages), 1661-1740

Changing wealth of farmers

Related to the changing patterns of agriculture is likely to have been changes in the wealth of farmers. Some indication of this is available from probate inventories, though their evidence is compromised by the varying survival of Surrey inventories, by inflation, and by the changing ‘calculus of esteem’ described by Shepard. Considering responses of witnesses in church courts Shepard identified the importance over much of the early modern period of the net value of a person’s moveable property to the calculus of their esteem and that as a result ‘people were adept at assessing the worth of their own and each other’s goods’, a process formalised in probate inventories. But this declined from the later seventeenth century as different bases for assessing a person’s status developed and ‘expectations that a household’s net moveable worth was enumerable began to recede’.⁴⁷⁵

The Surrey inventories considered were those which suggested some farming activity at the death. In rural parishes (Table 13) the average wealth of yeomen was £248, around two thirds that of gentry, while that of husbandmen was around a third of this, £76. The balance of wealth between the different groups in Surrey is broadly similar to that of the inventories of people who were farming in Norfolk and Suffolk between

⁴⁷⁵ Shepard, *Accounting for Oneself*, pp. 303-10.

1584 and 1740.⁴⁷⁶ In particular, the difference between the inventory values of Surrey yeomen and husbandmen, a factor of about three, is comparable to that of those in Norfolk and Suffolk.

Occupation/status (rural parishes only)	Number of inventories in sample	Average (mean) inventory value (£) of sample
esquire/gentleman	40	414
yeoman/farmer	255	248
husbandman	169	76

Table 13 Mean inventory values by occupations/status 1550-1750 (rural parishes)

Some disaggregation of these patterns of wealth is possible by using probate inventories separately for the first half of the period (1550-1650) and the second half (1650-1750) and from different parts of Surrey (Table 14). There are not enough inventories to enable shorter time periods to be considered and even at this level of disaggregation some elements of the sample are very small. In particular the evidence for husbandmen in the later period must be treated with considerable caution.

Earlier (1550-1650)	Number of inventories	Mean (£)	Median (£)		Later (1650-1750)	Number of inventories	Mean (£)	Median (£)
West	113	63			West	34	315	
husbandman	54	45	25		husbandman	7	53	37
yeoman/farmer	59	79	60		yeoman/farmer	27	383	203
South	19	92			South	63	288	
husbandman	8	41	34		husbandman	13	155	155
yeoman/farmer	11	129	103		yeoman/farmer	50	323	243
Mid	38	90			Mid	23	350	
husbandman	19	54	38		husbandman	6	55	55
yeoman/farmer	19	125	112		yeoman/farmer	17	454	370
North	32	54			North	25	221	
husbandman	16	35	23		husbandman	8	138	51
yeoman/farmer	16	73	44		yeoman/farmer	16	214	186

Table 14 Inventory values by time period and area for yeomen and husbandmen

⁴⁷⁶ Overton, *Agricultural Revolution*, p. 39.

The mean and median values of inventories (Table 14) both show the values of the inventories of Surrey farmers to have been rising. There was a substantial increase in values of inventories in most areas from the earlier period (1550-1650) to the later one (1650-1750), a rise of between 3 and 5-fold. Inflation would have been a factor, with agricultural prices rising roughly 3-fold over the period.⁴⁷⁷ The rise in wealth of farmers noted in Surrey is somewhat greater than that which occurred in the inventory values of Norfolk and Suffolk yeomen and husbandmen in a similar period: in those two counties the average increase in inventory value of yeomen was a little less than two times, from £140 in 1584-99 to £255 in 1700-1740, and those of husbandmen increased between two- and three-fold, from £63 to £155.⁴⁷⁸ It may be that in Surrey the increase in the market provided by London contributed to the wealth of Surrey's farmers, either through increasing the amount of produce which they could sell, the price which could be obtained for it or through farmers altering the balance of crops and stock which they produced following changes in their relative profitability.

The greatest change was in the wealth of farmers in the West. It is a picture which fits with the experience nationally in this period that the level of wealth tended to be greater in arable compared to pastoral areas.⁴⁷⁹ In the earlier period, 1550-1650, farmers of the West and North appear poorer than those of the South and Mid areas. But this changed by the later period, 1650-1750 at which time the wealth of the West had increased considerably, approaching that of the Mid area. It seems likely this increase in wealth in the West area was associated with its move towards greater

⁴⁷⁷ P. Bowden, 'Agricultural Prices, Farm Profits, and Rents', in J. Thirsk (ed.), *The Agrarian History of England and Wales, Vol. IV: 1500-1649* (Cambridge, 1967b), pp. 814 ff.; P. Bowden, 'Appendix III: Statistics', in J. Thirsk (ed.), *The Agrarian History of England and Wales Vol. V.ii 1640-1750: Agrarian Change* (Cambridge, 1985b), pp. 827 ff.

⁴⁷⁸ Overton, *Agricultural Revolution*, p. 39.

⁴⁷⁹ Ibid., p. 52.

arable agriculture. There is also an indication in this part of Surrey of an increase in the disparity of wealth between yeomen and husbandmen, which echoes the findings of Shepard who suggested the average wealth of yeomen increased ten-fold between Elizabeth's reign and the outbreak of civil war and moreover 'the material circumstances of those at the bottom of the social hierarchy not only declined in real terms; their relative economic position was utterly diminished by the accumulation of wealth within the middle ranks of society'.⁴⁸⁰ In the earlier period yeomen inventories in the West area averaged less than twice the value of husbandmen inventories but in the later period the difference moved to six or seven times. The difference appears to have been both that the values of husbandmen inventories did not rise much between the periods and that yeomen wealth rose more than average. It suggests in the West it was the yeomen, the larger farmers, who may have been better placed to take advantage of the potential the move to arable farming in the area offered, or maybe also that it enabled some husbandmen to rise to yeomen status. In the Mid area too, there is an indication of an increase in the disparity of wealth between yeomen and husbandmen. But these observations must be treated with caution as the numbers of husbandmen in both areas in the later period are small, in single digits, and cannot be relied on to give a fully accurate impression. The South appears to have declined in relative wealth. Top - just - of the four areas in the earlier period it was third in the later period. Farmers in the North appear to have been towards the poorer end in both periods.

⁴⁸⁰ Shepard, *Accounting for Oneself*, p. 80.

Concluding remarks

Implications of these findings relate to the methodology of using marriage seasonality to study agricultural change, to the nature of agricultural change in early modern Surrey, and to some of the economic consequences of that agricultural change.

Firstly, the study supports the validity of the approach suggested by Kussmaul of using the marriage seasonality to establish whether an area's agriculture was based more on pastoral farming or more on arable farming. Kussmaul developed this approach in a national study, concerned with providing, as the title of her book put it 'a general view of the rural economy of England'. This study has applied her approach at sub-regional level and shown the method is valuable at this level too. It finds groups of neighbouring parishes in Surrey with similar topography and geology, similarities which might be expected to result in similar agricultures, as having similar marriage seasonalities. The approach seems successful in enabling changes over time in agriculture to be identified. Contemporary writings and probate inventories of people who were farming are consistent with the agricultural categorisation based on marriage seasonality. These different sources are likely to have been related to different types of people. Marriage seasonality is based on behaviour of the young, inventories record mainly the assets of older and more prosperous men, and the writings of contemporaries tend to display the opinions and interests of large (and male) landowners, often based especially on their belief in the merits of agricultural improvement. These biases have the potential to be sources of concern but it is reassuring to observe the similarities between the pictures of agriculture and agricultural change suggested by all of them, adding further support to the validity of the findings of all three groups of sources.

As part of the consideration of the methodology of marriage seasonality analysis, a variant of Kussmaul's methodology has been suggested. Although closely following Kussmaul's approach, it is suggested that the alteration provides a more nuanced assessment of the seasonality or lack of seasonality of an area's marriages. Using it enables a distinction to be drawn between areas with greater or lesser degrees of marriage seasonality and hence to distinguish rather more clearly the dominance or otherwise of the different types of agriculture undertaken in different places.

Secondly, the study has illuminated some of the similarities and differences in Surrey's agriculture, both geographically and temporally. Of particular interest is the detail provided of the changes in Surrey's agriculture over time. The marriage seasonality analysis, supported by other sources, illuminates the location and timing of shifts between pastoral and arable farming. It suggests that in the late sixteenth century Surrey's agriculture tended, like farming in much of the country, to be diversified, locally focussed farming, in which most farmers grew grain for their own use or for sale locally. But that the early seventeenth century saw a shift to a greater emphasis on pastoral stock-rearing farming, especially in the south of the county, and that this trend continued in the later seventeenth century. The exception was an area in the south west which included more arable farming. Then the early eighteenth century witnessed a further shift to a greater level of arable farming in a wider area of the west of the county than had previously been the case. Throughout, and especially by the early eighteenth century, the agriculture of the north eastern area of the county had a greater emphasis on alternative types of farming other than stock rearing or arable.

In summary, therefore, it would seem plausible that Surrey experienced two stages of agricultural change. Its farmers initially moved from a local focus to one which had a market specialisation, mainly in pastoral farming. It plausibly experienced change sooner than some other parts of the country because of its proximity to the rapidly growing London. Then, the combination of suitable soils, increasing knowledge of how to improve soils, and improved water transport shifted the west of the county to a greater focus on arable farming. This seems in line with Kussmaul's findings. At a national level Kussmaul identified the key period of agricultural change, as shown by marriage seasonality, as the late seventeenth century.⁴⁸¹ But she also pointed to regional specialisation in the south-east of England, driven by the growth of London, as occurring earlier, in the early seventeenth century.⁴⁸² Holderness 'pointed to the increase in urban demand since 1600 as the force ending subsistence farming' and the explosive growth of London at this time would have encouraged this trend in Surrey.⁴⁸³ It seems likely this is what Surrey experienced – a move to more specialised agriculture driven both by national trends and more specifically by the demands of the London market – and that different areas of Surrey responded differently depending on their soil types and proximity to London with some specialising more in stock rearing and others moving to greater arable farming.

These changes appear to have had consequences for the relative wealth of people in different areas. The wealth of farmers in the Wealden south seems to have declined relative to other parts of Surrey, perhaps a result of the area's relatively poor access to London and its markets. In the west, associated with the increase in arable farming

⁴⁸¹ Kussmaul, *General View*, p. 170.

⁴⁸² *Ibid.*, p. 101.

⁴⁸³ *Ibid.*, p. 119 quoting B. A. Holderness, *Pre-industrial England : economy and society, 1500-1750* (London, 1983), p. 70.

in the early part of the eighteenth century, there seems to have been an increase in wealth, at least of the yeomen, the larger farmers. But there is also an indication that this increase may not have occurred for the smaller farmers, the husbandmen. If this finding is valid – and the number of inventories is small so it can be no more than tentative – the reasons are uncertain. It may have been that it was the yeomen who were better able to invest in the change to arable farming or that they farmed the land most suitable for improvement or that some husbandmen took advantage of the situation and managed to rise in status to yeoman. Whichever, it would suggest it was the larger farmers who benefitted from the move to arable in this area in the early eighteenth century. The implication is that there may have been an increase in the disparity of wealth between yeomen and husbandmen and perhaps also an increased disparity in their farming practices. In the Downs too there appears to have developed a greater difference between the wealth of yeomen and of husbandmen. The difference, possibly linked to the large sheep flocks which some yeomen possessed, was present in the earlier part of the period, the later sixteenth and earlier seventeenth centuries, but there is an indication it became greater later, in the later seventeenth and earlier eighteenth centuries. But again, the numbers of inventories are small so this must be treated with caution.

This shift in agriculture in the west of Surrey to a much more arable pattern in the early eighteenth century seems likely to have involved two factors. One was the uptake of ideas of new or improved crops, crop rotations and techniques for improving soil fertility and these, combined with the potential of the soil to be ploughed, enabled a move in this area to a greater emphasis on arable farming. The other was the improved transport provided by the Wey Navigation, an improvement of greater benefit to arable farming than to pastoral farming, which provided the means by which

this greater arable output could be transported at a lower cost than previously to the London market.

But a move to more arable farming at this time seems at first sight unexpected since there was probably a depression in arable prices after about 1650 resulting in livestock prices rising faster than those for corn.⁴⁸⁴ Despite this, an increase in arable farming has been identified in some other parts of the country around this time. Frost studied South Staffordshire between 1560 and 1720. She considered the relative importance of arable crops and livestock in the late sixteenth century using inventories (limited to August, September and October ie the months immediately after harvest) and found that livestock initially contributed 79 per cent of the total recorded value in inventories but that livestock became less important, the percentage value falling to 59 per cent for the period 1681-1720, a similar trend to that identified by Skipp in the Forest of Arden, to the east of Birmingham. Frost suggested that up to 1650 the relative decline in the importance of livestock was more apparent than real, as grain prices were rising more quickly than livestock prices. However, after that date the balance reversed with the start of the depression in the arable sector meaning livestock prices rose faster than grain prices but despite this the contribution made by livestock to the total value of farm production continued to decline, suggesting growth in arable farming, growth which was greatest in areas with good loam soils.⁴⁸⁵ Yelling used 6,250 probate inventories as a central source in his study of East Worcestershire's farming between 1540 and 1750, including using them to measure the relative importance of livestock compared to crops.⁴⁸⁶ He contrasted a champion area in the south with a mainly

⁴⁸⁴ P. Frost, 'Yeomen and Metalsmiths: Livestock in the Dual Economy in South Staffordshire 1560-1720', *The Agricultural History Review*, 29 (1981), p. 34.

⁴⁸⁵ *Ibid.*, pp. 332-4.

⁴⁸⁶ J. A. Yelling, 'Probate Inventories and the Geography of Livestock Farming: A Study of East Worcestershire, 1540-1750', *Transactions of the Institute of British Geographers*, (1970), pp. 111-7.

enclosed area to the north. The champion area retained a relatively stable and basically arable economy throughout the study period. The mainly enclosed area, although initially strongly pastoral, became more arable over time.

One possible economic basis for some farmers moving to more rather than less arable after the start of a depression in arable prices was suggested by Glennie who explored continuity and change in Hertfordshire agriculture between 1550 and 1700 using a quantitative study of about 2,150 inventories.⁴⁸⁷ He commented on the hypotheses of Jones and of John who separately suggested that a recession in grain prices from the 1640s stimulated arable sector technological innovators to raise grain yields. Glennie concluded that it was rational for farmers on light soils at this time to expand rather than contract their arable activities. He wrote:

This apparently perverse response of expanding output in response to low prices was, [Jones and John] argued, rational for commercial farmers whose physical or social environment prevented a switch towards more pastoral farming. Thus these accounts provide expectations of both the chronology (later seventeenth century onwards) and geography (principally light-soiled downlands) of new or intensified husbandry practices.⁴⁸⁸

A different explanation of the continuation of the scale of arable farming in an area despite recession in grain prices is that the recession was less than has been thought, a suggestion made by Campbell and Overton. In a study of Norfolk, one of the country's premier arable counties, between 1250 and 1850 they found that 'specialization in wheat by east Norfolk farmers was paralleled by a switch to pastoral husbandry on the heavy clay soils of central and south-eastern Norfolk', commenting that while the precise date at which this occurred is uncertain in many places it had

⁴⁸⁷ Glennie, 'Hertfordshire Agriculture 1' (1988b).

⁴⁸⁸ Ibid., p. 56.

taken place by the time sufficient inventories become available in the 1580s.⁴⁸⁹ They commented that the effect of subsequent price trends, especially after 1660, was to confirm this development. They concluded that it seems probable that after 1650 the arable acreage did not fall. They felt that, contrary to the assumption of both Jones and John,' the terms of trade moved only slightly in favour of livestock at the expense of crops, and this could have been more than offset by government inducements to maintain arable cultivation, together with the development of both new markets and new ways of marketing grain. As a result the arable acreage in Norfolk may actually have expanded'.⁴⁹⁰

The implication for Surrey's western areas is that it is likely to have been commercially rational for farmers to increase their production of arable, aided by the much-improved water transport available for arable crops to London by the mid-seventeenth century.⁴⁹¹ London's markets for bread and beer were sure to have been one destination for their produce. It is possible that farmers also increased their production of fodder crops to supplement the feeding of livestock, which would have been increasingly in demand both locally and in London.

Further research would help to illuminate the causes, processes and consequences of the agricultural change identified. For example it is unclear what processes were involved in the move to more arable agriculture in the west of the county around the end of the seventeenth century: whether, for example, it included farm enlargement by engrossment or by taking in and improving previously poor land; whether it was driven by incomers or by changing practices of existing farmers. A change which

⁴⁸⁹ Campbell and Overton, 'Six Centuries of Norfolk Farming' (1993), p. 64.

⁴⁹⁰ Ibid., p. 91.

⁴⁹¹ For details, see Chapter 3: Study Area.

might have been expected in this area but which has not so far been identified is increasing levels of population or migration since more arable areas would be expected to need more workers. This may well reflect the aggregate level of this study and a more detailed investigation may shed more light on the matter.

7: Migration

Introduction

So far, this study has considered two aspects of the lives of the people of non-metropolitan Surrey, the distribution of its population and its economies. Each both influenced and was influenced by the other. One means by which such connections occurred was through migration – the movement of where a person lived on a semi-permanent or permanent basis. Following an introductory overview of migration, this chapter continues by describing the movements of some individual Surrey migrants. This is followed by consideration of the scale of migration in non-metropolitan Surrey through several ‘big data’ types of evidence. Then the main focus of this chapter is on particular groups of people for whom details are available of their movement around or into Surrey as well as, in the case of London apprentices, out of Surrey. Three types of migratory movement are discussed. One is movement on marriage: parish registers sometimes recorded the bride and groom’s parish of origin, providing evidence of the geographic extent of the social and economic spheres within which the people of a parish lived and from which they were most likely to find a marriage partner. Another is movement of apprentices, both privately-arranged apprenticeships and those arranged by the poor law authorities. Both, because of the financial commitments involved, were liable to generate written records. The third example is movement of the poor, who, as a consequence of society’s concerns, were likely to be recorded in poor law records either as vagrants to be removed or if they sought settlement in a parish. The sources available for such studies have their limitations: they usually record only when someone moved across an administrative boundary, usually a parish boundary, not more local movement, and none provides insight into the process of

migration, they merely document flows. Nevertheless, while far from providing a complete picture of early modern migration within and into non-metropolitan Surrey, they illustrate several of the important drivers of migration in the period.

Migration in early modern England

Characteristics of migration

Pooley and Turnbull defined migration as all changes of normal residence irrespective of distance moved or duration of stay.⁴⁹² Whyte took a similar view, regarding it as a residential change of a permanent or semi-permanent nature.⁴⁹³ Migration was a common part of life in England, Clark describing it as ‘an almost universal phenomenon affecting the great mass of the national population’.⁴⁹⁴ It was central to the process of social, economic and cultural change in early modern England and was a dynamic force, both responding to demographic, economic and social developments and also influencing them.⁴⁹⁵ Its study, Clark and Souden concluded, therefore ‘has not only an important demographic dimension, but also wide social ramifications’.⁴⁹⁶ Migration bolstered the populations of towns, benefitted the operation of the economy and enabled greater social interactions and the spread of ideas, including new farming techniques and practices: for example Clark and Souden commented that Kussmaul’s research on agricultural change ‘revealed a ripple-type spread of agricultural innovation across the country from the mid-seventeenth century, which is comparable with the idea of migrants as vectors of information’.⁴⁹⁷ On the other hand, migration

⁴⁹² C. G. Pooley and J. Turnbull, *Migration and Mobility in Britain since the Eighteenth Century* (London, 1998), p. 7.

⁴⁹³ I. Whyte, *Migration and Society in Britain, 1550-1830* (Basingstoke, 2000), p. 1.

⁴⁹⁴ P. Clark, ‘Migration in England during the late seventeenth and early eighteenth centuries’, in P. Clark and D. Souden (eds.), *Migration and society in early modern England* (London, 1987), p. 215.

⁴⁹⁵ P. Clark and D. Souden, ‘Introduction’, *ibid.*, p. 28; Pooley and Turnbull, *Migration and Mobility in Britain since the Eighteenth Century*, p. 4.

⁴⁹⁶ Clark and Souden, ‘Introduction’, p. 20.

⁴⁹⁷ *Ibid.*, p. 26.

could pose problems for communities, changing those from which migrants came as well as those to which they moved.⁴⁹⁸ For example, the skewed sex balance in towns which developed by the seventeenth century due to differential migration of men and women lowered fertility rates both in the countryside and in towns, poor migrants to an area could increase its unemployment or poverty, there were concerns amongst contemporaries that vagrants increased crime, and culturally migration could cause tensions as people with one cultural background moved and mixed with people with another: Jones, for example, described antagonism to the Welsh in seventeenth century London despite their comparatively large permanent population (around seven per cent of the population) and one which had few economic and social disabilities.⁴⁹⁹

Many people moved during the course of their lives. The numbers are hard to be certain about, as highlighted for example by Snell who pointed to various ways in which parish registers do not fully reflect actual movements.⁵⁰⁰ Although estimates vary, all support the existence of a considerable degree of mobility. Wrigley commented that only a minority of English villagers died in same parish where they were born.⁵⁰¹ Spufford suggested the proportions of people baptized, married and buried in the same parish varied considerably but in the places he considered it was under half and that it was rare for any family to live in one place for more than three generations or a hundred years.⁵⁰² Listings of inhabitants in Clayworth in

⁴⁹⁸ Ibid., p. 28.

⁴⁹⁹ Whyte, *Migration and Society in Britain, 1550-1830*, pp. 4-5; Clark and Souden, 'Introduction', p. 27; E. Jones, 'The Welsh in London in the Seventeenth and Eighteenth Centuries', *Welsh History Review*, 10 (1981), pp. 465-70.

⁵⁰⁰ K. D. M. Snell, 'Parish Registration and the Study of Labour Mobility', *Local Population Studies*, 33 (1984)

⁵⁰¹ Wrigley, *Poverty, Progress, and Population*, p. 265.

⁵⁰² P. Spufford, 'Population Movement in Seventeenth Century England', *Local Population Studies*, 4 (1970), p. 48.

Nottinghamshire and Cogenhoe in Northamptonshire show that in Clayworth 60 per cent of the population changed in the twelve years 1676-88 and in Cogenhoe 50 per cent of the population changed in the decade 1618-1628, two-thirds of which was due to migration.⁵⁰³ These listings of inhabitants included servants (ie domestic servants or servants in husbandry) of which there were many (see Chapter 6: Agriculture) and it was the servants who were the most mobile. In church court records for Buckinghamshire, Suffolk, Norfolk, and Kent and the Sussex Weald, Clark and Souden found around four in five witnesses in a sample of depositions had moved at least once in their lives.⁵⁰⁴ Clark's study in east Sussex between 1580 and 1640 found most witnesses had moved from their place of birth but few had gone more than 40 miles.⁵⁰⁵ In Terling, Essex, the core of the villagers' social area was the district within a ten mile radius of the parish, but the overall extent of their connections was a great deal wider.⁵⁰⁶ The distances travelled in migration reflected, as Wrightson commented, people's areas of regular economic and social interaction.⁵⁰⁷

Both the extent of migration and the distances involved differed between different groups of people. Women tended to move shorter distances than men, though the frequency of their moves were similar.⁵⁰⁸ Young adults had a relatively high level of migration followed by a more settled place of residence later in life especially after marriage and the birth of children.⁵⁰⁹ Migration of the young often involved a period of several years as servants. According to Kussmaul, up to 60 per cent of the

⁵⁰³ Ibid., p. 45.

⁵⁰⁴ Clark and Souden, 'Introduction', p. 29.

⁵⁰⁵ P. A. Slack, 'Vagrants and Vagrancy in England', in P. Clark and D. Souden (eds.), *Migration and Society in Early Modern England* (London, 1987), p. 59.

⁵⁰⁶ Wrightson, *English Society*, p. 41.

⁵⁰⁷ Wrightson, *Earthly Necessities*, p. 95.

⁵⁰⁸ Clark and Souden, 'Introduction', p. 29.

⁵⁰⁹ Whyte, *Migration and Society in Britain, 1550-1830*, p. 4.

population aged between 15 and 24, both men and women and generally unmarried, spent some time in service, often farm service.⁵¹⁰ The median total length of service was 6 years and moves, although usually of only a few miles, could sometimes be much longer.⁵¹¹ Apprenticeships, offering opportunity for occupational training and hence economic advancement, were taken mainly by young men and often involved movement to towns.⁵¹²

People's status affected their patterns of migration. Labourers were generally more mobile than farmers, yeomen and husbandmen.⁵¹³ In the Kent and Sussex Weald, for example, according to church court depositions only 19 per cent of yeomen had moved over 20 miles compared to 64 per cent of labourers.⁵¹⁴ The largest tenant farmers in Terling, Essex and in Myddle, Shropshire, though, were more mobile than either their labouring or their middle-rank yeomen and husbandmen neighbours, perhaps attracted by opportunities elsewhere such as land to buy or lease or opportunities for trade.⁵¹⁵ Migration on marriage tended to involve longer distances for higher status people. In rural south-east Surrey between the mid-eighteenth and the mid-nineteenth century Lord found 7 per cent of labourer marriages were exogamous (involving one marriage partner from outside the parish), all from within 6 miles, compared to 83 per cent of gentry marriages, some marriage partners coming from at least 20 miles away.⁵¹⁶ The poor were likely to travel particularly long distances, especially in the sixteenth century, attracted by the prospect of employment, pushed by the lack of it or by

⁵¹⁰ A. Kussmaul, *Servants in Husbandry in Early Modern England* (Cambridge, 1981), pp. 3, 83.

⁵¹¹ Whyte, *Migration and Society in Britain, 1550-1830*, pp. 40-1,; Kussmaul, *Servants in Husbandry in Early Modern England*.

⁵¹² P. Wallis, 'Apprenticeship and Training in Premodern England', *The Journal of Economic History*, 68 (2008).

⁵¹³ Wrightson, *English Society*, p. 43.

⁵¹⁴ Clark and Souden, 'Introduction', p. 29.

⁵¹⁵ Wrightson, *English Society*, p. 43.

⁵¹⁶ Lord, 'Communities of Common Interest: the Social Landscape of South-East Surrey, 1750-1850', p. 160.

pressures caused by population growth, subsistence crises and lack of support from their more settled neighbours.⁵¹⁷ By the last part of the sixteenth century movement of the poor was increasingly to towns, attracted by the opportunities they offered for work or support.⁵¹⁸ Slack, in a study of 2,651 vagrants in the first part of the seventeenth century, found half had travelled more than 40 miles and close to a quarter over 100 miles.⁵¹⁹

The agrarian regime of an area had the potential to affect its pattern of migration as differing forms of agriculture had different labour needs and also differing opportunities for people to settle. The specifics, though, varied according to local circumstances. Wood-pasture areas were more likely to have space for in-migrants to settle as squatters, as noted in Myddle in Shropshire and in the Forest of Arden.⁵²⁰ In Norfolk, Clark found a clear preference for wood-pasture areas among male county-born migrants while, in contrast, in its sheep-corn country, landowners greatly enlarged their flocks precipitating depopulation.⁵²¹ Wood-pasture areas could, though, also be a source of out-migration. Their small holdings, marginal agriculture, and domestic industries all made them vulnerable to bad harvests or the effects of industrial depression. Around Salisbury for example wood-pasture areas were major sources of migrants around 1600, both to Salisbury and to more distant areas within the region.⁵²²

⁵¹⁷ Wrightson, *English Society*, p. 43.

⁵¹⁸ Clark and Souden, 'Introduction', pp. 29-30.

⁵¹⁹ Slack, 'Vagrants and Vagrancy in England', p. 59.

⁵²⁰ Hey, *English Rural Community*, pp. 9-10; Skipp, *Crisis and Development: an ecological case study of the forest of Arden, 1570-1674*, pp. 8, 18.

⁵²¹ Clark, 'Migration in England during the Late Seventeenth and Early Eighteenth Centuries' (1979), p. 78.

⁵²² Slack, 'Vagrants and Vagrancy in England', pp. 66-7.

Studying migration

There is always a gulf between what one would wish to observe in a historical study and what it is practicable. This is certainly the case with migration. No contemporary sources were designed to record details of migration and contemporary comment is uncommon – migration was regarded as a usual part of life.⁵²³ Few people, especially from the lower and middling sorts left written records of where and how they moved over the course of their lives, let alone why or what they felt about the process. The few that did so are likely to be atypical of the general population. There is thus a tension between the detail which a study would like to uncover on the scale, direction, motivation, and lived experience of migration and the, for the most part, highly limited sources available. Clark and Souden commented on the ‘severe methodological problems confronting the student of migration in early modern England’.⁵²⁴ As a result, as Whyte commented, ‘(o)nly a handful of questions can be posed in relation to migration’.⁵²⁵

In an innovative study in the late nineteenth century Ravenstein set down what he termed ‘laws’ of migration, considering factors such as the age and sex of migrants, distances travelled, differences between rural and urban areas both as origins and destinations of migrants and the importance of economic drivers of migration.⁵²⁶ They are, though, as Whyte commented, better described as ‘hypotheses based on empirical data’, limited by the source data used and tending to be more specifically relevant to nineteenth century Britain.⁵²⁷ Lee subsequently considered migration in

⁵²³ Whyte, *Migration and Society in Britain, 1550-1830*, p. 16.

⁵²⁴ Clark and Souden, 'Introduction', p. 22.

⁵²⁵ Whyte, *Migration and Society in Britain, 1550-1830*, p. 4.

⁵²⁶ Clark and Souden, 'Introduction', pp. 19-20; Whyte, *Migration and Society in Britain, 1550-1830*, pp. 8-9.

⁵²⁷ Whyte, *Migration and Society in Britain, 1550-1830*, p. 8.

more detail and for a broader time period exploring the characteristics of and influences on three key aspects of migration: volumes of migration, streams and counter-streams of migration, and characteristics of migrants. More recent quantitative economic-based approaches have included the use of gravity models, built on the idea that migration between two places would be positively related to the size of the places and negatively related to distance or difficulty of travel between them.⁵²⁸

Taking a more empirical approach, and focussing on the economic intentions of migrants, another approach has been to distinguish between ‘subsistence’ migration, the movement of the poor driven by economic necessities, and ‘betterment’ migration, the movement of the better-off aspiring to social and economic advancement. The latter could, for example, involve education, apprenticeship to a trade or profession, an advantageous marriage, the acquiring of more profitable farmland, or the time many young people spent as servants. Another empirical approach emphasises the process of movement and suggested migration can be grouped into one of four categories. In ‘local migration’, the most common form, people relocated within a local area ‘moving within a labour, agricultural, or marriage market, or within geographical boundaries.’ ‘Career migration’ was likely to involve the greatest and most permanent change, such as apprenticeships or training for a profession or the Church. ‘Circular migration’, involved a temporary change of location but a return to the starting place, a process often associated with economic opportunities such as fishing, harvest work, or of itinerant traders such as chapmen. Finally, in ‘chain migration’ people followed the path of previous migrants, making use of the links and

⁵²⁸ Ibid., pp. 9-12.

connections, personal ties and contacts, which had developed over a period of time. Qualitative approaches to the study of migration have focussed on people's needs and desires and whether they felt these would be better served by moving. Such approaches recognise the usually partial and imperfect information available to prospective migrants. Some migration was driven by personal rather than economic reasons, especially migration on marriage.⁵²⁹

Migration in Surrey

Some Surrey migrants

The details of some individual people's movements around Surrey illustrate various types of migration. Richard Redwith, curate of New Alresford, gave in 1533 a deposition to the Hampshire Consistory Court.⁵³⁰ He described himself as aged 27 and a native of Ewell in Surrey. He had moved five times already, from Ewell to Winchester to Oxford University to Romsey to Southampton to New Alresford (the last three are all in Hampshire), leaving home at 14 and staying between 1 and 4 years in each location. He continued to move repeatedly thereafter, his migration driven initially by education and then by his career in the church (his life and career is discussed further by Christophers).⁵³¹ Thomas Smith, aged 53 and a linen draper, gave a deposition to the same court in 1597. He had lived in Guildford for the past 40 years but was a native of the nearby parish of Merrow which he left at the age of 13, possibly to take up an apprenticeship.⁵³² In contrast to these 'betterment' movements, some people's movement was driven by necessity. In 1751 Grace Smithers was the

⁵²⁹ Ibid., pp. 12-4.

⁵³⁰ A. J. Willis (ed.), *Winchester Consistory Court abstract 1500-1700: listing persons described as native to a county other than Hampshire* (Hampshire, 1960).

⁵³¹ Christophers, 'Social and Educational Background of the Surrey clergy, 1520-1620' and personal communication from Richard Christophers.

⁵³² Willis (ed.), *Winchester Consistory Court 1500-1700*, p. 274.

subject of a removal order from Guildford to Chertsey.⁵³³ As Grace Christmas she had had a ‘baseborn son’ James in January the year before.⁵³⁴ A month after the birth she had married James Smithers, presumably the father of the child. Her husband had been a bargeman from Laleham, almost certainly arriving in Guildford through working on the Wey Navigation which ran from the Thames to the town. He died not long after the marriage and, as a poor widow with a child, Grace would have been the responsibility of the poor law in his parish rather than hers, hence the removal order. While Grace is an example of the forced migration of the poor, she is also an example of a poor person’s ability sometimes to exercise control as three years later, in 1754, she was back in Guildford, marrying Richard Peddar, a husbandman, in St Nicholas church. Providing an indication of the longer distance movement some undertook, one of the depositions to the court of the Croydon Peculiar was that of Robert Farrant aged 20 who was recorded in 1717 in Putney but had been born in Payhembury in Devon.⁵³⁵ While many moved, some remained in their place of birth throughout their lives such as William Wood, tanner, aged 74, who was recorded in a deposition in 1688 to the same court as having always lived in Croydon.⁵³⁶

Patterns of migration

Movement recorded in church court depositions

Evidence of broader patterns of migration in non-metropolitan Surrey is potentially available from church court depositions. They are likely to cover a wider range of people than most other sources for migration and have particular value as, although

⁵³³ West Surrey Family History Society, WSFHS Surrey Poor Law Index and Calendar (CD 1). Note subsequent references to poor law records refer to this source and more detailed references for the individuals mentioned are not given.

⁵³⁴ *Surrey parish registers*. Note subsequent references to individual parish register entries refer to this source and more detailed references for the individuals mentioned are not given.

⁵³⁵ LPA VH 78-77 (defamation case)

⁵³⁶ LPA VH 79-9 (concerned with faculty for a pew)

recorded by the court, they are somewhat less mediated through the views of others. They were created when witnesses in civil and disciplinary actions appeared before diocesan courts and they include a brief autobiographical statement listing the witness's name, age, occupation or status, place and length of residence, and sometimes details of previous residences. But they are not without bias as, while a wider range of people might occur in them, they were still not representative of the population as a whole.⁵³⁷

Unfortunately, only a few such records survive for Surrey. A modest number of cases are in the records of the Peculiar Deanery of Croydon which included 12 of Surrey's non-metropolitan parishes.⁵³⁸ The records of the archdeaconry of Surrey, one of two archdeaconries in the diocese of Winchester, no longer exist.⁵³⁹ Hampshire Consistory Court, the court of the other archdeaconry in Winchester diocese, was concerned with cases in Hampshire parishes but contains depositions of about 60 people with some connection with Surrey.⁵⁴⁰ The sample will have been skewed by its origins though, their involvement with cases in Hampshire meaning, by definition, they had travelled outside their home parish, even though their residence at the time of their deposition was in Surrey. Within the witnesses about half were aged under 40, about a quarter were husbandmen and yeomen and another quarter were involved in the cloth trade in various forms. About three quarters had moved at least once in their lives, and at least one in six had moved more than once. Of those who had moved, about a third had done so before the age of 20 and another third between the ages of 20 and 30. These characteristics of migration are broadly in line with those identified elsewhere by

⁵³⁷ Clark, 'Migration in England during the late seventeenth and early eighteenth centuries', p. 218.

⁵³⁸ LPA Peculiar of Croydon church court depositions VH 75-101.

⁵³⁹ P. Earle, 'The Female Labour Market in London in the Late Seventeenth and Early Eighteenth Centuries', *The Economic History Review*, 42 (1989), p. 332.

⁵⁴⁰ Willis (ed.), *Winchester Consistory Court 1500-1700*

Clark and by Zell. Clark used such depositions to explore patterns of movement in southern England 1660-1730 (none were from Surrey), concluding migration was the norm. He found around two thirds of male deponents had moved at least once in their lives, and most were aged between 11 and 30 when they moved. He also found that about half had travelled up to 10 miles and about one in ten had moved over 40 miles.⁵⁴¹ Zell's study of sixteenth century Wealden Kent showed a similar pattern. He found a clear majority of adult church court witnesses were no longer resident in their parish of birth and that less than a quarter had always lived in their native parish. Most who had moved had done so once or twice, and most had migrated within Kent.⁵⁴²

Sex ratios

A broader indication of the level of migration in an area is available from a comparison of the proportion of males and females recorded in burial records compared with the known natural ratio of males and females at birth. Souden pioneered this approach.⁵⁴³ At a national level, the sex ratio of births in Rickman's eighteenth-century parish register abstracts was between 1.03 and 1.05 males per female, or between 103 and 105 male babies for every 100 female babies born. This has been broadly confirmed by more recent work. A study of all registered live-birth children in Denmark in 1980-93 showed a ratio of 1.05 and one of all live births in England and Wales between 1838 and 2012 showed the ratio varying between 1.035 and 1.06.⁵⁴⁴ If sex ratios at death are different from these birth ratios then the

⁵⁴¹ Clark, 'Migration in England during the late seventeenth and early eighteenth centuries', pp. 22-6.

⁵⁴² Zell, *Industry in the countryside*, pp. 83-5.

⁵⁴³ D. Souden, 'East, West - Home's Best'? Regional Patterns in Migration in Early Modern England', in P. Clark and D. Souden (eds.), *Migration and Society in Early Modern England* (London, 1987).

⁵⁴⁴ R. Jacobsen, H. Moller, and A. Mouritsen, 'Natural Variations in the Human Sex Ratio', *Human Reproduction*, 14 (1999), p. 3121; Dept of Health *Birth Ratios in England and Wales: a report on*

implication is there has been net migration. Nationally, this seems to have been the case: the ratios at death in Rickman's eighteenth-century abstracts are lower than the birth ratio, mostly at or below 1.01. This is thought to have been due especially to the substantial scale of emigration abroad of males.⁵⁴⁵

Within Surrey as a whole, according to Rickman's figures, the average sex ratio in burial registers over the eighteenth century was 1.02⁵⁴⁶ suggesting the presence of some net migration. But this is misleading as it includes Surrey's metropolitan areas. It is also limited by its use of a sample of parish records only. A more thorough examination of the sex ratio at death in non-metropolitan Surrey is available from the dataset of burials in non-metropolitan Surrey parishes created for this study (for details see Chapter 2: Sources and Methods and Chapter 8: Mortality). This suggests that over the whole period from the start of burial registers until 1750 there was a sex ratio of 1.06 males per female in non-metropolitan Surrey (Table 15), a little above the natural birth ratio, suggesting that on average there was only a modest net movement of either males or females.

gender ratios at birth in England and Wales,

<https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/313559/Sex_Selection_in_England_and_Wales_analysis_April_2014_NM_comments.pdf>, accessed 9 Oct 2019, esp. pp.6-7.

⁵⁴⁵ Souden, 'East, West - Home's Best?', pp. 297-8; Wrigley and Schofield (eds.), *Population History of England*, pp. 224-6.

⁵⁴⁶ Souden, 'East, West - Home's Best?', p. 301.

Parish-type	female	male	total	ratio male to female
Thames side ⁵⁴⁷	21494	22399	43893	1.04
urban ⁵⁴⁸	30137	31431	61568	1.04
urban/Thames side ⁵⁴⁹	10669	11578	22247	1.09
rural ⁵⁵⁰	53970	57653	111623	1.07
<i>Total</i>	<i>116270</i>	<i>123061</i>	<i>239331</i>	<i>1.06</i>

Table 15 Sex ratios in burial records, by parish-type, 1540-1750

But different types of parish within Surrey had different experiences. Non-metropolitan Surrey parishes can be categorised as being in one of four broad types - rural, Thames-side, urban and urban/Thames-side - and they differed in their sex ratios at death indicating the presence of differential migration of men and women (Table 15).⁵⁵¹ Most notably the parishes which were both urban and Thames-side (Chertsey and Kingston) had an excess of males in their burial records, an average of 1.09 male burials per female burial. It is likely this reflected the scale of the river trade, a predominantly male occupation, in these towns especially in Kingston, the larger of the two. Rural parishes on average also had somewhat more males at death than the natural ratio, about 1.07, again suggesting some net migration. The urban parishes and the Thames-side ones, other than the two towns, had on average slightly below the natural ratio indicating the presence of more females than the natural birth ratio would have produced. These observations may well reflect the same type of movement, of females away from the agricultural occupations of rural areas and to domestic and retail occupations based in towns or in the more densely populated parishes on the banks of the Thames.

⁵⁴⁷ Barnes, E Molesey, Egham, Kew, Long Ditton, Mortlake, Petersham, Putney, Richmond, Thames Ditton, Thorpe, Walton on Thames, Wandsworth, West Molesey, Weybridge

⁵⁴⁸ Croydon, Dorking, Farnham, Godalming, Guildford, Reigate

⁵⁴⁹ Chertsey, Kingston

⁵⁵⁰ Rural: parishes not included in any other group.

⁵⁵¹ those for whom a sex was identifiable (see Chapter 8: Mortality for more detail on this).

Looking further at some of the rural parishes, one area which seems to have had substantially above average numbers of males was in the north-west of Surrey, on or around the Bagshot Sands. Several parishes in this area (Frimley, Pirbright, Send, Merrow, West Clandon, Pyrford, Byfleet, Thorpe and Horsell) all had noticeably above average, above 1.10, proportions of male compared to female burials. This area included poor heathlands and also a series of parishes through which the Wey Navigation ran after the mid-seventeenth century and it is plausible both these contributed to the numbers of males – males perhaps being more likely to work the poorest soils and also being more likely to be engaged in the trade along the Navigation.

Surname turnover

Another means of considering the scale of migration is to compare surnames. Based on this approach a substantial turnover of people has been observed in various parts of the country.⁵⁵² It should be noted that the approach of some of these studies is of a ‘forward comparison’ while others (as in the examples for Surrey described below) have used a ‘backward comparison’. The former is likely to overstate the scale of population turnover because of the possibility of a loss of surnames due to a lack of male descendants and hence the loss of the surname but the family continuing through the female line. Habakkuk, considering English landed families between 1600 and 1800, suggested between one landed family in five and one in six may have failed in the direct male line in each generation due to one or more of marital sterility, high mortality especially infant mortality or marriages producing only girls.⁵⁵³

⁵⁵² Spufford, 'Population Movement in Seventeenth Century England' (1970), pp. 45-6.

⁵⁵³ J. Habakkuk, 'Presidential Address: The Rise and Fall of English Landed Families, 1600-1800', *Transactions of the Royal Historical Society*, 29 (1979), p. 189; loss of surnames was noted also by

As examples of the possible scale of movement in rural Surrey the parishes of Seale, a small rural parish in the far west of the county, and Dorking, a parish containing the town of the same name towards the centre of the county, were considered. The method used was to list all those whose burials were recorded in the parish in a given time period. This was repeated for an earlier time period and the surnames in the two lists compared. In Seale, 190 burials were recorded in the period 1660-1700. Of these, two-thirds had surnames not recorded in its burial records a century earlier, in 1560-1600.⁵⁵⁴ In Dorking about three-quarters of the approximately 600 different surnames in its 1660-1700 burial registers had surnames not recorded in the earlier period. These large number of 'new' surnames in the later period in these two parishes suggests the possibility that at least some were incomers. The analysis is far from exact: it is entirely possible some of those dying in 1660-1700 were long-term residents of Seale or Dorking but by chance none of their relatives were recorded as dying in the parish in the earlier period. And it is limited to an indication of male migration: the requirement for women to change their surname on marriage makes it difficult to be clear about their migration. The experience of Seale and Dorking does, though, seem broadly in line with other studies. As described above, Spufford concluded that even in less mobile areas two-thirds of the families in an area changed in the course of a century.⁵⁵⁵

Migration of specific groups of people

The remainder of this chapter considers the movement of some specific types of people – those marrying, those taking up apprenticeships and the poor.

J. P. Jordà, J. Ameijeiras-Alonso, and J. M. Pujadas-Mora, 'Chronicle of an Early Demise: Surname Extinction in the Fifteenth and the Seventeenth Centuries', *Historical Methods*, 51 (2018).

⁵⁵⁴ allowing for variations in spelling of the same surname.

⁵⁵⁵ Spufford, 'Population Movement in Seventeenth Century England' (1970), p. 48.

On marriage

Introduction

When someone married a person from another parish, their parish of origin was sometimes, though far from always, recorded in the parish register. When marriage was via a marriage licence, the home parishes of both parties to the marriage were generally recorded though the marriage itself was not associated with a particular parish. The levels of marriage exogamy in a parish are a useful indicator of the parish's interactions with other communities and the distance, direction, and density of those contacts. Parish registers, though, have considerable limitations as evidence of marriage horizons. Whyte described the information on residence in marriage registers as 'often haphazard', Snell has pointed out that the operation of the poor law would have encouraged the recording at marriage of the parish details of the male partner but not the female, and Pain and Smith suggested marriage records tend to underestimate the personal mobility of both men and women because of their failure to record movement between birth and marriage.⁵⁵⁶ Their value is also limited as they are biased towards younger people and do not include clandestine or Nonconformist marriages. Nevertheless, where the marriage partners of a parish came from, the marriage horizons of the parish, provide a useful indication of the broad social and economic region within which many of the contacts of people in that parish occurred and so a sense of the connectedness of the parish to other places.

⁵⁵⁶ Snell, 'Parish Registration and the Study of Labour Mobility' (1984), p. 32; Whyte, *Migration and Society in Britain, 1550-1830*, p. 46; A. J. Pain and M. T. Smith, 'Do Marriage Horizons Accurately Measure Migration? A test case from Stanhope parish, County Durham', *Local Population Studies*, 33 (1984).

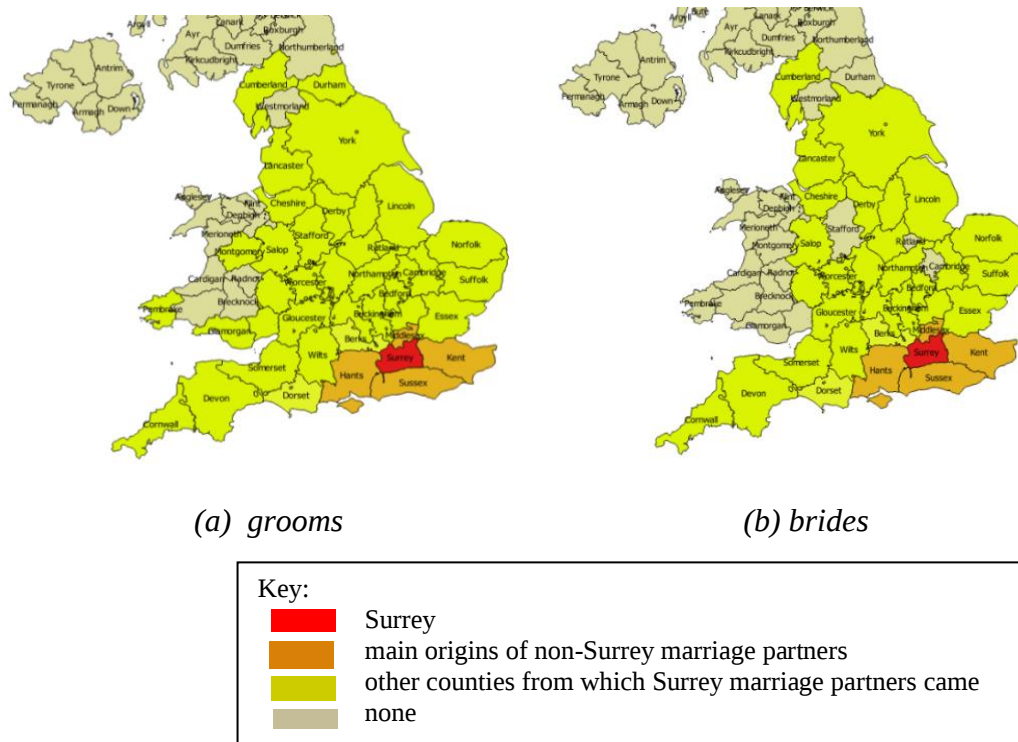
This section uses marriage records to explore links between parishes in non-metropolitan Surrey and with other parts of the country. Overall, there are surviving records of about 70,000 non-metropolitan Surrey marriages (see Chapter 2: Sources and Methods). Which parish registers recorded the exogenous place of origin of the marriage partners and when they did so varied substantially. So did the numbers of marriage partners described as ‘of this parish’ which vary between none (for example in Wandsworth and Shere) to over half (for example in Ashted and Frensham). Whyte was clear that where a parish of origin of a bride is not given it would be a mistake to assume the bride was living in the parish at the time of the marriage.⁵⁵⁷ Therefore it is only possible to explore the origins of those whose parish of origin was given explicitly. In non-metropolitan Surrey’s marriage records about 8,000 brides were explicitly described as ‘of this parish’ and about 5,000 grooms. About 12,000 brides and 18,000 grooms were described as from another parish.

Non-Surrey origins

The registers in Kingston in 1682 recorded the marriage of Catherine Remmee of London to William Matthews of the West Indies. William was unusual; he was one of only a handful of people in the surviving records of non-metropolitan Surrey whose origins were overseas. Mostly, non-Surrey marriage partners were from another part of Britain. The marriage registers record about 3,000 brides and 6,000 grooms as from outside Surrey. These appear to be quite substantial numbers, between a quarter and a third of all those recorded as from another parish, but this doubtless reflects a greater tendency for out-of-county origins to be recorded by the parish clerk. Those recorded were mainly from England and Wales, though a very few were recorded from Scotland

⁵⁵⁷ Whyte, *Migration and Society in Britain, 1550-1830*, p. 46.

and Ireland. Brides were slightly less likely to come from more distant areas of the country than grooms but the difference was not substantial (see Figure 105 for English and Welsh origins).



*Figure 105 English and Welsh non-Surrey origins of marriage partners*⁵⁵⁸

The most common non-Surrey origins were London and Middlesex. There were brides or grooms from London and Middlesex in most parts of Surrey but especially in the Thames-side area (Figure 106). Brides were somewhat less likely than grooms to be present in the more distant parts of Surrey.

⁵⁵⁸ GIS map accessed from Historic Counties Trust *The Historic County Borders Project*, <<http://www.county-borders.co.uk/>>, accessed 26 Feb 2019.

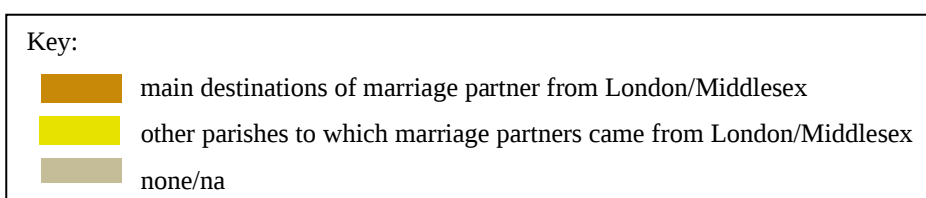
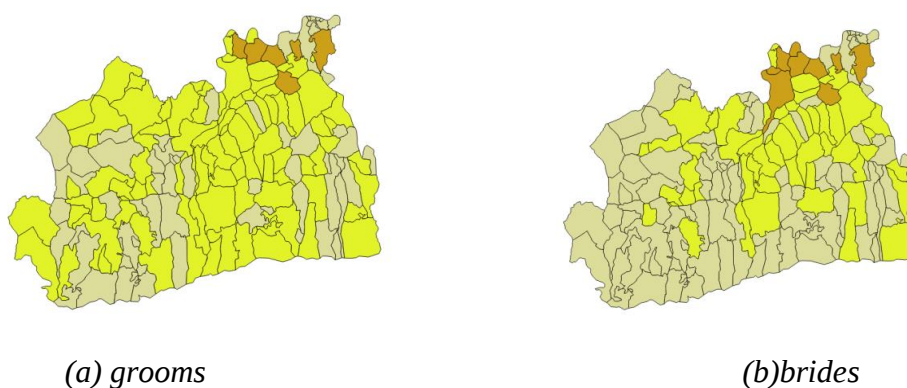


Figure 106 Parishes with London and Middlesex marriage partners

Most other out-of-county marriage partners were from Surrey's immediately neighbouring counties – Hampshire, Sussex and Kent, predominantly, as might be expected, in parishes close to the relevant county border (Figure 107). It is interesting to note Croydon was the most distant parish with marriage partners recorded from Sussex. Presumably this reflected the trade links between Croydon and the Weald which included parts of Sussex as well as southern Surrey.

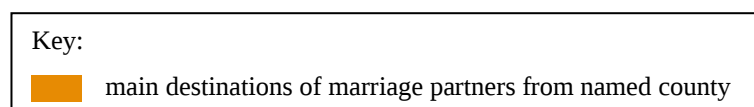
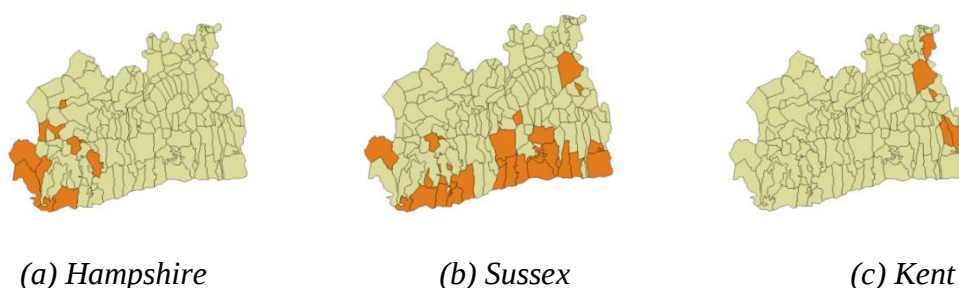


Figure 107 Marriage partners from other counties

Within Surrey origins

The majority of exogenous marriage partners came from other Surrey parishes. Studies elsewhere have pointed to a rough figure of 5 miles for the mean extra-parochial marriage distance and to most being within about 10 miles. In Easingwold in North Yorkshire, for example, Maltby found most marriage partners between 1644 and 1812 not from Easingwold itself came from within a 10-mile radius.⁵⁵⁹ Hunter found that in Haynes, Bedfordshire, the mean extra-parochial marriage distance in 1754-93 was 9.2 km (about 6 miles) and that the median was 6.7 km (about 4 miles).⁵⁶⁰ Less typically, Millard, considering marriage horizons in Stony Stratford in north Buckinghamshire in the period 1754-93, found a median extra-parochial marriage distance of 11.8 km (a little over 7 miles) though a much higher mean of 29.8 km (18.5 miles).⁵⁶¹

Two previous studies have examined marriage horizons within Surrey. Lord considered an area of south-east Surrey between 1750 and 1850. The study area included parishes on the North Downs, in the Weald and in the intermediate area which lies on greensand plus a thin line of black loam.⁵⁶² She found women were more migratory than men, that marriages tended to take place between people within the same socio-economic or religious group and that higher status people were more likely to find a marriage partner from a greater distance.⁵⁶³ In a smaller study Saxby considered marriage horizons in Surrey marriage licences in 1748. Based on 199 licences from across Surrey, he found little difference in the distances travelled by

⁵⁵⁹ see for example B. Maltby, 'Easingwold Marriage Horizons', *Local Population Studies*, 2 (1969).

⁵⁶⁰ A. Hunter, 'Marriage Horizons and Seasonality: A Comparison', *ibid.* 35 (1985).

⁵⁶¹ J. Millard, 'A New Approach to the Study of Marriage Horizons', *ibid.* 28 (1982).

⁵⁶² Bletchingley, Burstow, Caterham, Godstone, Horne, Limpsfield, Nutfield, Tatsfield, Titsey, Warlingham.

⁵⁶³ Lord, 'Communities of Common Interest: the Social Landscape of South-East Surrey, 1750-1850'.

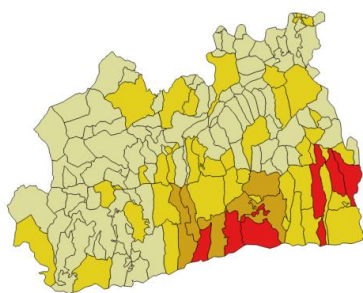
brides and grooms to the place of marriage. About half were both from the same parish and most of the rest were from within 10km (6.3 miles).⁵⁶⁴ A study by Short of marriage patterns in Sussex included two areas similar to areas of Surrey, the Low Weald and Downland areas. His main source was marriage licenses, 1586-1837. Most marriage partners came from within 4 miles. He identified transport and agriculture as influential: the availability of good transport routes or conversely the barriers inherent in the lack of them and the agricultural conditions – the soil workability and fertility.⁵⁶⁵

In order to consider marriages horizons in Surrey's rural parishes a sample of parishes was used. They are from six geographical areas, each having a similar soil type.⁵⁶⁶ The first group is of 5 parishes from the south of Surrey, on Wealden clay (Figure 108). The second is a group of 3 parishes on soils on the edge of the Weald and the western sandy soils (Figure 109). The third group is of 3 parishes on the south-west sandy soils (Figure 110). The fourth group is of 3 parishes on the north-west sandy soils (Figure 111). The fifth group is of 8 parishes (though 3 have only a few relevant records) near the Thames (Figure 112). The sixth group is of 3 parishes close to London, on London clay (Figure 113).

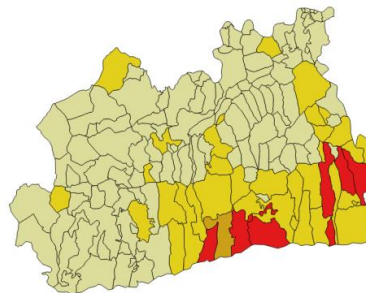
⁵⁶⁴ Saxby, 'Marriage Horizons in Surrey and Nottinghamshire' (2013).

⁵⁶⁵ B. Short, *The Geography of Local Migration and Marriage in Sussex 1500-1900* (University of Sussex. Research Papers in Geography 15; Brighton, 1983).

⁵⁶⁶ Most groups each contained between about 500 and 1,000 relevant marriage records. The exception, Group 2 contained a little over 300.

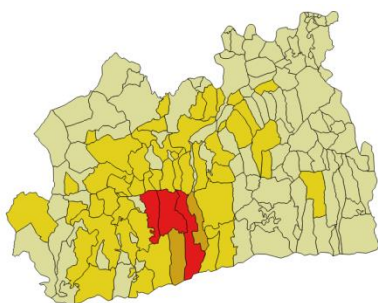


(a) grooms

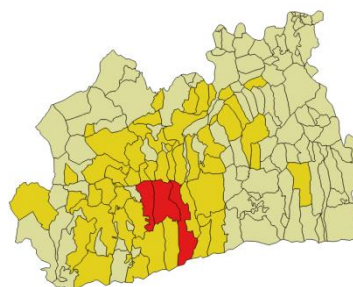


(b) brides

Figure 108 Parishes of origin, Group 1 parishes

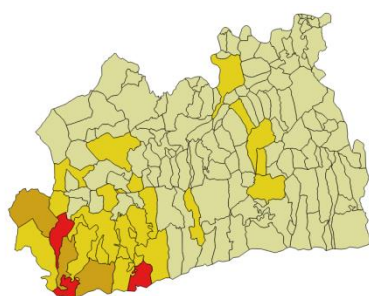


(a) grooms

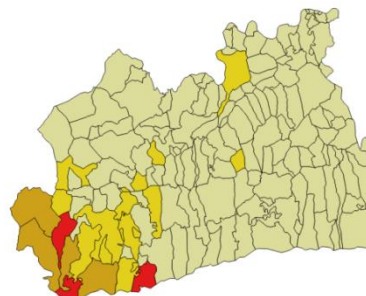


(b) brides

Figure 109 Parish of origin, Group 2 parishes

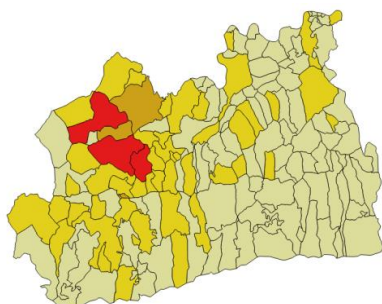


(a) grooms

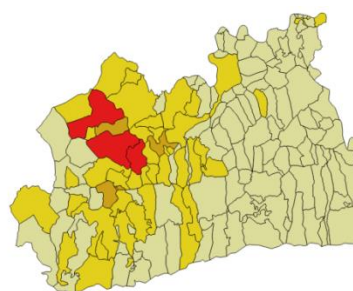


(b) brides

Figure 110 Parish of origin, Group 3 parishes



(a) grooms



(b) brides

Figure 111 Parish of origin, Group 4 parishes

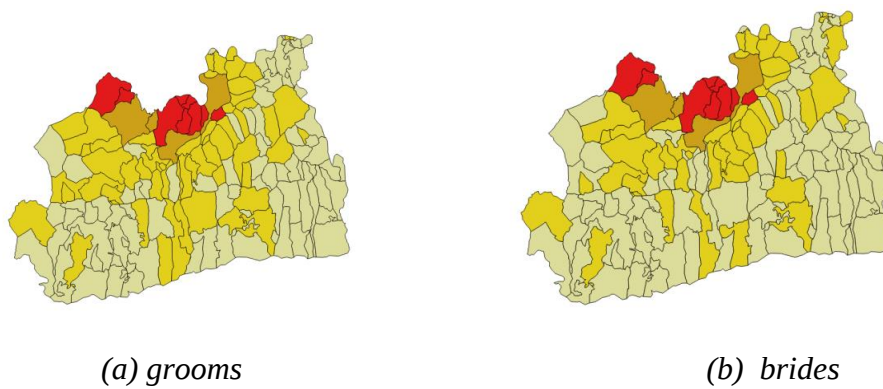


Figure 112 Parish of origin, Group 5 parishes

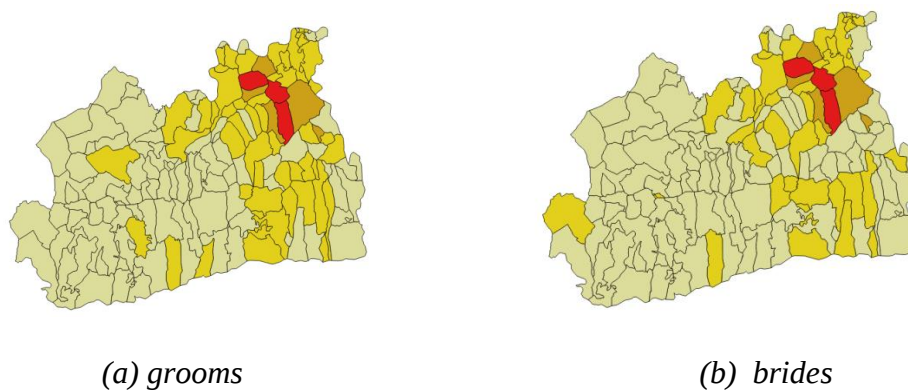
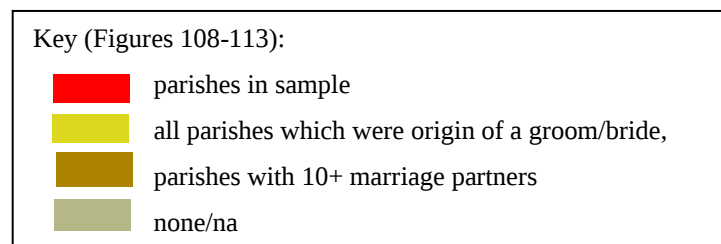


Figure 113 Parish of origin, Group 6 parishes



Some findings are common to all six groups of parishes. All show most marriage partners came from within about a 10-mile radius and mainly from within five miles and in all areas brides came from similar but slightly smaller areas than grooms. These are in line with the characteristics of marriage horizons noted elsewhere in the country. There are some differences between the specific patterns of marriage horizons in the six groups, differences which reflect the transport and economic links of the different areas. The influence of road links on marriage horizons is suggested in, for example, the origins of marriage partners in the Group 4 parishes on the north-western sandy

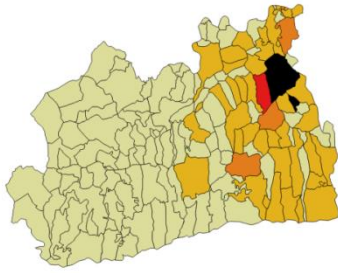
soils (and possibly also on the Group 3 parishes in the south-west) where marriage partners were more likely to come from places to the north and south, places linked by the main London to Portsmouth Road. There is an east-west emphasis of the marriage horizons of the Thames-side parishes (Group 5) underlining the importance of the Thames as providing east-west transport links. A substantial number of marriage partners in this area came also, although this is not mapped here, from parishes immediately across the river in Middlesex (especially Staines, Sunbury, Shepperton, Hampton). This contrasts with the finding of Morris and Cozens who identified the Thames towards the east of London as a major barrier in the eighteenth century to the development of strong business and marriage links between the residents on the north bank in Stepney and those on the south bank in Surrey's metropolitan parishes and Kent.⁵⁶⁷

There is also evidence of separateness. The Wealden area appears to have been a fairly distinct area. Marriage partners, especially brides, in the Wealden parishes considered (Group 1) were predominantly from other Wealden parishes, including its neighbouring towns of Dorking and Reigate: the solidly coloured rectangle shown of the origins of Wealden marriage partners corresponds closely with the Wealden area. As noted with marriage partners from Sussex, Croydon was one of the more distant destinations of Wealden marriage partners. Conversely it is noticeable that, with the exception of the London clay parishes in north-east Surrey (Group 6 parishes) there were comparatively few marriage partners from Wealden parishes in other parts of Surrey. This is an interesting contrast with the finding of Short (see above) who

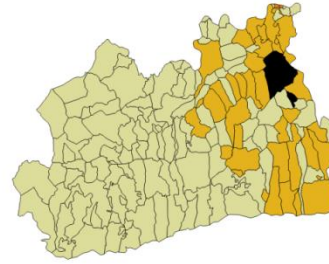
⁵⁶⁷ D. Morris and K. Cozens, 'The Thames as a Barrier in the Eighteenth Century', *Local Population Studies*, 101 (2018).

identified movement out of the Wealden area of Sussex as a result of its pastoral farming and its people providing labour in busy periods for the nearby arable farms.

Similarly, it is possible to consider the origins of those marrying in Surrey's market towns (Figures 114-119). These show many similarities with rural marriages. They confirm the largely local scale of marriage horizons for the towns. Most marriage partners came from within about 10 miles, especially within about five miles. They confirm the similarity of the areas from which brides and grooms came to marry in a particular town. They show, as in rural marriages, links of the Wealden south with Dorking and Reigate on the edge of the Wealden area and with Croydon with which the Weald traded, but much less with Surrey's other towns. They also show the more linear east-west origins of marriage partners in the Thames-side town of Kingston, a response to the easier transport links and greater trade in that direction along the Thames than was generally possible in other directions. The strength of links between the various towns are suggested: when marriage partners came from more distant parishes these were often other towns rather than rural areas. For example in Farnham three of the most distant parishes of origin were the towns of Chertsey, Kingston and Croydon (Figure 116) and in Kingston (Figure 118) there were marriage partners from Farnham, Godalming, Guildford, Reigate, Chertsey and Croydon.

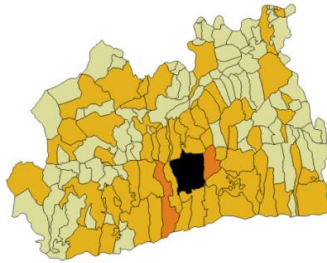


(a) grooms

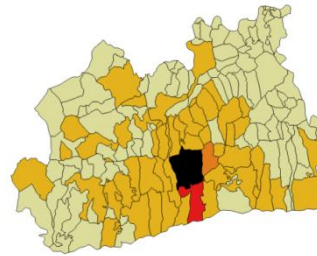


(b) brides

Figure 114 Origins of Croydon marriage partners

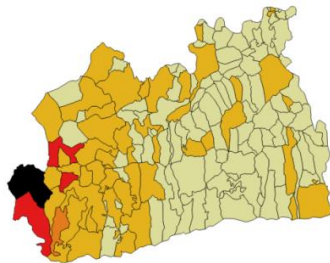


(a) grooms

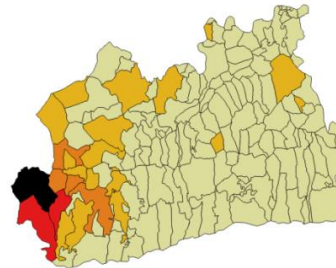


(b) brides

Figure 115 Origin of Dorking marriage partners

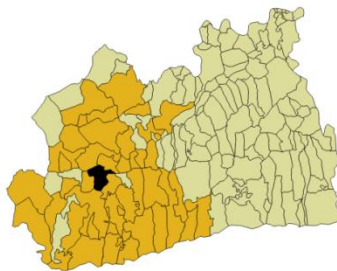


(a) grooms

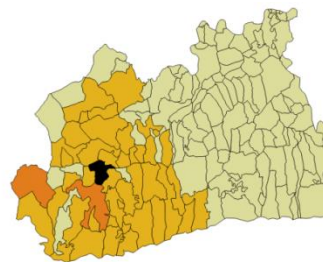


(b) brides

Figure 116 Origins of Farnham marriage partners

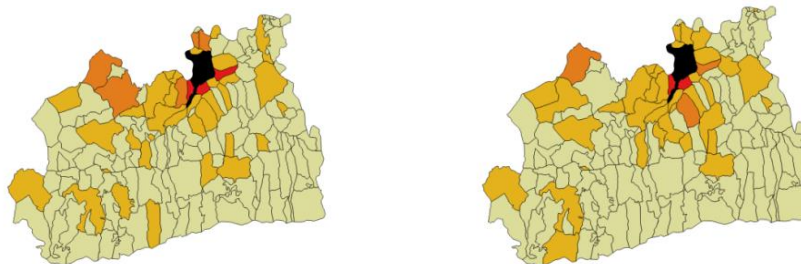


(a) grooms



(b) brides

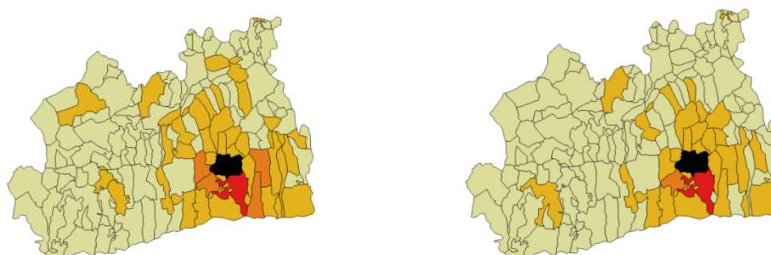
Figure 117 Origins of Guildford marriage partners



(a) grooms

(b) brides

Figure 118 Origin of Kingston marriage partners



(a) grooms

(b) brides

Figure 119 Origin of Reigate marriage partners

Key: (Figures 114-119)

- the town
- any parishes with at least 1% grooms/brides
- at least 5% grooms/brides
- at least 10% grooms/brides
- none/na

A different characteristic of marriage horizons is not where those marrying in a particular town had come from but where people from that town married if not in that town. This can be illustrated with the map of where those from Croydon married (Figure 120), which can be compared with the origins of those marrying in Croydon (Figure 114).⁵⁶⁸ Croydon people, especially grooms, were recorded as marrying in

⁵⁶⁸ about 200 grooms and 150 brides were identified elsewhere in non-metropolitan Surrey as being from Croydon.

most of Surrey's towns including the more distant ones (Farnham, Chertsey, Kingston, Dorking, Reigate and Guildford). In contrast those marrying in Croydon, while including some from other towns, often came from rural parishes fairly near to Croydon. Considering specifically the links noted above between Croydon and the Weald, it is also notable that while those marrying in Croydon not infrequently came from Wealden parishes, in contrast those from Croydon were not especially likely to marry in those Wealden parishes.

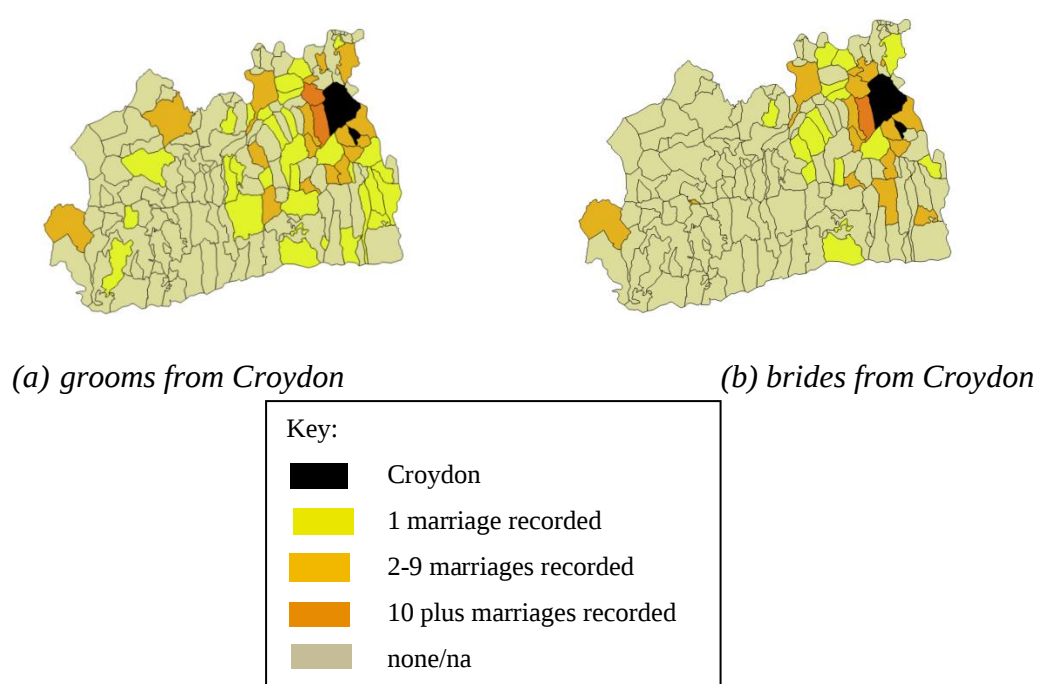


Figure 120 Marriage parishes of people from Croydon

Concluding remarks - marriage horizons

The evidence of the minority of marriages for which the marriage partners' places of origin were recorded is in line with patterns noted elsewhere – the local nature of much migration, the influence of transport routes and of towns. The Weald appears as a more self-contained area. Non-Surrey marriage partners came from most other parts of England. Mainly, though, they came from Surrey's neighbouring counties.

Apprentices

Introduction

The next part of this chapter considers the movement of apprentices, specifically those whose apprenticeships were arranged by their families, firstly within Surrey and then to London (those arranged by the poor law authorities are considered later). Apprentices were usually young men in their teens to whom apprenticeships offered an opportunity for economic advancement. Parents of apprentices bound them by formal indenture to masters who undertook to teach them a craft or trade and provide them with board and lodging and other necessities.⁵⁶⁹

Surrey apprentices

Kitch considered apprenticeship and occupations in Surrey, that is the whole of Surrey, and two other southern counties, Sussex and Wiltshire, in the early eighteenth century (1710 – 1760), providing – from a Surrey perspective – the opportunity to compare Surrey’s experience with that of nearby counties.⁵⁷⁰ His study included 7,138 apprentice records from the 3 counties. The geographical mobility of the apprentices was usually short distance. In about a fifth of those entries which recorded both home and destination parishes the apprentices remained in their home parish. Surrey apprentices were predominantly (84 per cent) from Surrey, similar to the intra-county proportions in Sussex (86 per cent) or Wiltshire (91 per cent). Nearly all the remainder of Surrey apprentices came from its immediately surrounding counties. Very few came from London to be apprenticed in Surrey - only 21 Londoners were

⁵⁶⁹ Wrightson, *Earthly Necessities*, p. 33.

⁵⁷⁰ M. Kitch, *Apprenticeship and Occupations in Southern England, 1710-1760* (University of Sussex. Research papers in geography 24; Brighton, 1996).

recorded as apprenticed in Surrey. Overall, the mean distance moved by the 477 Surrey male apprentices for whom it is possible to determine this figure was 22.4 km (14 miles) and the median distance 12.7 km (8 miles). Female apprentices in Surrey may have moved rather shorter distances than male apprentices but number of records for female apprentices is small so it is hard to draw any conclusions.⁵⁷¹ Lane identified some geographical differences in apprenticeships according to occupation. By the early eighteenth century, for example, the distribution of bricklayers varied considerably from one area to another, and in Surrey they were concentrated in a few towns, especially in the northern, expanding, part of Surrey. Changing styles of architecture increased use of lead and glass and this resulted in growing numbers of apprenticeships to glaziers and plumbers both in London and outside it, especially in towns. In Surrey there were glaziers with apprentices in Kingston, Leatherhead, Richmond, Carshalton and Reigate in the early eighteenth century.⁵⁷²

Surrey's towns were a destination for apprentices and two, Kingston, and to a much lesser extent Guildford, have readily accessible surviving records of apprenticeships in the town. Kingston apprenticeship records 1563-1713 contain the records of about 1,600 cases (Figure 121) of which about a third were of people apprenticed from parishes in Surrey other than Kingston.⁵⁷³ Middlesex, across the river, was an important source of apprentices (there were 233 apprentices from Middlesex). London was less likely to be an origin, only 36 apprentices, though this was slightly more than from any individual Surrey parish. Other places of origin included most of Surrey's towns and also parishes in the far south of Surrey, including the Wealden pastoral area. In this context there may be relevance in the evidence from Patten of apprentice

⁵⁷¹ Ibid., pp. 8, 23-5.

⁵⁷² J. Lane, *Apprenticeship in England, 1600-1914* (London, 1996), pp. 141, 145-6.

⁵⁷³ A. Daly, *Kingston upon Thames Register of Apprentices, 1563-1713* (Guildford, 1974).

moves to towns in East Anglia being affected by population pressure combined with economic conditions, for example going from the crowded wood-pasture region within Suffolk to urban apprenticeships.⁵⁷⁴ Some apprentices came also from other counties, mainly Surrey's neighbours or ones to which Surrey was connected by the Thames - Berkshire, Buckinghamshire, Hampshire, Oxfordshire, and Sussex. A few of Kingston's apprentices had more distant origins: Westmorland, Lancashire, Yorkshire, Ireland each had one or more occurrences. Generally, the source of the contact is unclear though in the case of Robert Mackreath from Westmorland apprenticed in 1595 to Stephen Curver, a joiner, it seems likely his father's occupation as a carrier had provided the source of the connection. The main occupations to which they were apprenticed were those that might be expected in an urban setting and suggest the importance of craft and service activities in Kingston: baker, barber, blacksmith, bricklayer, butcher, carpenter, cooper, cordwainer, joiner, mercer, tallow Chandler, tailor, wheelwright. Interestingly, this list does not include river-based work such as the management or building of barges for which it seems there was not a tradition of formal apprenticeships.

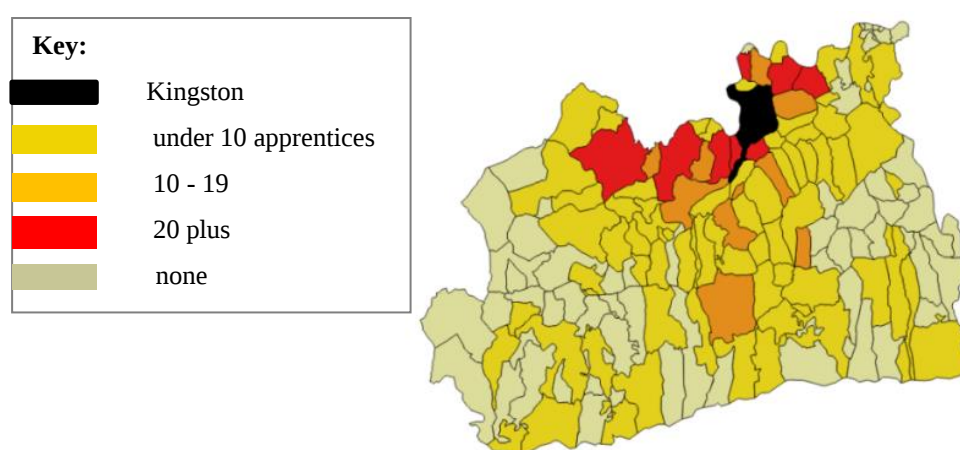


Figure 121 Kingston apprentices 1563-1713

⁵⁷⁴ J. Patten, 'Patterns of Migration and Movement of Labour to Three Pre-industrial East Anglian Towns', in P. Clark and D. Souden (eds.), *Migration and Society in Early Modern England* (London, 1987), p. 92.

Over time there is an indication of a reduction in the proportion of apprentices with non-Surrey origins (Table 16). In the period 1563-1650 around one in five apprentices came from places other than Surrey, London or Middlesex. This fell to about one in seven in the period 1651-1713. The presence of a fall in non-Surrey origins of apprentices over time is in line with the changing pattern of London apprentice origins for whom the mean distance migrated fell from around 180 km in the mid-sixteenth century to around 120 km in the early eighteenth century.⁵⁷⁵ In the case of London, Whyte ascribes this in particular to the fall in apprentices from northern England linked to a rise in rural industry, more prosperous agriculture and a reduction in population growth.⁵⁷⁶ In Kingston, given the southern origins of most of its apprentices, the fall seems to have been due to conditions more locally, though further research would be needed to elucidate these.

origin	All years	1563-1650	1651-1713
Surrey	56%	54%	57%
London, Middlesex	27%	25%	28%
other	17%	21%	14%

Table 16 Origins of Kingston apprentices (excluding Kingston) by time period

In contrast to Kingston, Guildford has only a small number of surviving readily accessible records of apprenticeships. All were people who subsequently became freemen.⁵⁷⁷ These include details of just 27 apprentices. Most were quite local and most of the origins of the more distant ones were towns – Farnham, Chertsey, Godalming, Dorking, Kingston (Figure 122).

⁵⁷⁵ Whyte, *Migration and Society in Britain, 1550-1830*, p. 73.

⁵⁷⁶ Ibid., p. 73.

⁵⁷⁷ H. Carter, *Guildford Freemen's books, 1655-1933* (Guildford, 1963).

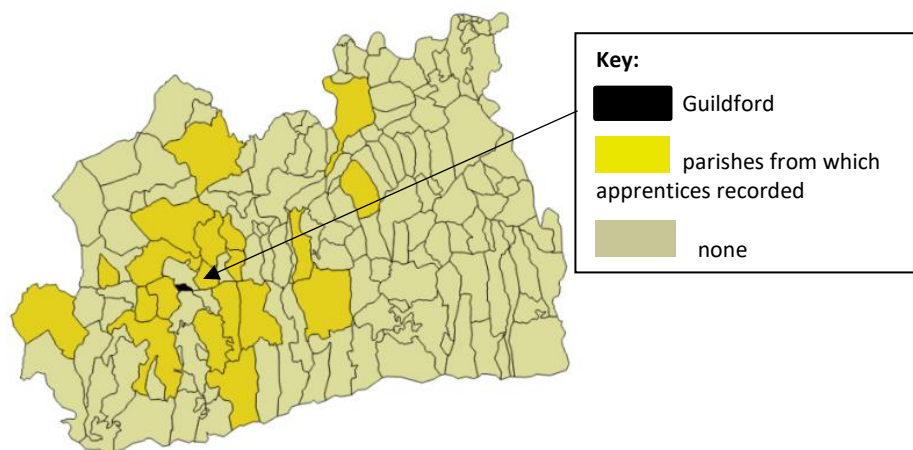


Figure 122 Guildford apprentices 1655-1750 from *Freemen's records*

London apprentices

As well as more local movement, some went from non-metropolitan Surrey to London as apprentices in the London guilds. It was a route taken by young people from across the country.⁵⁷⁸ Completion of an apprenticeship in London gave citizenship which allowed them to settle and work independently and train their own apprentices.⁵⁷⁹ In 1550 there were around 7,250 apprentices in the City of London, about a tenth of its entire population.⁵⁸⁰ In the seventeenth century between 5 and 10 per cent of English teenage males entered apprenticeships in London.⁵⁸¹ By the later seventeenth century the numbers coming were less and the flow became more local, as the institution of apprenticeship declined and as opportunities increased in towns in the north of England.⁵⁸² Even so, Kitch identified London's apprentices and freemen (almost all

⁵⁷⁸ T. Leunig, C. Minns, and P. Wallis, 'Networks in the Premodern Economy: The Market for London Apprenticeships, 1600–1749', *The Journal of Economic History*, 71 (2011).

⁵⁷⁹ Wallis, 'Apprenticeship and Training in Premodern England' (2008), p. 834.

⁵⁸⁰ Wrightson, *Earthly Necessities*, p. 33.

⁵⁸¹ P. Wallis, 'Labor, Law, and Training in Early Modern London: Apprenticeship and the City's Institutions', *Journal of British Studies*, 51 (2012), p. 791.

⁵⁸² L. Schwarz, 'London Apprentices in the Seventeenth Century: some problems', *Local Population Studies*, 38 (1987); Leunig, Minns, and Wallis, 'Networks' (2011).

of whom were former apprentices) as London's largest group of male migrants in the later seventeenth century.⁵⁸³

Some London apprentices came from non-metropolitan Surrey and consideration of their origins has the potential to suggest something of the nature of the area's connections with London. The details of the routes by which the knowledge needed for the matching of apprentices and masters is difficult to reconstruct. Wallis et al. commented '[p]arents' personal knowledge of London may have helped ... The fragmentary evidence that survives suggests the identification of opportunities for apprenticeships was made through a search effort that utilized third parties: provincial apprentices relied on their parents' connections in London to locate masters'.⁵⁸⁴

Three sources are used here to explore some of the Surrey origins of London apprentices. The ROLLCO project has drawn together data on apprenticeships and freedoms from a number (currently 11) of London's Livery Companies (bowyers, clothworkers, drapers, founders, girdlers, goldsmiths, mercers, musicians, salters, stationers, tallow chandlers).⁵⁸⁵ The records date from about 1400 to 1900. It provided 1,787 pre-1750 apprenticeship records for people from non-metropolitan Surrey (Figure 123). Scott has calendared and indexed apprenticeship disputes in the Lord Mayor's Court between 1573 and 1723, including 349 apprentices with non-metropolitan Surrey origins (Figure 124).⁵⁸⁶ Finally, Scott is also working on an index

⁵⁸³ M. J. Kitch, 'Capital and Kingdom: migration to later Stuart London', in A. L. Beier and R. Finlay (eds.), *London 1500-1700 : the making of the metropolis* (London, 1986), pp. 224-5.

⁵⁸⁴ Leunig, Minns, and Wallis, 'Networks' (2011), pp. 433-4.

⁵⁸⁵ ROLLCO *Records of London's Livery Companies Online* <<http://www.londonroll.org/>>, accessed 27 January 2017. ROLLCO have kindly made available for the purposes of this thesis those records of apprenticeships which involved Surrey people.

⁵⁸⁶ M. Scott, *Apprenticeship Disputes in the Lord Mayor's Court of London 1573-1723* 2vols. (British Record Society Apprenticeship Series; London, 2016). Dr. Scott has kindly made available the database of those disputes which involved Surrey people.

and analysis of the membership records of the Merchant Taylors Company. These provided a further 1,246 pre-1750 apprentices from Surrey (Figure 125).⁵⁸⁷

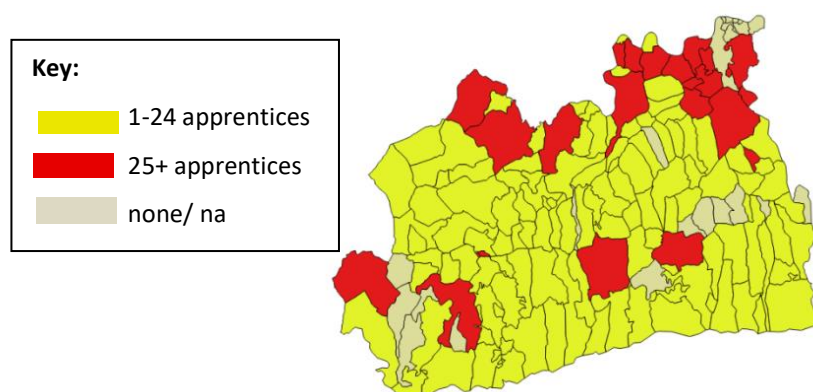


Figure 123 Apprentices in RollCo, pre-1750

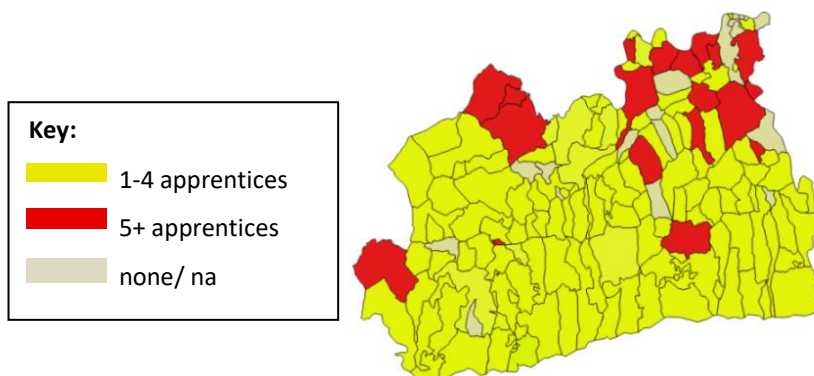


Figure 124 Origins of apprentices involved in disputes at Lord Mayor's Court, 1573-1723

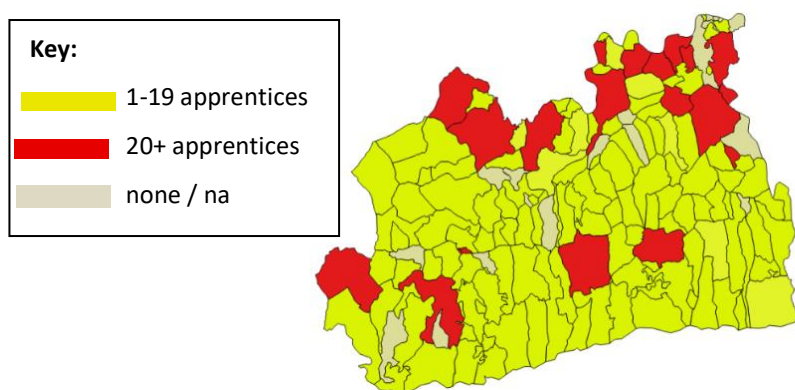


Figure 125 Origins of apprentices with Merchant Taylors, pre-1750

⁵⁸⁷ Forthcoming. Dr. Scott has kindly made available the database of records of those apprenticeships which involved Surrey people.

All three sources show markedly similar patterns of origins of Surrey apprentices in London, suggesting a consistency of apprenticeship origins across a range of occupations. They show apprentices coming to London from all parts of non-metropolitan Surrey but especially from its towns and its Thames-side parishes.

The remainder of this discussion on London apprentice origins considers two questions. The first is whether the numbers of apprentices coming from the different parts of non-metropolitan Surrey was simply a response to the population of those areas – more populous parishes sending more apprentices and less populous parishes sending fewer. In other words, were the numbers of apprentices *pro rata* to the parishes' populations? The second question is whether there were marked changes over time in the places of origin of Surrey people taking up apprenticeships in London.

Considering the origins of apprentices over the whole period, in all three sources the towns sending the greatest number of apprentices were Kingston and Guildford, followed by Croydon (Table 17).

parish	RollCo (1787 apprentices)	Lord Mayor's Court (349 apprentices)	Merchant Taylor's (1246 apprentices)
Kingston	162	25	71
Guildford	96	26	73
Croydon	88	15	56
Wandsworth	75	8	34
Richmond	74	14	50
Camberwell	72	5	23
Battersea	71	10	27
Reigate	51	10	21
Dorking	43	1	26
Putney	40	11	26
Farnham	39	7	34
Godalming	36	3	29
Chertsey	35	6	29
Clapham	35	15	20
Mitcham	32	9	10
Egham	31	11	30
Mortlake	30	4	17
Walton on Thames	25	3	22

Table 17 Numbers of apprentices from the most frequently named parishes

Estimates of the populations of these parishes have been discussed above (Chapter 4: Population). When the numbers of apprentices are compared with the populations of the towns (more accurately, the parishes containing the towns) it appears, based on the ROLLCO data (though calculations based on the other two sources do not differ materially), the numbers of apprentices going from Kingston and Guildford to London was disproportionate when compared to other towns: Kingston and Guildford sent, proportionate to their population, around twice as many apprentices to London as Surrey's other towns did (Table 18).

town	number apprentices (ROLLCO)	population estimate ⁵⁸⁸	apprentices per 1000 population	1664LD average hearths per household	1664LD percentage households with 5+hearth
Chertsey	35	1760	20	2.9	17%
Croydon	88	3836	23	2.8	8%
Dorking	43	1902	23	2.6	11%
Farnham	39	2526	15	2.4	10%
Godalming	36	2129	17	2.3	7%
Guildford	96	2226	43	3.4	18%
Kingston	162	3384	48	3.5	21%
Reigate	51	1898	27	2.9	12%
<i>all</i>	<i>550</i>	<i>19661</i>	<i>28</i>		

Table 18 'London apprentice densities' and estimates of wealth for Surrey towns⁵⁸⁹

Kitch applied a gravity model approach to exploring where apprentices came from geographically across the country and he too identified Guildford and Kingston as sending more apprentices to London than his gravity model would predict based on distance from London and population.⁵⁹⁰ The ROLLCO-based study confirms the extra numbers going from Guildford and Kingston. For Guildford, Kitch's study suggested around fifty per cent more apprentices than his gravity model would predict (he did not give a figure for Kingston). This study of the apprentice records in ROLLCO shows there may have been twice as many apprentices sent as population might suggest from Kingston and Guildford compared to other Surrey towns or rural areas. It suggests the urban populations of Kingston and Guildford were different from those of other towns and of rural Surrey and that they had the means and the motivation to seek out London gild apprenticeships for their sons. It seems likely they had greater trading or social links with London or families who valued the opportunities London apprenticeships offered to their offspring and providing the connections which enabled the arranging of an apprenticeship.

⁵⁸⁸ based on burials 1661-1690 (see Chapter 4: Population).

⁵⁸⁹ figures are for the whole parish rather than its urban area only.

⁵⁹⁰ Kitch, 'Capital and Kingdom: migration to later Stuart London'.

There were also particularly low ‘apprentice densities’ in Godalming and Farnham, the two towns furthest from London, supporting, as Kitch proposed, the influence of distance from London on London apprentice uptake. Both towns may have looked away from London to larger provincial towns in the south or west, such as Southampton, Chichester or Reading, as a place for apprenticeships.⁵⁹¹ There is some limited support for this suggestion from Southampton apprentice records 1609-1740.⁵⁹² These show that three of the four Surrey apprentices enrolled in Southampton were from Farnham. George Wroth a Farnham mercer apprenticed two sons in Southampton, Robert in 1612 to Nathaniel Milles, mercer, and Thomas in 1619 to Robert Wroth, also a mercer and presumably a relative. Two decades later, in 1638/9 Francis, son of William Mansell, a Farnham yeoman, was apprenticed to Robert Wroth, a merchant, possibly the same Robert who was apprenticed or the Robert who took on an apprentice twenty years previously. These three apprenticeships were almost certainly based on existing links between traders in Farnham and Southampton. The lower rate of apprenticeships in London from more remote Surrey towns, towns with opportunities in different directions, thus suggests not so much that some towns were unwilling to send apprentices to other towns, more that what mattered was the availability of apprentice opportunities in any direction and that London did not have a monopoly on this.

Some Thames-side parishes sent relatively high numbers of apprentices to London. All were parishes with high populations, comparable to the populations of some of Surrey’s towns. They had ‘apprentice ratios’ similar to some of the towns (Table 19). For example, Richmond and Wandsworth had ‘apprentice ratios’ only modestly less

⁵⁹¹ Ibid. (towns Kitch lists as in top 43 provincial towns), p. 237.

⁵⁹² A. J. Willis and A. L. Merson, *A Calendar of Southampton Apprenticeship Registers, 1609-1740* (Southampton Records Series; Southampton, 1968).

than those of Kingston and Guildford and above those of other Surrey towns. This suggests it is not the urban character of towns *per se* that was related to the numbers of apprentices travelling to London but as much to do with the connectivity of places to London, both physical proximity and transport and trade links.

high population Thames-side parishes (those with population estimates)	number of apprentices (ROLLCO)	population estimate ⁵⁹³	apprentices per 1000 population	1664LD average hearths per household	1664LD percentage households with 5+hearths
Egham	31	1280	24	2.9	14%
Mitcham	32	1006	32	3.1	18%
Mortlake	30	1439	21	3.8	25%
Putney (includes Roehampton)	47	2365	20	3.9	20%
Richmond	74	1996	37	5.4	44%
Walton on Thames	25	1032	24	3.6	19%
Wandsworth	75	2150	35	3.0	17%
<i>all</i>	<i>307</i>	<i>11268</i>	<i>28</i>		

Table 19 'London apprentice densities' and estimates of wealth for some Surrey Thames-side parishes

In rural areas it is not possible to consider the 'apprentice density' of individual rural parishes in the same way as both the numbers of apprentices and the number of people living in such parishes were often small resulting in highly unstable ratios. But rural parishes can be combined to gain a sense of whether they were similar or different in their tendency to send apprentices to London compared to the towns or the Thames-side parishes. There were 84 rural parishes for which there were population estimates based on 1661-90 burials. These had a total of 564 London apprentices and a combined estimated population of 26,871 giving a 'London apprentice density' of 21. This is lower than the 'apprentice density' of some Surrey's towns and of most of its Thames-side parishes, both of which had 'apprentice densities' of around 28 on average, and considerably lower than those of Kingston and Guildford. The propensity

⁵⁹³ based on burials 1661-1690 (see Chapter 4: Population).

of rural areas of Surrey to send their youths to London as apprentices seems therefore to have been somewhat less than was the case either in Surrey's urban areas or in those more densely populated and well-connected Thames side parishes. This differs from Kitch's finding. He concluded that at a national level 'Sons of urban parents ... showed no unusually strong propensity to migrate to London for employment, even though one might expect that the contacts between London and the rest of the kingdom would be greater for towns than rural settlements. The proportion of London apprentices from town and country thus roughly reflected the balance of the population between town and country'.⁵⁹⁴ In non-metropolitan Surrey it seems sons of at least some urban parents and also Thames-side ones did have a greater tendency to migrate to London for apprenticeships than those of rural parents.

There is some evidence to suggest wealthier areas were more likely to send their sons to London as apprentices (Table 18 and Table 19). The two towns, Guildford and Kingston, which sent the most apprentices were, on at least some measures, the wealthier towns within Surrey. Based on 1664LD hearth tax, Guildford had an average of 3.4 hearths per household and Kingston had 3.5 hearths per household, well above the other towns. They were also higher than the other towns on another measure of wealth, the proportion of households with five or more hearths. In contrast the towns which sent the fewest apprentices to London, Godalming and Farnham, were amongst the least wealthy based both on average hearths per household and on the proportion of households with 5 or more hearths. The Thames-side parish with the highest apprentice densities, Richmond was similarly the wealthiest of this group of parishes, both in terms of average hearths per household and of the proportion of households

⁵⁹⁴ Kitch, 'Capital and Kingdom: migration to later Stuart London', p. 234.

with 5 or more hearths. However, the link with affluence was not universal: the parish with the next highest apprentice density, Wandsworth, was one of the less affluent.

An additional question is whether there was a change over time in the origins of Surrey apprentices. Nationally there was, as mentioned above, a decline in distances apprentices travelled to London. As the most numerous source, the ROLLCO apprentices before 1750 have been considered to see if there was any identifiable alteration in the Surrey origins of London apprentices. About a third of the ROLLCO apprentice records between 1550 and 1750 dated from between 1550 and 1650 while two thirds were from between 1651 and 1750. In both periods (Figure 126) the origins of apprentices were similar: in both cases it was towns and the northern parishes of Surrey that provided most of the apprentices.

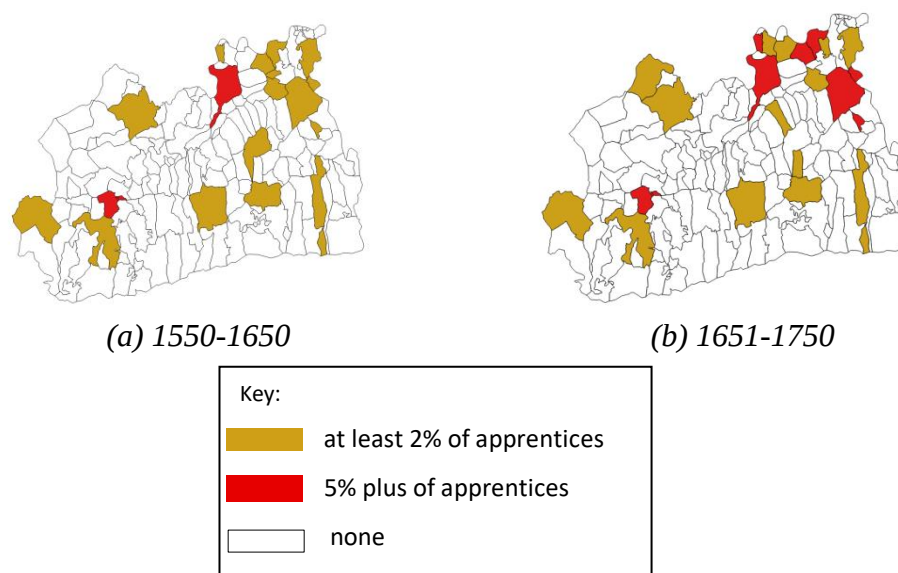


Figure 126 ROLLCO: origins of apprentices by time period

Concluding remarks - apprentices

Those apprenticed in Surrey came mostly from within Surrey, often within about 15 miles of their home parish but there were apprentices in Kingston from Surrey's most remote rural parishes, from neighbouring counties and a few from as far away as the

north of England. Transport routes were a factor in longer distance movements of apprentices within Surrey as were towns. There is some indication of a modest decline over time in the proportion of apprentices with non-Surrey origins.

London apprentices came from all parts of Surrey but especially from towns and settlements along the Thames. Rural areas were somewhat less likely, even after allowing for their population size, to send apprentices to London. Kingston and Guildford, the two largest and wealthiest towns and both relatively well connected to London sent disproportionately high numbers compared to their populations. Perhaps the nature of their urban world was different from the smaller or more distant towns and their greater wealth and range of trades made it more likely parents seeking apprenticeships for their teenagers had both London contacts and money to pay for apprenticeships. Conversely, more distant and less affluent towns seem to have sent proportionately fewer apprentices to London. The Surrey origins of London apprentices did not change materially over the time period of this study.

The poor

Introduction

The poor tended to move for subsistence reasons, in search of work or support. Society's concerns about them could result in records of their migration or attempted migration such as of their removal from a parish, of permission being given for them to settle, or of the provision for poor youngsters of an apprenticeship which it was hoped would remove them from future need of support from the parish and would provide a degree of social control. Several sources are available for the consideration of the movement of the poor in Surrey. The most extensive are the Surrey parish poor law records which contain records of settlement examinations and removals between

1600 and 1750, though few are from before the late seventeenth century (note that references to individual poor law records below relate to this reference which is not given for each individual record).⁵⁹⁵ A limited number of records are available in two other sources. State Papers Domestic (hereafter SPD) contain returns of Surrey JPs to the Privy Council in 1635-8: these record about 90 vagrants removed from the county.⁵⁹⁶ Surrey Quarter Sessions (hereafter QS) include 34 settlement examinations or vagrant passes from 1718-50.⁵⁹⁷

Non- Surrey origins of poor

Some of the poor recorded in Surrey had travelled long distances as their birth places and those of their children illustrate. Jane Baker, als Chamberlain, was examined by poor law officers at Send in 1726. She was described as the reputed wife of Joseph who had left her a few weeks' previously in nearby Woking. They had married nine years earlier at the Mint in London and she had four children aged 8 years to 5 days. The birthplaces of her children illustrate her movement across the south of England. They show she was in Hungerford (Berks) eight years previously, in Cobham (Surrey) six years ago, in Chobham (Surrey) three years ago (it is possible both these were in fact Chobham) and in Send for the birth of her last baby. Her absent husband was born in Staffordshire and was thought to have been married previously in Dawney, Middlesex. Another much-travelled woman with children was Jane Dudding, a widow examined in 1729 in Reigate. Her three children aged 5 years, 3 years and 3 months

⁵⁹⁵ Surrey Poor Law Index and Calendar contains a calendar of most of the county's poor law records.

⁵⁹⁶ State Papers Domestic *State Papers Online I - IV: The Tudors, Stuarts & Commonwealth 1509-1714 (Foreign & Domestic)*, <<http://ezproxy-prd.bodleian.ox.ac.uk:6614/mss/start.do?p=SPOL&u=oxford&authCount=1>>, accessed 5 Oct 2019, SP12 and SP16.

⁵⁹⁷ Surrey Quarter Sessions QS2/6/ (very few QS records survive before 1700 in Surrey).

had been born in the Highlands of Scotland, Aberdeen, and Dover. Her late husband had been born in Barrow, Somerset, enlisted aged about 20 as a foot soldier and died on a march from Dover to Winchester. Some of the mobile poor clearly caused the poor law authorities considerable concern. In 1728 Charlwood parish officers issued a pass for Edward Sayers, his wife and their five children to Bexley, Kent. He was described as a 'rogue and vagabond' and they were to be conveyed on cart and horseback out of Surrey to Westerham, immediately over the border to Kent and on a direct route to Bexley.

Most records of the mobile poor recorded in Surrey contain less detail. But they do provide some insights. It clear from them that some had origins outside Surrey, mainly other southern counties and the midlands. SPD contain letters from the JPs of Surrey to the Privy Council between 1635 and 1638 recording vagrants being returned to places outside Surrey. Details survive for only two Hundreds, Kingston and Elmbridge. In all 39 individuals or groups, around 90 vagrants, were recorded (in some cases the record was unclear as to the size of the group being referred to). They came mainly from counties to the west and north-west of Surrey (Figure 127 (a)). There are none from Sussex, almost certainly a consequence of the surviving records relating to two Hundreds in the north of Surrey only. A few were from further north, the Midlands and East Anglia. Those recorded in Surrey's Quarter Sessions (QS) were from a century later than SPD but show similar vagrant origins, mainly southern counties to the west and north-west of Surrey, Middlesex and a few from further north (Figure 127 (b)). In both SPD and QS there were several groups with children. About a dozen of the records in QS are of vagrants travelling with others, some of whom were described as family; the majority of these were headed by a woman. Women

were from most of the areas from which vagrants had come but there was a tendency for them, and for groups containing children, to have origins closer to Surrey.

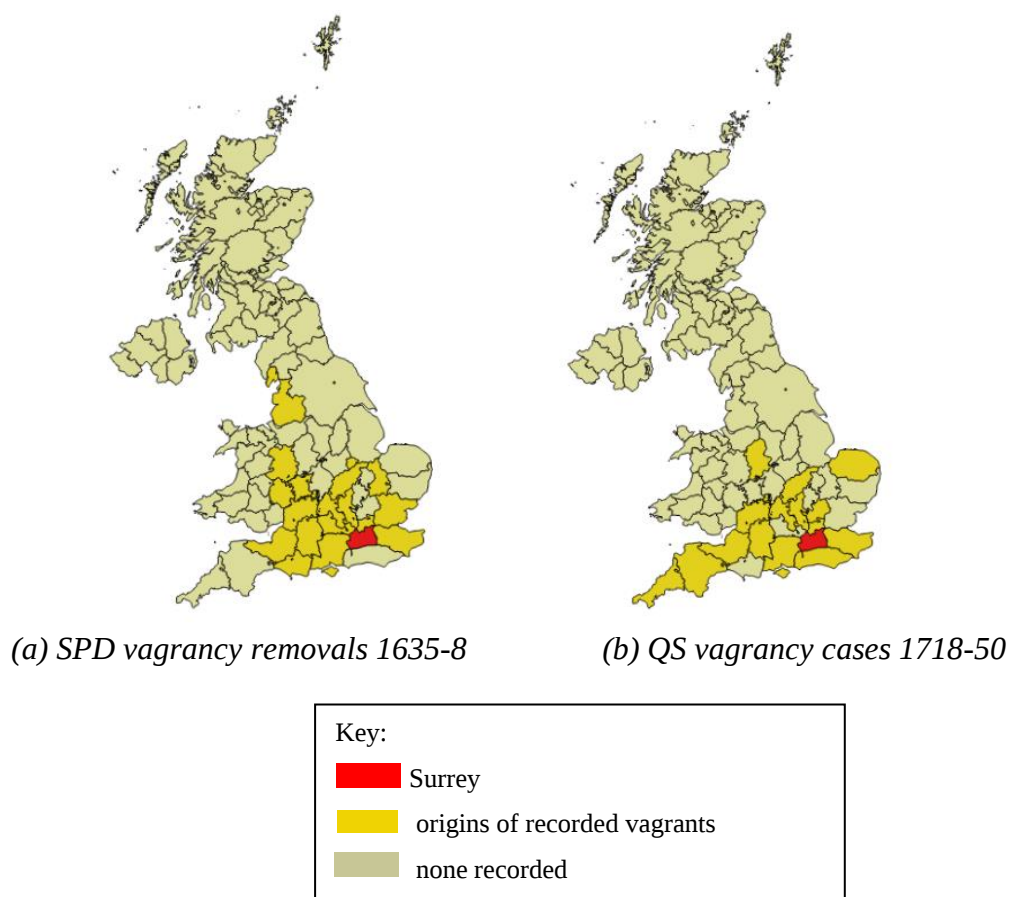


Figure 127 Counties of origin of poor

Similarly, Beier found that of vagrants arrested in Kent, Surrey and Sussex between 1632 and 1639 and recorded in returns by JPs to the Privy Council, about half had their origins in the south-east and a quarter in the south and west of the country (Table 20).

Place of origin	number	Percentage (does not add to 100 due to rounding)
South-east (Beds, Essex, Herts, Kent, London and Middx, Surrey, Sussex)	328	54
South and West (Berks, Bucks, Dorset, Hants, Gloucs, Oxon, Wilts)	126	21
Other areas of England	156	26
TOTAL	610	100

*Table 20 Places of origin of vagrants arrested in Kent, Surrey and Sussex 1632-9*⁵⁹⁸

Similar patterns of movement of vagrants are also apparent in the most extensive records of vagrants in non-metropolitan Surrey, those contained in the poor law records kept by parish officers. Only about 25 Surrey parishes have more than a handful of relevant poor law records. Most are from after 1630, and mainly from after 1700. As with the vagrants from outside Surrey recorded in QS and SPD, the vagrants recorded in these poor law records were especially from Surrey's neighbouring counties and from counties to the south and west of Surrey. The parish records did though, reflecting the greater numbers of people recorded, include some from almost every county in England and also a few from Scotland, Wales, Ireland and America.

The reverse movement, of Surrey and other south-east vagrants to other parts of the country, similarly shows the strongest connections being with the south of the country. Table 21 shows that vagrants picked up in the south-east between 1560 and 1640 were most likely to be relatively local. About half of those arrested in the south-east were from the south-east as were about a quarter of those arrested in the south and west. The proportions arrested in other regions who were from the south-east were lower, decreasing with distance from the south-east.

⁵⁹⁸ A. L. Beier, *Masterless Men : the vagrancy problem in England 1560-1640* (London, 1985), Appendix 1, Table 1 pp. 208-14.

Region of arrest	Region of origin: % from south-east, including Surrey (unweighted averages)	Region of origin: range between different individual locations within region
South-east	47	22-64
South and West	23	14-40
East Anglia	17	10-27
Midlands	9	0-18
South-west	8	8
The North	3	2-5

Table 21 Regions of arrest of vagrants from south-east ⁵⁹⁹

The mobile poor within Surrey

While some mobile poor came from outside the county, many more of those documented had been moving around between parishes within or close to the borders of Surrey. Those applying for settlement in non-metropolitan Surrey parishes included people who had worked as servants for a number of years such as Mary Cooper who, in a settlement examination of about 1735 in Lingfield, reported she was born in East Grinstead, Sussex, was servant for two years in Westerham, Kent and then was a servant for a year to a herb gatherer in Croydon.

The origins of those who were documented in parish poor law removal and settlement records provide an indication of the main areas of movement of poorer people (Figure 128). As in the consideration of marriage horizons, the origins of people recorded in different parts of Surrey can be compared. The groups of parishes used here are similar (as far as the vagaries of the survival of sources allow) to those considered in terms of marriage horizons. The poor law records used mostly date from after the 1660s.

⁵⁹⁹ Ibid., Appendix 1, Table 1 pp. 208-14.

The first group, Group 1, is of 6 parishes from the south-east of Surrey in the Wealden area. Group 2 parishes are 3 adjacent parishes on the edge of the Weald and the western sandy area of Surrey. Group 3 contains 3 parishes in the Greensand south-west of Surrey. The 3 parishes of Group 4 are in the north-west of Surrey, on light sandy soils. Group 5's 4 parishes are on the banks of the Thames. Group 6 contains 3 parishes on London clay.

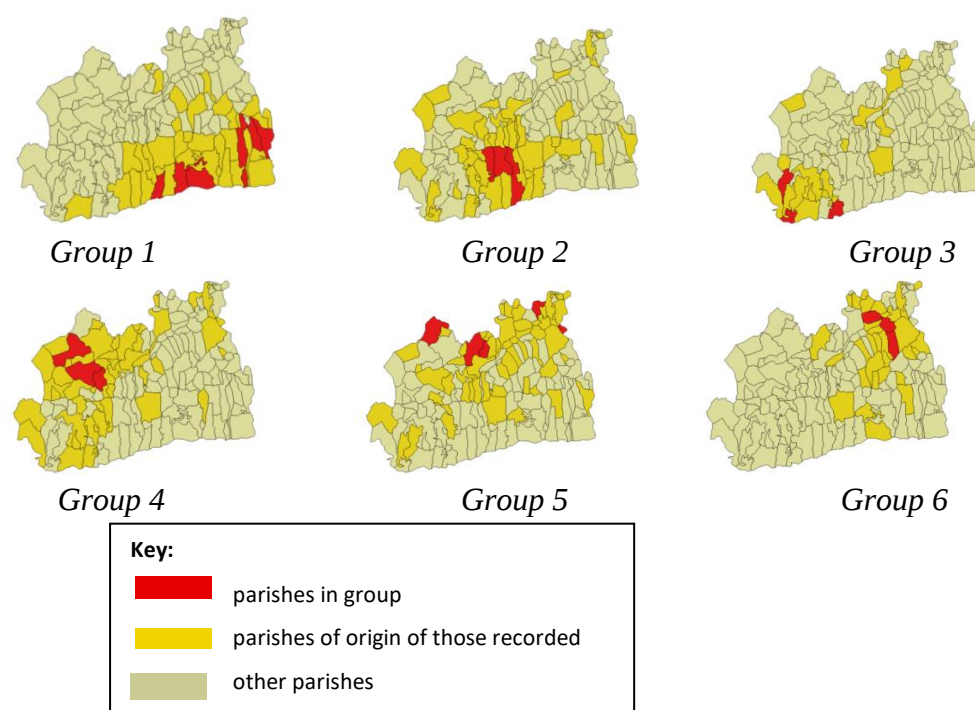


Figure 128 *'Abode' of people in parish settlements and/or removals*

The geographical patterns of movement of the poor were similar to those described above in relation to marriage. The majority mentioned in removal or settlement examinations were from Surrey. Their parishes of origin were generally within around 10 miles, often nearer. More distant parishes of origin recorded were often towns. For example, within the Group 3 parishes (south-west, light soils), the more distant origins included Dorking and Kingston as, along with Croydon, did the origins of Group 4 parishes (north-west, light soils). The influence of transport routes is suggested by the

more linear nature of the origins of those in Group 5 parishes (Thames-side). As well as those from within Surrey, non-Surrey origins of people in this Group were especially Thames-side counties - Berkshire, Oxfordshire, London, and, especially, Middlesex. The significance of transport links is suggested also in relation to Group 4 where origins seem consistent with travel along the London to Portsmouth road. As with marriages, there is the sense that the Weald was a separate area. The poor recorded in Group 1, the Wealden group of parishes, tended to have come from other Wealden parishes or from the towns of Dorking and Reigate on the fringes of the Weald. And other maps, especially Group 4, show few of the poor recorded as being from the Weald.

Poor law apprentices

One strategy poor law officials might employ was to arrange for the apprenticeship of a youngster in the hope this would provide them with an occupation and remove them from future dependence on poor relief. Poor law apprenticeships could sometimes be very successful. William Knight was apprenticed by the poor law authorities in Send in 1748 to John and Edward Andrews of Guildford, bargemasters on the Wey Navigation. William was 14 and his father had died in 1734 when he was aged 2. He was part of a poor family and both his sister Sarah and brother Aaron were also apprenticed by the poor law officials. In William's case the apprenticeship seems to have been very successful: William went on trade, though possibly only briefly, as a bargemaster on the Navigation himself and to marry into a prosperous bargemaster family in Guildford, the Lockwoods. Some poor law authorities went to some effort to support such apprentices. Ferguson has drawn attention to how the authorities of Woking parish ensured two apprentices they sent to London 'were 'apparelled' to go

off to their new masters with indentures drawn up and paid for and transport to London funded'.⁶⁰⁰ The cost of apprenticing Francis Knight, described as a son of a persistent poor family, in London in 1675 was £4.⁶⁰¹ Not all apprenticeships were successful. For example, John Westbrooke was apprenticed in 1691 by Guildford St Mary parish to Richard Baker of Worplesdon until he was 24 but he served for only a year. Twenty years later he was back in Guildford with a wife and child and again in need of support from the poor law.

The largest group of occupations to which poor youngsters were apprenticed was agricultural ones, especially husbandmen. Presumably these pauper apprentices were regarded as much as sources of farm labour as being provided with a trade and placing them in such positions also offered the possibility of a degree of social control over them. Many in rural areas were apprenticed within the parish. In Godstone of 22 pauper apprenticeships nine were to husbandmen, all in Godstone, as was one to a farmer and three to yeomen. Apprenticeships to other occupations were more likely to be outside the parish. More common occupations included blacksmith, butcher, carpenter, cordwainer, fisherman, gardener, tailor, and waterman. In Godstone pauper apprenticeships included to a baker in Reigate, a clothworker in Oxted, a carpenter in Camberwell and a fisherman in Woolwich. The destinations of girls are often less clear with the occupation of the master unspecified. They may be described as apprenticed 'to learn housewifery' in the same way as boys were described as 'to learn husbandry', presumably to work as household servants. Not all girls were apprenticed to housewifery, though: three sisters apprenticed by Godstone in 1730, Lucy, Elizabeth and Ann Hills, went to a farmer in Godstone, a butcher in Godstone and a

⁶⁰⁰ Ferguson, 'The Hearth Tax and Poor in Post-Restoration Woking', p. 127.

⁶⁰¹ Ibid., p. 129.

carpenter in Camberwell though it is unclear whether the apprenticeships were to these trades or as general servants.

As with marriage horizons and the movement of the poor, the geographical distribution of apprenticeships of poor youngsters from rural parishes is considered by grouping together parishes with reasonable numbers of surviving records (Figure 129). The groupings match, so far as practicable, those from pauper settlements and removals and those for marriage horizons.⁶⁰²

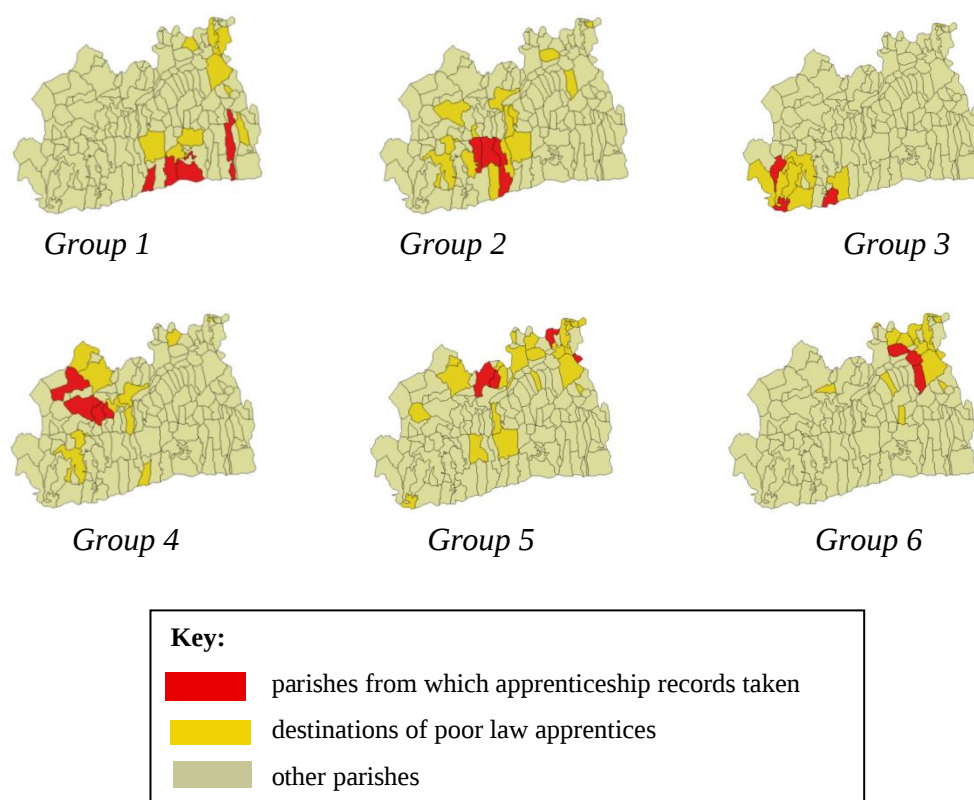


Figure 129 Destinations of pauper apprentices (rural parishes)

⁶⁰² Group 4 included Send and Ripley which had a charity, Widow Hayne's charity, which was actively involved in placement of pauper apprentices.

It is possible to consider also the destinations of pauper apprentices from two of Surrey's towns, Reigate and Farnham which between then contained about 500 records (Figure 130).

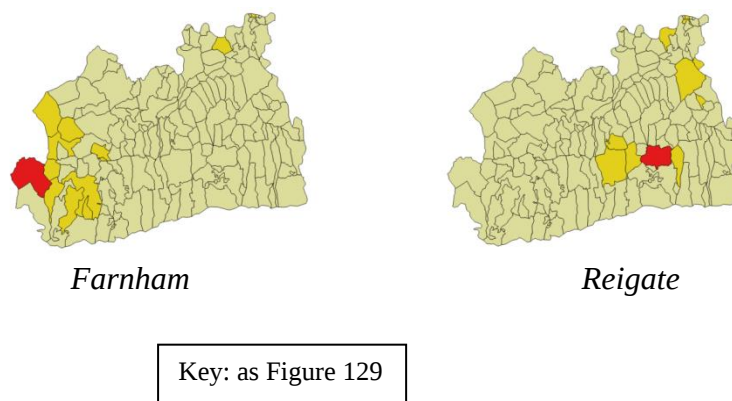


Figure 130 Destinations of pauper apprentices (urban parishes)

Towns and rural areas were similar. The destinations of most of their pauper apprentices were local, within around 5 miles, and many within their home parish. Some, though, were apprenticed further away. Often this was to masters in nearby towns but sometimes to quite distant rural parishes. Similar patterns of connections to those observed in relation to marriage horizons and the settlement or removals of the poorer people as discussed above were present in the agreements for pauper apprentices. The Wealden parishes (Group 1) tended to send their pauper apprentices to other parishes within the Weald, influenced presumably by their contacts in the area since they were places which practiced similar forms of agriculture, and also north towards Croydon where they had trading links. Pauper apprentices from Thames-side parishes (Group 5) were sent especially to other Thames-side parishes.

The reports from Surrey JPs to the Privy Council in the early to mid-seventeenth century (SPD, as above) show a similar pattern.⁶⁰³ They contain details of about 80

⁶⁰³ *State Papers Online I - IV: The Tudors, Stuarts & Commonwealth 1509-1714 (Foreign & Domestic)*

apprentices which included their origin and destination parishes. A small number were to places outside Surrey of which several were to London, including youngsters sent from Chertsey apprenticed to a weaver, from Bisley to an armourmaker and from Farnham to a baker. Most went to masters in Surrey parishes, predominantly parishes close to the apprentice's home parish and in the same Hundred.

Concluding remarks – the poor

The movement of the poor in Surrey had many similarities with the movement of people on marriage. Their movement was often local, influenced by transport routes and towns, the Wealden area appears to have been more limited in its contacts than was the case in other parts of the county, while Thames-side parishes show evidence of linear connections along the river. Extra-county poor came mainly from the south-east of England, especially from Surrey's neighbouring counties, but also from the south-west and the midlands.

Concluding remarks

Although the motivations, pressures and influences on the migrations of different groups of people would have varied, what emerges from this exploration of the movements of those it has been possible to study - those marrying, the poor and those apprenticed - are similarities in their patterns of movement. The substantial scale of overall population movements, the fairly short distances of much migration but the existence of some long-distance travel, the relevance of transport routes and towns to movement of people are all trends that have been observed elsewhere. It is interesting to note that these did not alter substantially with the characteristics of the localities – travel to the economically strong north-east of non-metropolitan Surrey, for example, taking place over quite similar distances to that to less economically advantageous

areas. This study has illuminated the influence on migration of London and the relative separateness of some parts of the county, especially the Wealden area. As well as more local movement, there was some movement of people from all parts of England to Surrey, though the poor were more likely to have come from other southern counties or from the midlands while marriage partners, although mostly local, might have origins anywhere in the country. Some from Surrey went for apprenticeships to London. Towns and some more densely populated Thames-side parishes tended to send more apprentices to London as a proportion of their population than rural parishes. The two most substantial towns, Kingston and Guildford, stand out as sending disproportionately more than other towns.

Relevant also to this consideration of migration are some of the findings noted in the previous chapter, Chapter 5: Economy in which the likelihood of emigration resulting from a net natural population surplus from many of Surrey's rural parishes throughout the mid-sixteenth to mid-eighteenth centuries was identified along with net in-migration to parishes along the Thames.

The patterns of migration identified would have had consequences for the different areas of Surrey. The causes and processes of the net in-migration into parishes in the north-east of the county need further exploration. It is likely to have created both opportunities and tensions, having implications for the social and economic lives of both the resident population and the newcomers. Conversely, the separateness of the Wealden south-east may have resulted in more closed communities less open to change and less welcoming of incomers.

8: Mortality

This final chapter discusses two aspects of mortality in early modern non-metropolitan Surrey; firstly, background levels of mortality and then the mortality crises which from time to time killed large numbers of people over short periods of time. Consideration is given to spatial and temporal similarities and differences and also to differences in the experiences of males and females and of adults and children.

Background mortality

Introduction

Background levels of mortality varied between different areas of England, especially between its large towns, in particular London, and its small towns and more rural areas. The reasons, though, are debated.⁶⁰⁴ Influences suggested include that London and other large towns were intrinsically unhealthy for all their residents, or that incomers were more susceptible to the diseases present and it was they who died disproportionately, increasing mortality rates or, as Sharlin suggested, that incomers migrating to London from the countryside often left before marrying and reproducing so increasing deaths but not births. There were also differences in mortality between some rural areas. Dobson, for example, uncovered a markedly different mortality regime in one part of her study area of Kent, Sussex and Essex compared to its other areas. Interested in the possibility of geographical variations influencing the 'vital revolution' of the late eighteenth century when the population of Britain began to

⁶⁰⁴ A. Sharlin, 'Natural Decrease in Early Modern Cities: A Reconsideration', *Past & Present*, 79 (1978); R. Finlay, 'Natural Decrease in Early Modern Cities', *ibid.*(1981); A. Sharlin, 'Natural Decrease in Early Modern Cities: A Rejoinder', *ibid.*92 ; P. Puschmann et al., '*Migration and Urban Graveyards*', *International Population Conference (IUSSU)* (Busan, 2013).

grow in an unprecedented manner, Dobson explored the mortality landscape of these three counties in the seventeenth and eighteenth centuries. A core finding was a high mortality in its marshland parishes, mortality she identified as due to malaria. Despite their burials regularly substantially exceeding baptisms, she found these areas had stable or growing population totals. She concluded there was a regular flow of immigrants moving in to take advantage of the area's strong economic opportunities thereby bolstering its population totals. In contrast places with high land or lacking surface water were much less likely to have an excess of burials. Dobson discussed other factors which correlated with differences in death rates. She found a tendency for death rates to be higher in pasture farming areas, in market gardening, hop growing and fruit growing areas, on gravel soils and in areas with good transport links, and lower on chalk soils, on high land above 400 feet, and in more isolated areas. There is almost certainly a link between some of these factors: the chalk soils were, for example also high land, and market gardening would have needed good transport links so was likely to have been close to a major road or river.⁶⁰⁵

Dobson's work is pertinent to this study's interest in mortality in Surrey as Surrey is adjacent to her study area of Essex, Sussex and Kent, neighbouring it on the west and north, and is one which, like Kent and Sussex, contained chalk and greensand uplands. It also contained waterside parishes along the Thames though these were riverside rather than the estuarine or coastal parishes of Dobson's study area. This section considers first whether parts of Surrey were particularly unhealthy by exploring two types of evidence, the writings of contemporaries and the patterns of baptisms and burials. These suggest that in non-metropolitan Surrey, unlike in Dobson's study area,

⁶⁰⁵ M. J. Dobson, 'Population, Disease and Mortality in Southeast England, 1600-1800 (unpublished D. Phil. thesis, University of Oxford, 1982); Dobson, *Contours*.

there were not particularly unhealthy areas. It then considers a different aspect of background mortality, how such mortality varied by time of year and by type of person. This shows a seasonal rhythm to background mortality in non-metropolitan Surrey though one which differed between areas with good access to London and other parts of the county. It also identifies some differences between the seasonal mortalities of males and females and of adults and children.

Contemporary descriptions

Contemporary perceptions of Surrey suggest it was regarded as a healthy place. Camden in 1626 described it ‘seated in a very delectable, pleasant, and wholesome aire’.⁶⁰⁶ Blome in 1673 described royalty and others’ enthusiasm for it, writing ‘The Air is most sweet, delectable and healthful, for which cause it hath been enobled with several of the kings palaces, is well replenished with Towns, and garnished with seats of Gentlemen’.⁶⁰⁷ Salmon wrote in 1731 ‘The Air of Surrey is esteemed as good as any in the Island’.⁶⁰⁸ Upland parishes seem to have been perceived as healthy by contemporaries. Defoe referred to gentry choosing to site their houses on the Downs. He wrote ‘The ten miles from Guildford to Leatherhead [that is, along the North Downs] make one continued line of gentlemen’s houses ... here are pleasantly seated several very considerable persons’.⁶⁰⁹ Also on the Downs, Banstead and Epsom developed as popular places of leisure. Defoe described Banstead Downs as ‘the most delightful spot of ground, of that kind in all this part of Britain’, the Downs as ‘delicious’ and Epsom as ‘adapted wholly to pleasure ... the people who come out of their confined dwellings in London, may have air and liberty’.⁶¹⁰ The lower-lying

⁶⁰⁶ W. Camden, *The Abridgment of Camden's Brita[n]nia* (London, 1626).

⁶⁰⁷ Blome, *Britannia* p. 219.

⁶⁰⁸ Salmon, *Antiquities of Surrey*, p. 64.

⁶⁰⁹ Defoe, *Tour*, p. 159.

⁶¹⁰ *Ibid.*, pp. 168-9.

Vale of Holmesdale just to the south of the Downs was also popular with gentry. Dorking, lying in the Vale, was described by Defoe as having what ‘some learned physicians have singled out for the best air in England’.⁶¹¹ At the foot of the northern slopes of the Downs and by the River Wandle, Carshalton also had many gentry house according to Defoe ‘This village, seated among such delightful springs, is yet all standing upon firm chalk; and having the Downs close adjoining, makes the most agreeable spot on all this side of London, as is abundantly testified by its being, as it were, crowded with fine houses of the citizens of London’.⁶¹² The much lower-lying Thames-side parishes were a popular place for the houses of royalty and aristocracy, suggesting they too were not regarded as unhealthy. Mary Tudor had an establishment in Kew in the sixteenth century, a daughter of James I was given an establishment at Kew in 1608 and the area contained residences of several courtiers, including Ham House, built in 1610.⁶¹³ Defoe described the palace of Richmond as ‘the delightful retreat of their royal highnesses, the Prince and Princess of Wales, and where they have spent the fine season every summer for some years ... This town and the country adjacent, increase daily in buildings’. Those building, he wrote, included ‘a great deal of the best company in England’.⁶¹⁴

Nor does non-metropolitan Surrey seem to have been perceived as unhealthy by its clergy. Dobson found clergy unwilling to take up positions in parts of her study area because of those areas’ perceived unhealthiness. In contrast there is no such evidence of Surrey clergy’s concerns. Some eighteenth-century Surrey Visitation Returns asked

⁶¹¹ Ibid., p. 162.

⁶¹² Ibid., p. 167.

⁶¹³ Malden (ed.), *VCH Surrey* Vol. 3 p. 482;

National Trust *Ham House*, <<https://www.nationaltrust.org.uk/ham-house-and-garden/features/the-history-of-ham-house>>, accessed 3 Oct 2019.

⁶¹⁴ Defoe, *Tour*, p. 173.

about the incumbent's place of residence. None of the responses included a reference to non-residence due to the perceived unhealthiness of a parish within the non-metropolitan area of Surrey.⁶¹⁵

Baptisms and burials comparisons

Another approach to exploring the healthiness or unhealthiness of parishes in different parts of Surrey is to consider the evidence of parish registers, comparing, as Dobson did, numbers of burials with numbers of baptisms. Dobson found it was the inland parishes in her study area, especially upland ones, which tended to have a surplus of baptisms compared to burials.⁶¹⁶ In contrast in non-metropolitan Surrey (see Chapter 5: Economy) parishes with a net surplus of baptisms were not limited to a single area: there was a swathe of such parishes across the county over a long period of time. They included parishes on a variety of soil types, the chalk Downs, Greensand, Bagshot Sands and Wealden Clay. The height of these areas varied too, from close to sea level by the Thames, to 200 feet at Chobham and the Clandons, over 500 feet on the North Downs and close to 1,000 feet on the Greensand Ridge. Such an excess of baptisms over burials was not particular to Surrey. In the Midlands in the Vale of Trent, Chambers compared annual baptisms and burials between 1670 and 1800 in Nottingham, in 34 agricultural villages and in 26 industrial villages, finding baptisms in all three areas comfortably exceeded burials in most years.⁶¹⁷ The experiences of non-metropolitan Surrey and the Vale of Trent thus suggest an excess of baptisms over burials was not uncommon, emphasising even more that the much higher levels of burials compared to baptisms Dobson identified in marshland areas were unusual.

⁶¹⁵ Ward, *Parson and Parish*.

⁶¹⁶ Dobson, 'Population, Disease and Mortality in Southeast England, 1600-1800', Chap. 3.

⁶¹⁷ Chambers, *The Vale of Trent*, pp.34-5.

While baptisms exceeded burials in much of non-metropolitan Surrey, there was an area of north-eastern non-metropolitan Surrey with more burials than baptisms, see Chapter 5: Economy in which such parishes are referred to as ‘Type C’ parishes. As discussed above, this excess of burials over baptisms was associated with rising populations suggesting the presence of significant immigration. In this they were similar to those identified by Dobson though unlike in her study area of Kent, Sussex and Essex, the parishes involved do not seem to have been marshland areas. Indeed, there do not appear to have been extensive marshy areas anywhere in non-metropolitan Surrey. The nineteenth century tithe apportionments for the modern county shows only one Thames-side parish, Thames Ditton, with much marshland: about 8 per cent of its assessed land (34 thousand perches or about 200 acres) was described as marsh.⁶¹⁸ The excess of burials in the north-eastern parishes therefore must have been for reasons other than malaria, suggesting that in Surrey the likelihood was the more general role of those area’s economic vitality and scale of movement of people.

Seasonality

It is possible to consider also how background mortality varied by time of year. This section considers non-metropolitan Surrey’s overall monthly pattern of mortality and disaggregates this in several ways, considering the experience of some of the different geographical areas of the county, the difference between adults and children and the difference between men and women. It finds the seasonal rhythm to mortality within the rural parishes of non-metropolitan Surrey mirrored that identified by Wrigley and Schofield at a national level. But it also identifies a different seasonality in parishes

⁶¹⁸ Surrey Tithe Records Project Database.

close to the Thames which seems to have more closely mirrored the seasonality of London and appears, like London's, to have been influenced both by the seasonality in the mortality of children and also by the strength of the outbreaks of plague experienced in this area. It also identifies a modest seasonal difference in the mortality of males and females.

Parish burial records provide a good basis for exploring the seasonality of deaths because of the closeness in timing of death and burial as a result of which the seasonality of burials was, as Wrigley and Schofield wrote, 'a nearly perfect proxy for the seasonality of deaths'.⁶¹⁹ Dobson considered aspects of the seasonality of mortality in Essex, Kent and Sussex and observed that monthly fluctuations in burials across the year 'worked in a direction opposite to the movement of the thermometer' (Figure 131).⁶²⁰

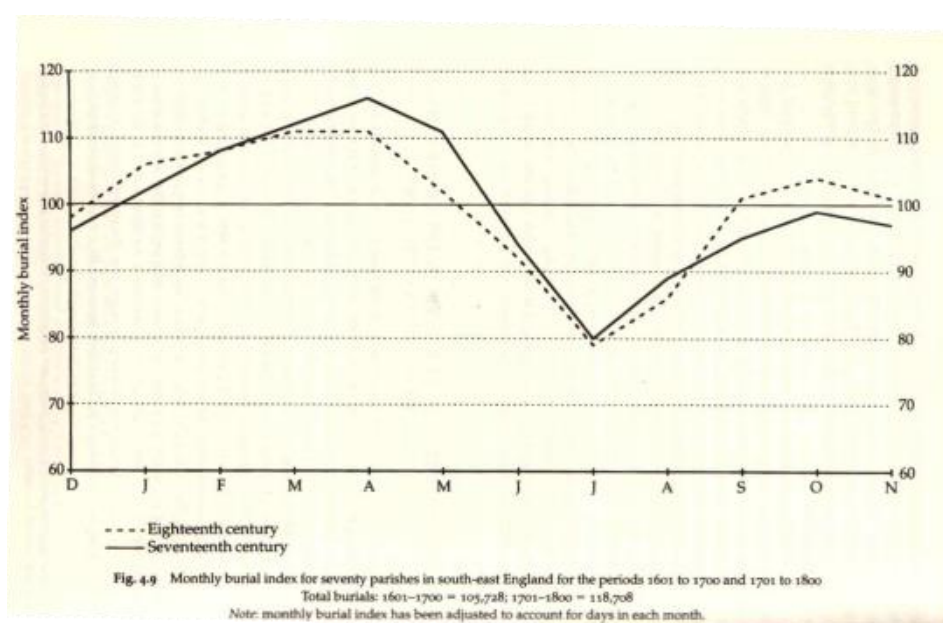


Figure 131 Indexes of monthly burials 1601-1700, 1701-1800 in 70 parishes in Sussex, Kent and Essex⁶²¹

⁶¹⁹ Wrigley and Schofield (eds.), *Population History of England*, p. 295.

⁶²⁰ Dobson, *Contours*, p. 203.

⁶²¹ reproduced from *ibid.*, p. 204 (graph is normalised to allow for the different numbers of days in each month).

At a national level, using the 404 parishes their study was based on, Wrigley and Schofield found a similar seasonal pattern in deaths. Figure 132 plots their index of burials by month: burials were indexed to account for the different numbers of days in each month and normalised so an ‘average’ month would have an index value of 100. Burials were found to be high in late winter and spring, peaking at about 15 to 20 per cent above the mean, they then declined, reaching a minimum in July, about 20 per cent below average, after which they rose gradually over the autumn and early winter. Wrigley and Schofield also noted this was not just an English experience, deaths peaking in spring in other parts of northern Europe too.⁶²² As is clear in Figure 132, the seasonal pattern did not change over time, being similar in each of the six time periods considered between 1540 and 1834. Nationally, Wrigley and Schofield concluded the seasonal burial pattern they observed was ‘shared by the overwhelming majority of individual parishes,’ over eighty per cent having a maximum in the first four months of the year.⁶²³

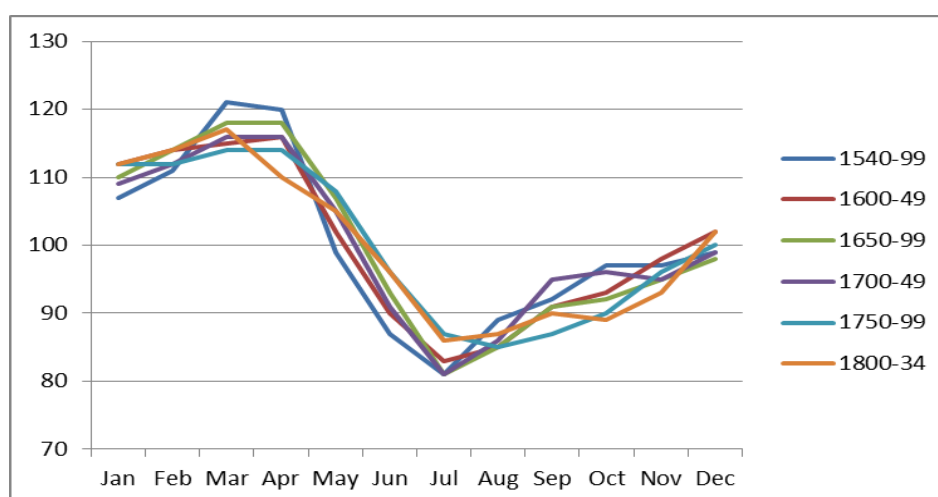


Figure 132 Index of monthly burials (national, 1540-1834)⁶²⁴

⁶²² Wrigley and Schofield (eds.), *Population History of England*, p. 296.

⁶²³ Ibid., p. 295.

⁶²⁴ Ibid., pp. 293-4.

In non-metropolitan Surrey the seasonal pattern was similar, though not identical, to this national picture, differing in the existence of a second, smaller, peak in burials in the autumn (Figure 133). There was some flattening of the autumn peak after 1700 which corresponds to the somewhat flatter autumn burials noted by Dobson in the eighteenth century (it should be noted the period before 1600 is based on fewer records than the later periods because of their more limited survival from the earlier years of the parish register era and should, therefore, be treated with greater caution).

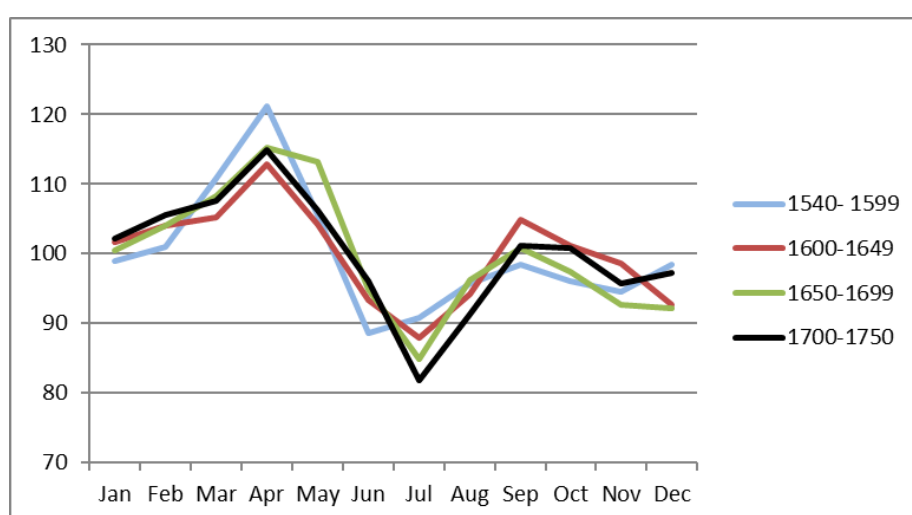


Figure 133 Index of monthly burials (non-metropolitan Surrey, 1540 to 1750) ⁶²⁵

To understand the seasonality of burials in non-metropolitan Surrey further it is helpful to disaggregate burials by area. To explore this, its parishes were grouped into four broad categories: rural, urban, Thames-side and urban/Thames-side. Around half of surviving burial records are from rural parishes, about a quarter from urban parishes, and the remainder split about equally between the other two groups. It is clear (Figure 134) that it was mainly in Thames-side parishes (both urban ones and the others) that a secondary autumn peak in burials occurred. The differing seasonal patterns observed in the different areas were present at the level of individual rural

⁶²⁵ based on all surviving non-metropolitan Surrey burial records.

and Thames-side parishes, in towns close to London and in other towns (Figure 135), emphasising the stability of the finding.

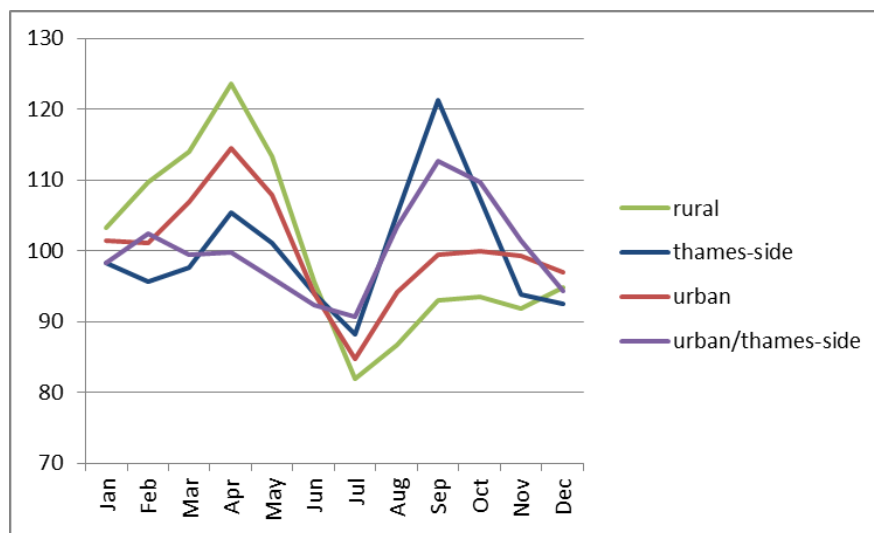


Figure 134 Index of monthly burials by type of area, 1550-1750

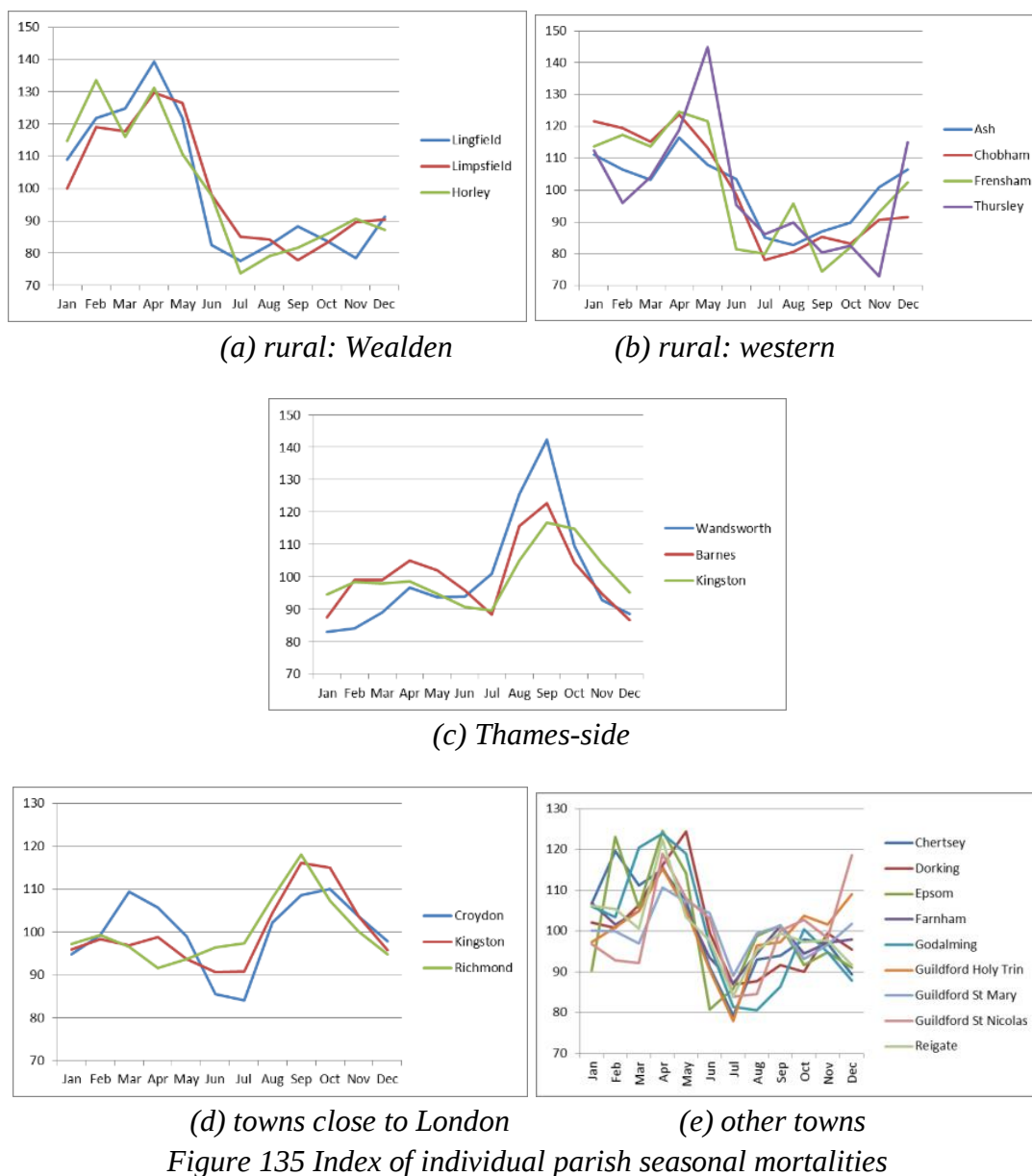


Figure 135 Index of individual parish seasonal mortalities

It is likely one strong influence on this pattern of seasonality was the presence of plague. As is shown later in this chapter, non-metropolitan Surrey suffered several severe outbreaks of plague in the period. That the Thames-side parishes had a particularly high autumn burial peak is consistent with the variable impact of plague across Surrey: as discussed later in this chapter Thames-side parishes seem to have been vulnerable in all the major outbreaks but in contrast, although all Surrey's main towns experienced outbreaks of plague, only some were affected in any particular

outbreak and the scale of outbreaks varied, thereby reducing the total effect of plague on urban areas as a whole. Rural areas were, on the whole, less affected by plague,

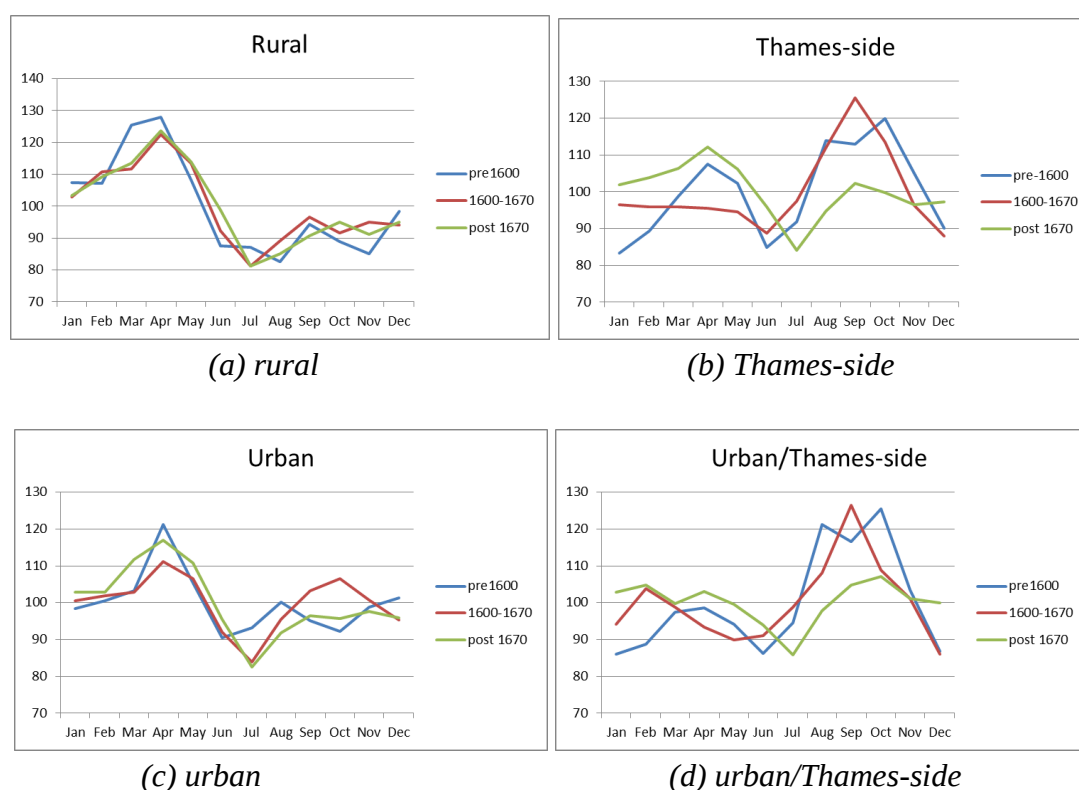


Figure 136 Index of monthly burials, by time period and type of parish area

However, it seems unlikely plague was the only factor. As Figure 136 shows, there remained a modest autumn peak in total burials in Thames-side areas, even after the disappearance of plague post-1670. Wrigley and Schofield observed that London in the period 1581-1650 lacked both the late winter and early spring burial peak and the mid-summer trough, instead suffering excess mortality in August, September and October. While plague was one factor, they reported also that a similar pattern of a late summer peak in burials in Geneva in the same period was caused by a high level of child mortality, concluding the cause in London seems to have been that ‘the combination of high density and imperfect sanitation that was typical of towns in pre-industrial Europe magnified the normal seasonal prevalence of diseases such as dysentery, which particularly affected children, to such an extent that the overall

seasonal pattern of mortality was substantially altered'.⁶²⁶ It appears such influences may well have also affected Surrey parishes along the Thames, resulting in the persistence of a limited autumn peak in burials in Thames-side parishes after the end of the plague era. These were, as shown above (Chapter 2: Population) places with higher population densities which would have facilitated the transmission of infectious diseases such as gastro-intestinal diseases and also of plague in the earlier period. The good transport links between these parishes and London enabling the bringing of infection into the area are likely to have been another factor.

Supporting this suggestion, within non-metropolitan Surrey overall there was a difference in the seasonality of adult and child deaths (Figure 137).⁶²⁷ Child deaths tended to be higher in the late summer, consistent with children's susceptibility to diseases such as dysentery which were most prevalent at that time of year. When parishes are disaggregated by type it is clear this late summer peak in child deaths was present in all areas but especially in urban parishes adjacent to the Thames (Figure 138). It seems likely these areas experienced a similar mortality regime to that described by Wrigley and Schofield as present in London. Cummins et al. discussed, based on the seasonality of deaths in London, the possibility that plague continued to be present there after the 1660s until the 1720s.⁶²⁸ While there may well have been a certain amount of plague present, these findings from Surrey lend support to their alternative suggestion that dysentery and other gastro-intestinal diseases prevalent in late summer were the more likely explanation for the continuing peak in autumn burials in both London and northern Surrey after the main plague era.

⁶²⁶ Wrigley and Schofield (eds.), *Population History of England*, pp. 295, 657-9.

⁶²⁷ for details of identifying children in the burial records, see below.

⁶²⁸ N. Cummins, M. Kelly, and C. Ó Gráda (2013), 'Living Standards and Plague in London, 1560-1665' WP13/08 UCD (unpublished, UCD School of Economics, University College Dublin) , p. 31.

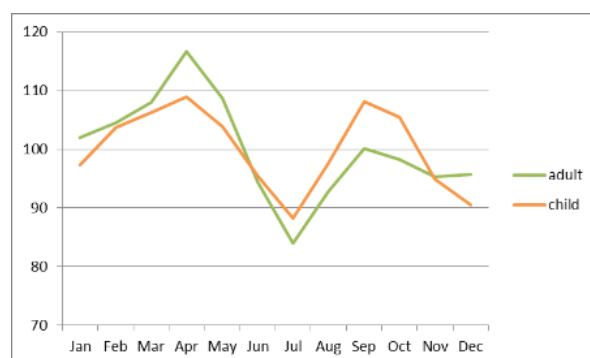


Figure 137 Index of seasonal mortality, adult and child

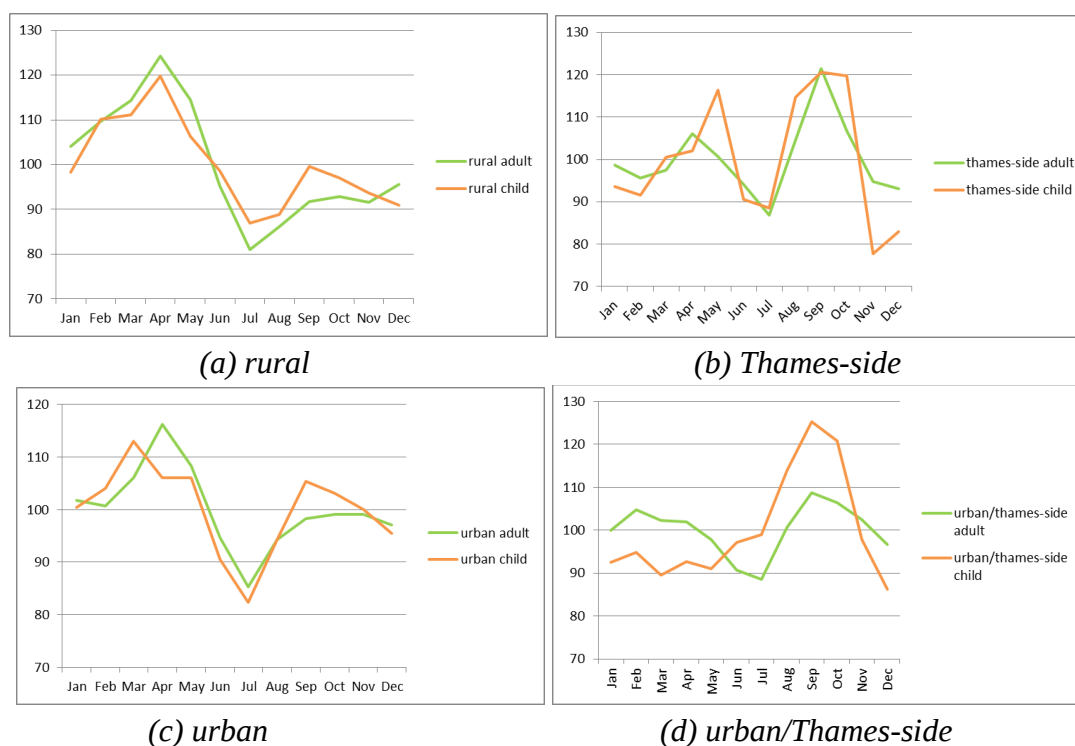


Figure 138 Indexes of adult and child seasonal mortality by type of area

It is also possible to explore the seasonality of male and female deaths in non-metropolitan Surrey. At a national level Wrigley et al. concluded there was no difference, writing ‘Statistical tests showed that there was no significant difference in the seasonality of mortality by sex in early modern England in any of the major age groups used’.⁶²⁹ However, the evidence of the burial registers of non-metropolitan Surrey suggests (Figure 139⁶³⁰) there was a modest tendency for its male deaths to be

⁶²⁹ Wrigley (ed.), *English Population History from Family Reconstitution*, p. 330.

⁶³⁰ Monthly burials indexed as by Wrigley et al.

a little higher than female deaths in spring and female deaths to be a little higher than male deaths in autumn.

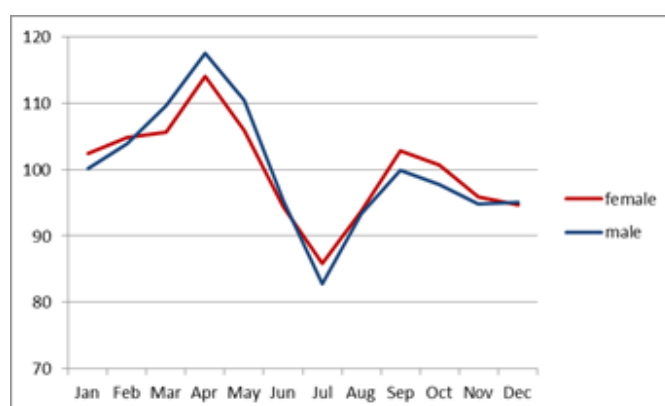


Figure 139 Index of seasonality of male and female burials, 1550-1750

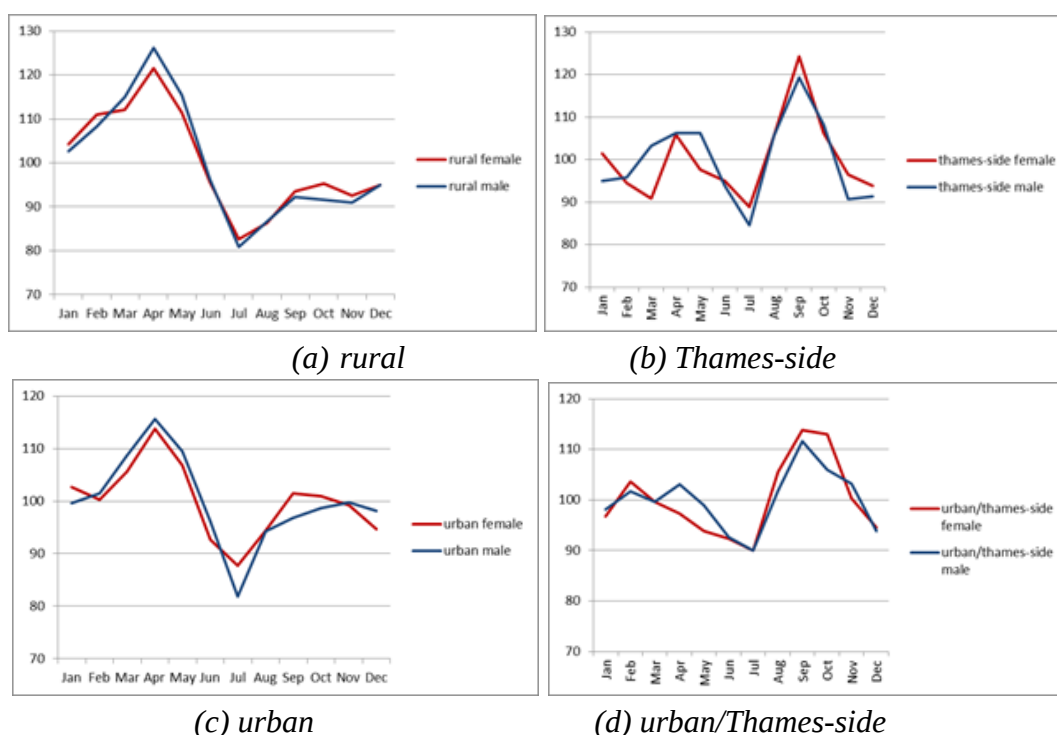


Figure 140 Indexes of male and female mortality by type of area

Disaggregating by area suggests this small but systematic difference in the seasonality of male and female deaths appears to have been present in the various areas of non-metropolitan Surrey (Figure 140). While the differences are modest, what is striking is the persistence of the trend across all four areas. The causes of such differences are hard to be sure of. One possibility is that the slight excess in autumn female deaths

may be related to the gender roles of males and females. The susceptibility of children to diseases such as dysentery, with the resultant greater autumn child mortality, may have put women at greater risk as they were more likely to be the ones in close contact with children, spending more time with them in the home and caring for them when they were ill.

month	female	male	Total
Jan	10037	10381	20418
Feb	9358	9810	19168
Mar	10354	11362	21716
Apr	10817	11788	22605
May	10379	11452	21831
Jun	8948	9567	18515
Jul	8410	8586	16996
Aug	9192	9681	18873
Sep	9748	10025	19773
Oct	9869	10132	20001
Nov	9097	9512	18609
Dec	9278	9860	19138
<i>Total</i>	<i>115487</i>	<i>122156</i>	<i>237643</i>

Table 22 Numbers of male and female burials by month, 1540-1750

Taking a statistical approach to the county-wide numbers of burials of males and females, the monthly differences between them appear to be statistically significant. Across non-metropolitan Surrey there were around ten thousand per month of each of male and female burials (Table 22). Applying a chi-squared test of significance to these numbers suggests the difference in the distribution over the months of male and female burials was statistically significant at the 99th percentile level. This difference in the seasonality of mortality of males and females contrasts with that of Wrigley et al. It is difficult to be sure of the source of the difference: patterns of male and female mortality were not a particular focus of their work and they do not provide the detailed analysis on which their statement was based. One possibility is that they applied a different statistical test, one which tested the linking of the index values in successive

months rather than considering the individual monthly totals of burials.⁶³¹ In this thesis the chi-squared test made use of the substantial numbers of burial records available and it applied the simpler criterion of looking for difference in the month by month numbers of male and female burials, testing against a null hypothesis that males and females had the same chance of dying in each month.

Concluding remarks - background mortality

There do not seem to have been marked differences between background mortality levels of different geographical areas of non-metropolitan Surrey. Its widespread pattern of baptisms exceeding burials in parishes over varying soils and elevations of land contrasts with Dobson's identification of this pattern especially in the North and South Downs in Sussex and Kent, contributing to her description of those areas as particularly healthy. Dobson's findings seem to have been driven in particular by unusually high mortality levels in the marshland areas of her study area, a pattern not present in Surrey where areas with excess of burials over baptisms seems likely to have been related more generally to greater movement of people.

The seasonality of deaths in rural areas was similar to that described by Wrigley and Schofield as present in the majority of England's parishes. However, its parishes close to the Thames and to London, especially urban ones, experienced a seasonality closer to that of London, a seasonality influenced by the strength of the presence of plague in these parishes but also by their higher levels of child mortality in the late summer. It is also suggested there was a modest difference in the seasonality of death of males and females, possibly linked to women's greater involvement with the care of children.

⁶³¹ E. A. Wrigley and R. S. Schofield, 'English Population History from Family Reconstitution: Summary Results 1600-1799', *Population Studies*, 37 (1983), pp. 329-30.

Mortality crises

Introduction

The remainder of this chapter considers mortality crises, exploring the varied nature of crises in terms of their causes, geographical locations, timing and severity. Until the late eighteenth century England's people experienced years when the numbers dying rose substantially above the normal structural or background levels of mortality. At a national level, the temporal patterns of these crises between the sixteenth and the eighteenth centuries have been described by Wrigley and Schofield, who also, in broad terms, mapped the geographical variations in their locations and intensity. Sometimes it was an epidemic of an infectious disease, often but not always plague, which caused a sudden and substantial rise in numbers of deaths. At other times harvest failures precipitated a mortality crisis, occasionally resulting in deaths due directly to lack of food but more often weakening individuals making them more susceptible to a range of infectious diseases and also disrupting their lives in ways which encouraged the spread of such diseases.

This chapter explores the spatial and temporal variations in these mortality crises within non-metropolitan Surrey. At a broad level it shows early modern Surrey followed a similar pattern to the national mortality variations identified by Wrigley and Schofield.⁶³² In the second half of the sixteenth century Surrey experienced crises associated with harvest failures. The intensity of these decreased over time and ceased by start of the seventeenth century. In both the sixteenth and seventeenth centuries it experienced crises linked to epidemic disease, especially plague. And, between the mid seventeenth and mid eighteenth centuries, it experienced periods of high mortality

⁶³² Wrigley and Schofield (eds.), *Population History of England*, pp. 285-355, 645-693.

with a more complex mix of causes, crises which extended over more than one year and were probably due to more than one disease. It also explores the experiences of adults and children and of males and females. In terms of the latter it considers the female mortality advantage which has been associated with famines and suggests at times it existed in crises which were not related to food shortages.

As discussed in Chapter 2: Sources and Methods, there are various criteria possible for distinguishing between chance year to year variations in deaths and the presence of a mortality crisis. Crises ranged in magnitude and it is the most substantial which are discussed here. The criterion used is that a major crisis was one in which burials were at least 40 per cent above the 21-year moving average, excluding the crisis year itself. On this basis there were major crises in the late 1550s, 1563 1593, 1597, 1603, 1625 and 1665. There were also periods of several years when there was an extended crisis, 1638-42, 1729-31 and 1739-42. The remainder of this chapter considers these mortality crises in terms of their timing, their characteristics and their geographical spread.

1550 to 1600

Late 1550s

Poor harvests were a recurrent experience in early modern England. Nationally, two of the major mortality crises in the sixteenth century, those of the 1550s and the 1590s, were linked to harvest failures. Grain prices in both the 1555 and the 1556 harvest years were approaching double their normal level.⁶³³ There was disease in the

⁶³³ Bowden, 'Statistical Appendix'; R. Allen *Prices and Wages in London and Southern England, 1259-1914*, <<http://www.nuffield.ox.ac.uk/users/Allen/studer/enclyeo.xls>>, accessed 1 March 2015; D. Palliser, 'Dearth and Disease in Staffordshire, 1540-1670', in C. W. Chalklin and M. A. Havinden (eds.), *Rural Change and Urban Growth, 1500-1800 : essays in English regional history in honour of W.G. Hoskins* (London, 1974), p. 57.

aftermath of the poor harvests.⁶³⁴ In the 1590s crisis the rise in grain prices was comparable, prices in 1596 about double their usual levels.⁶³⁵ In the seventeenth century, the crisis of 1623 had locally profound effects, but only in some parts of the country. Subsequent poor harvests, such as those of 1647-50 and 1697-9 do not appear to have resulted in significantly raised mortality either nationally or locally.⁶³⁶

The relationship between harvest failure and increased mortality is not straightforward, even in a largely agricultural pre-industrial economy such as that of early modern England. Ó Gráda defined famine as ‘a shortage of food or purchasing power that leads directly to excess mortality from starvation or hunger-induced diseases.’⁶³⁷ He identified two causes for higher mortality during famine. One related directly to nutrition and included starvation. More commonly, victims succumbed to ‘nutritionally sensitive diseases brought on by impaired immunity, or to poisoning from inferior or unfamiliar foods that would not have been consumed in normal times’.⁶³⁸ He underlined also the effect of ‘the disruption of personal life and societal breakdown resulting from the famine [which] may stem from increased mobility among the poor or from the deterioration in personal hygiene as people grow weaker and more despondent’.⁶³⁹ At times it may not have been an absolute shortage of food which contributed to the scale of the crisis but rather difficulties of distribution of food. Factors may have included the lack of integrated markets which prevented supplies of food in one part of the country reaching places where there were shortages,

⁶³⁴ P. Slack, 'Mortality Crises and Epidemic Disease in England 1485-1616', in C. Webster (ed.), *Health, Medicine, and Mortality in the Sixteenth Century* (Cambridge, 1979), pp. 31-2.

⁶³⁵ Bowden, 'Statistical Appendix'; *Prices and Wages in London and Southern England, 1259-1914*.

⁶³⁶ J. Walter and R. Schofield, 'Famine, Disease and Crisis Mortality in Early Modern Society', in J. Walter and R. Schofield (eds.), *Famine, Disease and the Social Order in Early Modern Society* (Cambridge, 1989a), p. 36.

⁶³⁷ C. Ó Gráda, *Famine: a Short History* (Princeton, 2009), p. 4.

⁶³⁸ C. Ó Gráda (2007), 'Famine Demography' UCD WP07/21 (University College Dublin), p. 20.

⁶³⁹ Ibid., p. 20.

increasing prices making food unaffordable for some, or falling demand for consumer goods causing the providers of such goods to lose income and be unable to afford to buy food.⁶⁴⁰ In all such crises the poor were likely to be most vulnerable. Some people did probably starve to death. Perhaps most notably, this has been suggested tentatively by Appleby as the cause of the high number of deaths in Cumberland and Westmorland in 1597 and more strongly of those of 1623.⁶⁴¹ In the south of England, there are few records of starvation, though in London in 1557, 15 out of some 200 deaths in the parish of St Margaret's, Westminster, were recorded by the parish clerk as due to 'famine'.⁶⁴²

The timing of deaths following failed harvests can provide an indication of cause of death. A disease commonly associated with dearth was typhus, a bacterial infection transmitted to humans by bites from lice, fleas or mites and which causes headache, fever and diarrhoea.⁶⁴³ Contemporaries, aware of the close connection between severe shortages of food and typhus, sometimes referred to it as 'famine fever'.⁶⁴⁴ Its more general association with overcrowding, lack of washing, and poor standards of living led to it also being referred to as 'camp fever', 'jail fever' or 'war fever'. Epidemics of typhus tended to begin in winter when the cold weather discouraged the bathing and changing of clothes which would disrupt the lives of the disease carriers and to disappear with the coming of the warmer weather of spring.⁶⁴⁵

⁶⁴⁰ Walter and Schofield, 'Famine, Disease and Crisis Mortality in Early Modern Society', pp. 28-32.

⁶⁴¹ A. B. Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640', *The Economic History Review*, 26 (1973), pp. 424, 429.

⁶⁴² P. Laslett, *The World We Have Lost: Further Explored* (London, 1983), p. 133.

⁶⁴³ NHS Typhus, <<https://www.nhs.uk/conditions/typhus/>>, accessed 3 Oct 2019.

⁶⁴⁴ Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640' (1973), p. 413.

⁶⁴⁵ *Ibid.*, p. 408.

Characterising the late 1550s as the period when the country experienced the greatest mortality of the sixteenth century, Slack described it as a two-stage, 'mixed' crisis, with both food shortages and disease contributing to deaths.⁶⁴⁶ The harvests of both 1555 and 1556 were 'very deficient'.⁶⁴⁷ In 1556 nationally the prices of wheat, barley and oats rose to around double their normal levels and prices of livestock, dairy products and animal products increased too.⁶⁴⁸ The mortality crisis which hit the country following these harvest failures is thought to have involved outbreaks of several diseases, including typhus and influenza, exacerbated by malnutrition. A second surge of mortality hit the country in 1558-59 probably caused by epidemic infections; contemporary descriptions referred to the 'new ague' or the 'new disease'.⁶⁴⁹ Wrigley and Schofield identified the years 1557-8 and 1558-9 as the greatest mortality crises nationally in all the parish register period. They estimated deaths rate in 1557-8 as 61 per cent above average and a third of the 83 parishes they had in observation experienced crises. In the following year, 1558-9, 39 percent of the 92 parishes in observation, experienced a crisis and they estimated the death rate as 124 per cent above average.⁶⁵⁰

Preliminary evidence of the scale of the crisis in Surrey is suggested by the numbers of wills made in these years. The survival of wills in Surrey is patchy so it is hard to draw firm conclusions; moreover, the numbers of wills proved may well not be an accurate reflection of levels of mortality. But there were unusually large numbers of

⁶⁴⁶ Slack, 'Mortality Crises and Epidemic Disease in England 1485-1616', pp.22-3, 27.

⁶⁴⁷ Wrigley and Schofield (eds.), *Population History of England*, p. 664.

⁶⁴⁸ Bowden, 'Statistical Appendix'.

⁶⁴⁹ Palliser, 'Dearth and Disease in Staffordshire, 1540-1670', p. 57; Wrigley and Schofield (eds.), *Population History of England*, p. 664; Walter and Schofield, 'Famine, Disease and Crisis Mortality in Early Modern Society', p. 31; J. Moore, 'The Mid-Tudor Population Crisis in Midland England, 1548-1563', *Midland History*, 34 (2009), pp. 44, 51.

⁶⁵⁰ Wrigley and Schofield (eds.), *Population History of England*, p. 653.

wills filed in 1557, 1558 and 1559.⁶⁵¹ At the peak, in 1558, 295 wills were registered or filed, around three times the average in the earlier part of the century, and the number filed the following year, 1559, was only somewhat less, 237 (Figure 141).

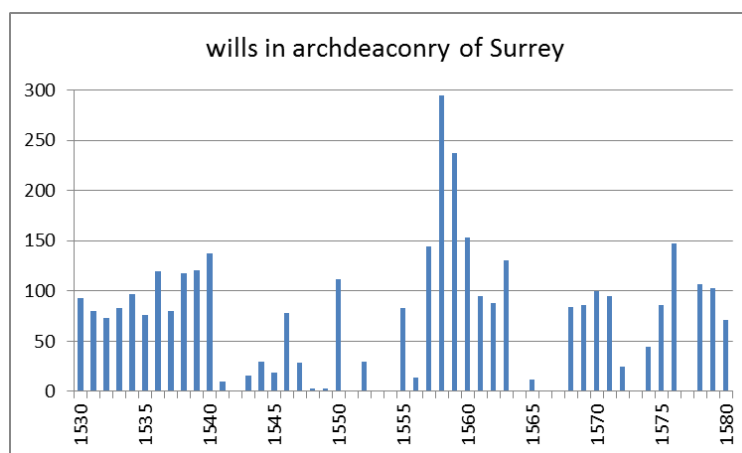


Figure 141 Wills in Archdeaconry of Surrey

In 1557, John Amery, the rector of St Mary's parish in the Surrey market town of Guildford, died. The following year, 1558, so too did both John Cleaver, the rector of Holy Trinity, the other parish in Guildford, and Richard Brisley, rector of the neighbouring parish of Stoke next Guildford.⁶⁵² They had almost certainly succumbed to the wave of disease that swept the country between 1557 and 1559, following the two disastrous harvest years in 1555 and 1556. These deaths in quick succession of three clergymen in one town provide an indication of the severity of the crisis in Surrey. They were not the only clergy to die in Surrey around that time; in all at least 16 Surrey clergy died in the two years 1557 and 1558.⁶⁵³ For so many to die in such a short period of time is suggestive of Surrey experiencing a mortality crisis. That clergy died in such numbers suggests the cause may have been disease rather than lack of food since clergy would seem less likely to have suffered directly from food

⁶⁵¹ Webb (ed.), *Surrey Probate Records pre-1650*.

⁶⁵² Manning, *History and Antiquities*, Vol. 1, pp. 58, 63, 181.

⁶⁵³ Ibid..

shortages. The crisis seems to have been geographically widespread for the clergy who died came from many parts of the county.

The loss of so many clergy, and doubtless of many parish clerks who kept the records too, must have made the keeping of parish registers difficult, and it is this effect on record-keeping which makes any study of these years especially challenging. In St Mary's Guildford, John Amery's parish, the records cease for both 1557 and 1558, having previously been kept each year since 1546. Parish registers cease elsewhere in Surrey too. As noted above (Chapter 2: Sources and Methods) recorded burials in non-metropolitan Surrey fell unusually low, below 80 per cent of their average levels at this time. It seems likely such breaks in the records reflect the depth of crisis. Gaps in parish registers around this time have been noted elsewhere including in Kent, Sussex, Staffordshire and in York where all but one register ceased temporarily, registers which had continued through the heavy mortality of 1550-1552, suggesting the severity of the crisis in 1557-9.⁶⁵⁴ A breakdown of record keeping has been noted in other crises, such as in Barnstable in 1546 and in some London parishes in plague years.⁶⁵⁵

In non-metropolitan Surrey burial registers survive for 25 parishes from around 1550 but for about a third of these there is a period of missing records in the late 1550s. Another third have records which show a mortality crisis and the final third show little sign of crisis. Both rural and urban parishes experienced high mortalities. Rural parishes affected were geographically widespread and included Banstead in the north

⁶⁵⁴ Zell, *Industry in the countryside*, p. 57; C. Brent, 'Devastating epidemic in the countryside of Eastern Sussex between harvest years 1558 and 1640', *Local Population Studies*, 14 (1974); Palliser, 'Dearth and Disease in Staffordshire, 1540-1670', pp. 57-8; D. M. Palliser, 'Epidemics in Tudor York', *Northern History*, 8 (1973), p. 51.

⁶⁵⁵ Slack, 'Mortality Crises and Epidemic Disease in England 1485-1616', p. 40; Cummins, Kelly, and Ó Gráda, *Living Standards and Plague in London, 1560-1665*, pp. 9-10.

of the county where burials, which normally averaged around three a year, reached 19 in 1558 and in 10 in 1559 and Limpsfield in the south where burials rose in 1558 and peaked in 1559 at double their usual level (Figure 142).

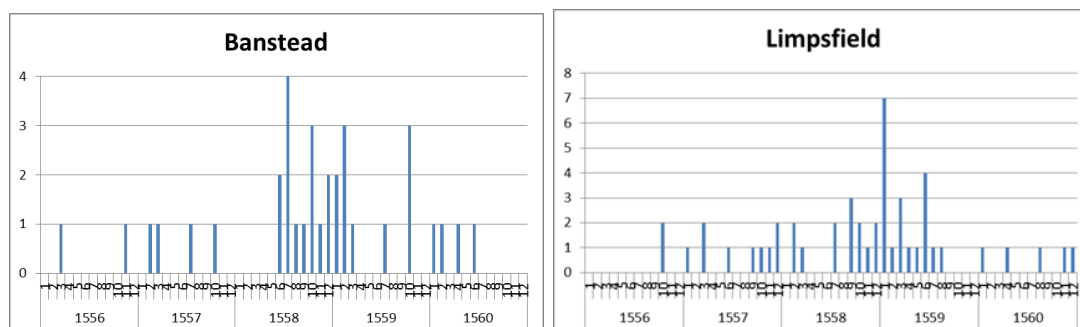


Figure 142 Monthly burials in individual parishes, 1556-1560

The crisis may have been more prolonged in urban areas (Figure 143). In both Croydon and Dorking there was a succession of years with substantially raised mortality. Dorking's average burials of around 20 a year more than doubled to 48 in 1557 and rose again to around 70 in each of 1558 and 1559. In both towns there seems to have been a peak in burials towards the end of each winter during the crisis with the size of the peak growing year by year until reaching its maximum in the winter of 1558-9 before the better harvest of autumn 1559.⁶⁵⁶ Such a pattern of a sequence of increasingly severe winter peaks in burials is similar to that Palliser characterised as 'the thumbprint of dearth'.⁶⁵⁷ One cause of high numbers of deaths in towns may be that people living in towns were themselves more vulnerable to the dearth for two reasons – because they lived in more crowded and insanitary conditions and so were more vulnerable to outbreaks of disease precipitated by the dearth, or because they were more dependent than rural dwellers on buying increasingly expensive food. Another factor may have been, as occurred in Salisbury in the 1590s, of poor people

⁶⁵⁶ This crisis is identified also in Humphreys, 'Mortality Crises in Sixteenth-Century Dorking' (1987).

⁶⁵⁷ Palliser, 'Dearth and Disease in Staffordshire, 1540-1670', p. 70.

from surrounding areas who were short of food travelling to the towns in the hope of receiving relief there.⁶⁵⁸

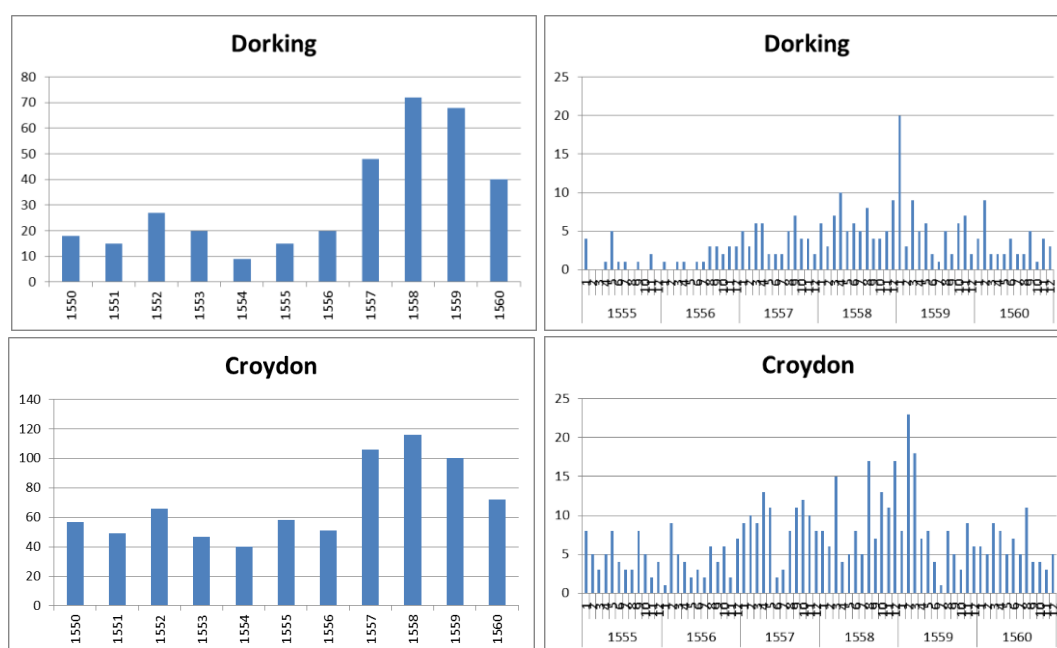


Figure 143 Annual and monthly burials in Dorking and Croydon, 1550-1560

The 1550s population fall

The late 1550s crisis is relevant to critiques of Wrigley and Schofield's modelling of national population trends. Fisher, Hollingsworth, Hatcher and especially Moore have all suggested the population fall in the 1550s was considerably greater than the 5.5 per cent proposed by Wrigley and Schofield.⁶⁵⁹ Estimates have included 20 per cent by Fisher, 23 per cent by Hollingsworth and 16.5 per cent by Moore.⁶⁶⁰ The debate relates not just to the estimation of the total population at that time but also to

⁶⁵⁸ Appleby, *Famine in Tudor and Stuart England*, p. 140.

⁶⁵⁹ F. J. Fisher, 'Influenza and Inflation in Tudor England', *The Economic History Review*, 18 (1965), p. 127; T. H. Hollingsworth, *Historical Demography* (London, 1969), pp. 236-7; Hatcher, 'Understanding Population History of England' (2003), p. 104; J. S. Moore, 'Jack Fisher's 'Flu': A Visitation Revisited', *The Economic History Review*, 46 (1993b); J. Moore, 'Canterbury Visitations and the Demography of Mid-Tudor Kent', *Southern History*, 15 (1993a); J. Moore, 'Episcopal Visitations and the Demography of Tudor Gloucestershire', *Southern History*, 22 (2000); Moore, 'The Mid-Tudor Population Crisis in Midland England, 1548-1563' (2009); J. Moore, 'Population Trends in North-East England, 1548-1563', *Northern History*, 45 (2008a); J. Moore, 'Population Trends in Lancashire, 1548-1563', *Transactions of The Historic Society of Lancashire and Cheshire*, 157 (2008b); J. Moore, 'Demographic Dimensions of the Mid-Tudor Crisis', *Sixteenth Century Journal*, 41 (2010); Wrigley and Schofield (eds.), *Population History of England* pp. 208, 212.

⁶⁶⁰ Moore, 'The Mid-Tudor Population Crisis in Midland England, 1548-1563' (2009), p. 45.

Wrigley and Schofield's broader argument that, until the demographic transition of the later eighteenth century, population was controlled mainly by 'low pressure' longer term fertility changes acting as a Malthusian 'preventative check' rather than 'high pressure' short term mortality changes acting as a Malthusian 'positive check'. Hatcher rejected the dominance of a 'low pressure' fertility-led model, arguing among other things that there was more crisis mortality than Wrigley and Schofield identified, in particular in the 1550s, and that in the later sixteenth century 'all key demographic variables deviated starkly from the required 'low-pressure' behaviour'.⁶⁶¹ Hatcher's concerns included the small number of parish registers available at that early date and hence the need for large multipliers to produce a national estimate of population. Separately, Moore explored a range of evidence and concluded the population loss was around 18 per cent nationally with individual counties experiencing drops of 12 to 27 per cent, though some of his findings have been challenged by Zell who argued it was unclear whether the population fall was as great as Moore proposed.⁶⁶² This debate emphasises the need for more local studies on the crisis of the late 1550s: as Walter and Schofield commented, '[t]here is clearly need for further work on the regional pattern of crisis mortality in the mid sixteenth century, exploiting all extant registers, including those rejected as unsuitable for the analysis of longer-term trends'.⁶⁶³

The experience of non-metropolitan Surrey would seem to suggest a contribution to the discussion. One perspective is provided by the scale of burials in those parishes which experienced a crisis. A rough estimate of the increase in burials in the affected

⁶⁶¹ Hatcher, 'Understanding Population History of England' (2003), pp. 88, 102.

⁶⁶² Moore, 'Demographic Dimensions of the Mid-Tudor Crisis' (2010), pp. 1058, 1060; M. Zell, 'Fisher's 'Flu and Moore's Probates: Quantifying the Mortality Crisis of 1556-1560', *The Economic History Review*, 47 (1994a).

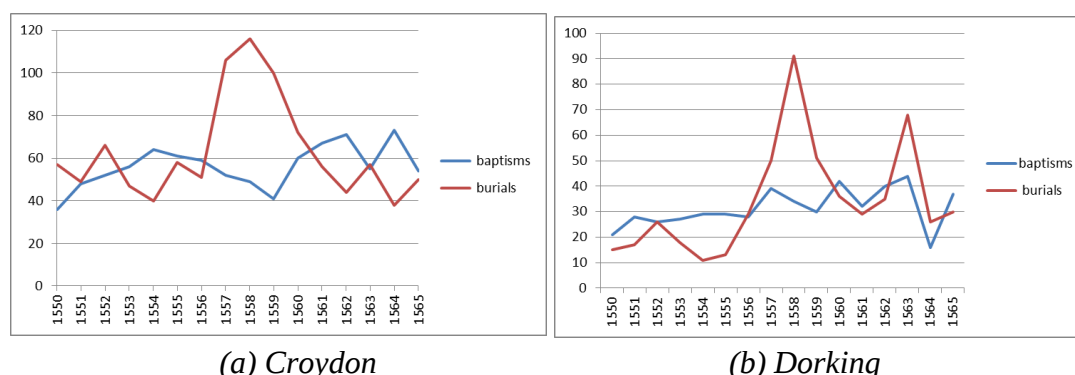
⁶⁶³ Walter and Schofield, 'Famine, Disease and Crisis Mortality in Early Modern Society', p. 31.

parishes is that it was around 2.5 times. This increased mortality can be converted to a broad estimate of the consequent population fall in those parishes. Applying Wrigley and Schofield's figures for this period of 38 births and 28 deaths per thousand population to this estimated increase in burials of 2.5 times, suggests burials would have risen by $28 \times 2.5 = 70$ extra deaths per thousand people.⁶⁶⁴ If one assumes no decline in births, there would have been a net loss of population of $70 - 38 = 32$ per thousand, or 96 per thousand over the three years, a decline of 9.6 per cent. This calculation assumes an otherwise stable population over these few years, which seems reasonable since the evidence (see Chapter 4: Population) suggests Surrey did not experience rapid population change at this time. It does not depend on estimates of population but uses solely changes in numbers of deaths which, on the assumption of otherwise stable population, equates to changes in death rates. Based on the numbers of burials, it seems not unreasonable to suggest, therefore, that those areas of non-metropolitan Surrey whose records show the existence of a mortality crisis may have experienced a population fall of roughly 10 per cent in the late 1550s.

A concurrent decline in births would have increased this population loss further. The extremity of people's circumstances was likely to have resulted in a reduction in one or both of sexual activity and female fertility, the consequence of either would have been a fall in births. There is evidence of falls in baptisms in parts of Surrey at this time: in Croydon, for example, baptisms fell from around 60 a year to around 40 in 1559 the year after burials peaked at 116 in 1558 at double their usual number of around 50 (Figure 144(a)). However, the fall in births was temporary and births in subsequent years returned quickly to normal in Croydon so the effect on the size of

⁶⁶⁴ Wrigley and Schofield (eds.), *Population History of England*, p. 212.

the population would have been short-lived. In Dorking there does not appear to have been much fall in baptisms at this time though there may have been in the subsequent plague crisis in 1563 which hit Dorking but did not substantially affect Croydon (Figure 144 (b)).



(a) Croydon
(b) Dorking
Figure 144 Baptisms and burials, Croydon and Dorking, 1550-1565

Another perspective is provided by the number of parish registers with missing records and how those are treated. As noted above, lapses in registration at this time have been noted elsewhere and there was a marked fall in the total number of Surrey burials recorded at this time. Wrigley and Schofield refer to this, suggesting changes of monarch affected the adequacy of parochial registration especially the accession of the Catholic queen Mary in 1553 which ‘heralded a further dramatic increase in the proportion of registration that was defective’ and pointing to the greatest level of defective registration as being in 1555 and 1556.⁶⁶⁵ Basing their approach on these religious and political interpretations of the gaps in parish registers they seem to have estimated burials in these gaps by interpolating from the numbers of burials in the years either side.⁶⁶⁶ In contrast Slack suggested that in the 1550s crisis both religious changes and the epidemics themselves disrupted the registration of burials in many

⁶⁶⁵ Ibid., p. 24.

⁶⁶⁶ Ibid., pp. 31, 705.

parishes and Hatcher commented how 'the efficiency with which priests kept their registers tended to decline during mortality crises'.⁶⁶⁷

It is possible to make a crude but usefully indicative calculation of the possible scale of the effect of the failure in record keeping in the late 1550s based on the supposition – and this is only a supposition – that it was due mainly to the disruptive scale of the mortality crisis at that time rather than a response to religious tensions. Consider a group of parishes (all with similar population levels) in which, as in the non-metropolitan Surrey parishes, a third had a crisis, a third no crisis and a third had records which stopped temporarily. If the parishes with missing records had no crisis (as Wrigley and Schofield suggested) then an overall population fall of 5.5 per cent, as identified by Wrigley and Schofield, would be made up of a fall of 16.5 per cent in the third of parishes which showed a crisis and nil in each of the other two groups ($((16.5 + 0 + 0)/3 = 5.5$ per cent). However, an alternative possibility is that the third of parishes where records temporarily ceased did have a crisis at the same level as the parishes whose records showed a crisis. Then the overall population fall across all three groups of parishes would be 11 per cent ($((16.5 + 16.5 + 0)/3 = 11$ per cent). If this was the case nationally then Wrigley and Schofield's apparent population fall of 5.5 per cent may actually correspond to a fall in population much closer to the estimates of population decline from Moore and others. The calculation is rudimentary and should not be taken as other than indicative of the possible effect of alternative treatments of missing data. And it is possible to argue a different case. Following the same approach, the fall of 10 per cent observed in the third of Surrey's parish registers which recorded a fall would correspond, if the third of parishes with

⁶⁶⁷ Slack, 'Mortality Crises and Epidemic Disease in England 1485-1616', pp. 27-8; Hatcher, 'Understanding Population History of England' (2003), p. 104.

missing records had a similar population fall, to about 7 per cent over all parishes (based on the calculation $(10+10+0)/3$), much closer to Wrigley and Schofield's estimate. The evidence is mixed but it does suggest a possible basis for reconsidering the contrasting evidence that exists from different sources and scholars on the fall in population in England in the late 1550s.

1563

A few years later, in 1563, an outbreak of plague hit Surrey. Infectious diseases were a major cause of death in early modern England.⁶⁶⁸ They included plague, typhus, dysentery, typhoid, influenza, measles, tuberculosis, pneumonia, malaria, the sweating sickness (in the earlier part of the period) and, especially in the later part of the period, smallpox.⁶⁶⁹ Some crises in mortality were the result of an epidemic outbreak of a single disease while others seem to have occurred because more than one disease was present.⁶⁷⁰ The cause of most deaths is unclear as contemporaries did not have the diagnostic tools to identify diseases and their descriptions tended to be based on the symptoms observed. However, there are features of some crises which give clues as to their causes. The seasonality of diseases differed: respiratory infections were usually worst in winter, fly-borne and gastro-intestinal diseases worst in late summer, droplet infections like smallpox spread more readily in dry conditions.⁶⁷¹ In addition, sometimes different categories of people were most

⁶⁶⁸ J. Landers, *The Field and the Forge: population, production, and power in the pre-industrial west* (Oxford, 2003), p. 28.

⁶⁶⁹ Chalklin, *Seventeenth-century Kent: a social and economic history*, p. 38; Dobson, *Chronology of Epidemic Disease and Mortality*, p. 17; S. Duncan, S. Scott, and C. J. Duncan, 'Smallpox Epidemics in Cities in Britain', *Journal of Interdisciplinary History*, 25 (1994), p. 255; Wrigley and Schofield (eds.), *Population History of England*, p. 337.

⁶⁷⁰ Wrigley and Schofield (eds.), *Population History of England*, pp. 663-4.

⁶⁷¹ Landers, *The Field and the Forge: population, production, and power in the pre-industrial west*, pp. 29-30.

vulnerable to different diseases: children were disproportionately vulnerable to gastro-intestinal diseases and smallpox but less vulnerable than adults to typhus.⁶⁷²

Bubonic plague was the cause of the most severe epidemics in the sixteenth and seventeenth centuries. Plague is a bacterial infection transmitted from rodents to humans by the bite of infected fleas, via body lice or, in its pneumonic form, between humans through infectious airborne droplets. Epidemics of plague had a characteristic seasonal pattern. Deaths rose suddenly, peaking in late summer and early autumn, and usually fell back to normal levels as the cold of winter made rats and their fleas less active.⁶⁷³

Cummins et al. described the spread of the 1563 outbreak of plague in London as, similar to its other major outbreaks, starting in extra-mural parishes to the north of the city before moving to other extra-mural parishes and then to parishes inside the walls.⁶⁷⁴ Their plot of the extent of the crisis includes parishes in metropolitan Surrey and suggests these parishes were less affected than those to the north of the river.⁶⁷⁵ Non-metropolitan Surrey's parish registers for 1563 are extant for just 36 parishes, but signs of plague are evident. They show annual burials more than half as much again as normal (based on 21-year average of burials). Burials started to rise in August and by October were four or five times their usual monthly levels before they began to fall, though not returning fully to normal levels until part the way through 1564 (Figure 145).

⁶⁷² Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640' (1973), p. 408; Wrigley and Schofield (eds.), *Population History of England*, p. 295.

⁶⁷³ Slack, *Impact of Plague*, p. 7.

⁶⁷⁴ Cummins, Kelly, and Ó Gráda, 'Living Standards and Plague in London, 1560-1665', p. 3.

⁶⁷⁵ Ibid., p. 17.

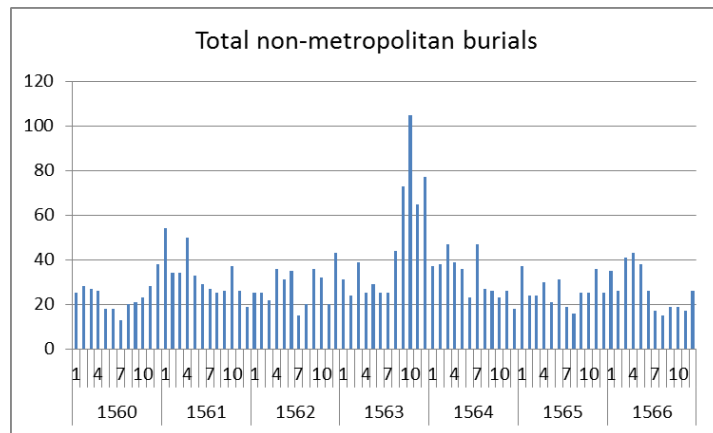


Figure 145 Monthly burials in non-metropolitan Surrey, 1560-66

The aldermen and Mayor of Guildford tried to protect their town from the plague by asking for the St Catherine's Hill fair, held annually on the outskirts of Guildford in late September, to be cancelled, concerned it would be attended by 'divers sciences and petty chapmen out of London' who would spread infection.⁶⁷⁶ Whether the fair was cancelled is not entirely clear but their actions were not successful in preventing the arrival of plague.⁶⁷⁷ In Guildford, and in its nearby towns of Farnham and Dorking, burials were at least double their normal levels (Figure 146). Among those affected in Guildford was William Walters, servingman of William Hamond, gentleman, who, lying sick of the plague in the house of his master gave a nuncupative will on 14th November.⁶⁷⁸ There was much less sign of plague in Surrey towns further north or east towards London and only a few rural parishes show evidence of plague. One which did was Cheam towards the north-east of the county where burials rose dramatically in September and October before, equally as rapidly, returning to normal levels. The towns most affected were near roads between the south coast and London, suggesting the possibility that the source of their infection was an outbreak of plague which affected the south coast towns of Newhaven and Portsmouth and which spread

⁶⁷⁶ SHC 6729/1/53 Letter from the mayor and aldermen of Guildford to William More. Sep. 1563 .

⁶⁷⁷ SHC 6729/1/56 Letter from Sir William Cecil to William More. Nov. 1563

⁶⁷⁸ Hamond was mayor of Guildford in 1571 (List of wages SHC LM/685); Surrey Will abstracts.

rapidly to London.⁶⁷⁹ However, the timing of the crises in the various parishes affected suggests the process by which infection arrived in each parish was complex. Guildford's outbreak began in August, Dorking and rural Cheam's in September and Farnham's in October.

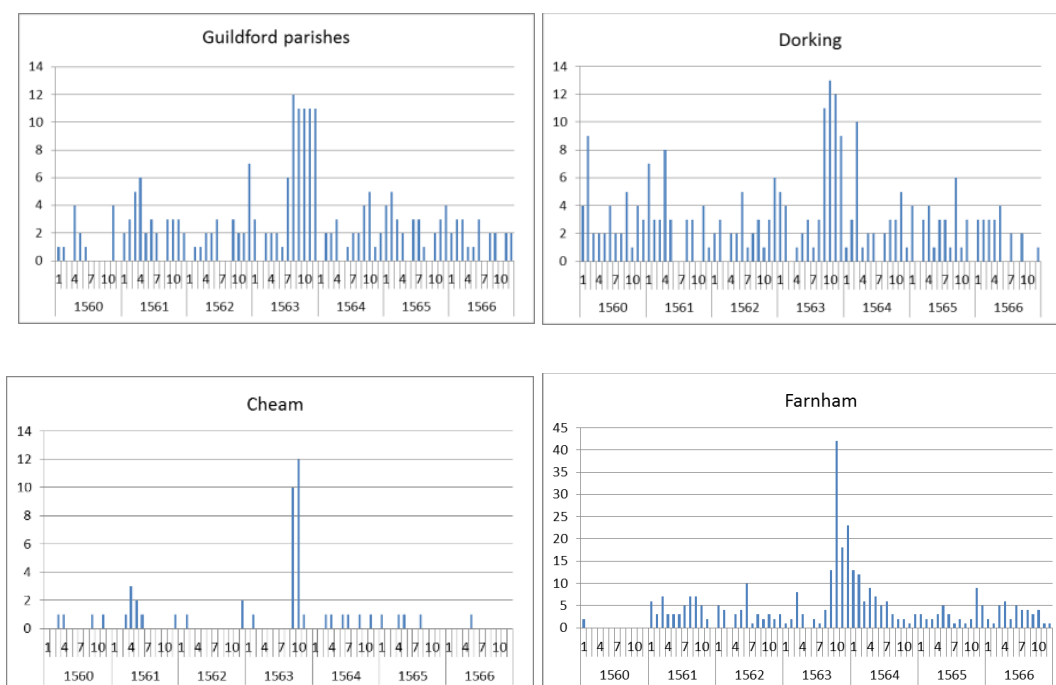


Figure 146 Monthly burials in individual parishes, 1560 - 66

Other sixteenth century poor harvests

In the following decades there is evidence in Surrey from time to time of concern about poor harvests and, unsurprisingly given the importance of grain to sustaining most people's lives and the potential for riot and other forms of social disobedience if prices rose too high, of attempts to alleviate their effects. The Privy Council wrote regularly to Surrey's Justices of the Peace on the subject. In October 1576, for example, they wrote about the rise in the price of grain, requiring them to enforce the

⁶⁷⁹ R. Lemon (ed.), 'Queen Elizabeth - Volume 29: July 1563', in *Calendar of State Papers Domestic: Edward, Mary and Elizabeth, 1547-80*, ed. Robert Lemon (London, 1856), pp. 226-229 <https://www.british-history.ac.uk/cal-state-papers/domestic/edw-eliz/1547-80/pp226-229> [accessed 11 June 2015]. (1856); Slack, *Impact of Plague*, p. 84.

licencing of grain traders because of the alleged stockpiling of grain by some.⁶⁸⁰ Four years later, in April 1580 the Privy Council's concerns seem more immediate. They wrote of the great 'scarcity and dearth' of corn resulting from the poor quality of the 1579 harvest and ordered Surrey justices to fix the price of corn if it became too high.⁶⁸¹ Prompted 'both by fear of disorder and the authorities' sense of their own responsibility to ameliorate the crisis', such letters formed part of a series of government interventions in times of dearth during the sixteenth century and into the seventeenth century, interventions aimed at preventing the stockpiling of grain and at promoting the sale of grain in ways which made it available and affordable to ordinary people.⁶⁸² There is, though, no clear evidence of a mortality crisis in non-metropolitan Surrey in either of these years. Perhaps these particular letters from the Privy Council were in response to a national concern about poor harvests and high food prices but in Surrey the situation was less acute than elsewhere. Or perhaps the justices were able successfully to intervene in the markets reducing the likelihood of a mortality crisis.

In 1586-88 nationally there were again poor harvests and high grain prices and deaths were high, 29.5 per cent above trend.⁶⁸³ Wrigley and Schofield found increases in burials, especially in the north, west midlands, and south-west.⁶⁸⁴ Cumberland and Westmorland experienced a severe demographic crisis in 1587-8.⁶⁸⁵ In Whickham, on

⁶⁸⁰ SHC 6729/11/23 Letter from the Privy Council to the sheriff and justices of the peace of Surrey. Oct. 1576.

⁶⁸¹ SHC 6729/13/44 Letter from the Privy Council to the sheriff and justices of the peace of Surrey.

⁶⁸² S. Hindle, 'Dearth and the English Revolution: the Harvest Crisis of 1647-50', *Economic History Review*, 61 (2008), p. 73; P. Slack, 'Books of Orders: The Making of English Social Policy, 1577-1631', *Transactions of the Royal Historical Society*, 30 (1980), p.3; J. Walter and K. Wrightson, 'Dearth and the Social Order in Early Modern England', *Past & Present*, (1976), p. 43.

⁶⁸³ Slack, *Impact of Plague*, p. 58.

⁶⁸⁴ Wrigley and Schofield (eds.), *Population History of England*, pp. 672-3.

⁶⁸⁵ Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640' (1973), pp. 408ff..

Tyneside, mortality peaked in 1587-88, following a poor harvest in 1586-87 and, in both Cumberland and Westmorland and Whickham, the seasonality of deaths suggest a major factor was typhus attacking a population already weakened by malnutrition.⁶⁸⁶ While the crisis appears to have been worse in the north of England, the effects were felt further south too, such as in Essex where Slack identified a mortality rise in some parishes in 1586.⁶⁸⁷ In Surrey in January 1587/8 the justices again received a letter from the Privy Council expressing its concern about the current 'great dearth and scarcity of all manner of grain', caused by the 'unseasonableness of these latter years'.⁶⁸⁸ There was awareness of food shortages amongst the people of Surrey. In Kingston in 1588 John Udall, a radical preacher, published a collection of his sermons entitled 'The true remedie against famine and warres.' Describing them as 'preached in this time of dearth,' he referred to the 'counceil that the holy Ghoste gaue the Israelites to redress the famine which they felt'.⁶⁸⁹ In doing so he is likely to have been inclined to exaggerate the severity of the crisis to emphasise the extent of God's anger and, despite such concerns, there does not appear to have been a widespread mortality crisis in non-metropolitan Surrey.

Other sixteenth century plague outbreaks

Plague too recurred every few years. There was plague in London in 1578, and in Norwich the following year, 1579⁶⁹⁰ but in non-metropolitan Surrey total burials were not much above their average levels. There were, though, localised outbreaks (Figure

⁶⁸⁶ Levine and Wrightson, *The Making of an Industrial Society: Whickham, 1560-1765*, p. 196.

⁶⁸⁷ Slack, *Impact of Plague*, p. 100.

⁶⁸⁸ SHC 6729/13/42 Letter from the Privy Council to the sheriff and justices of the peace of Surrey. Jan. 1587.

⁶⁸⁹ J. Udall, *The true remedie against famine and warres* (London, 1588), my thanks to Shaan Butters for drawing my attention to Udall ; S. Butters (Akester), *'That famous place': a history of Kingston upon Thames* (Kingston, 2013), pp. 156-8.

⁶⁹⁰ Slack, *Impact of Plague*, p. 63.

147). In Croydon burials in 1578 were twice their normal level, and plague seems the likely cause. Plague may also have been responsible for the rise in deaths in the same year in Caterham, a rural parish a few miles south of Croydon where burials, usually less than four a year, rose to 14, peaking in August.

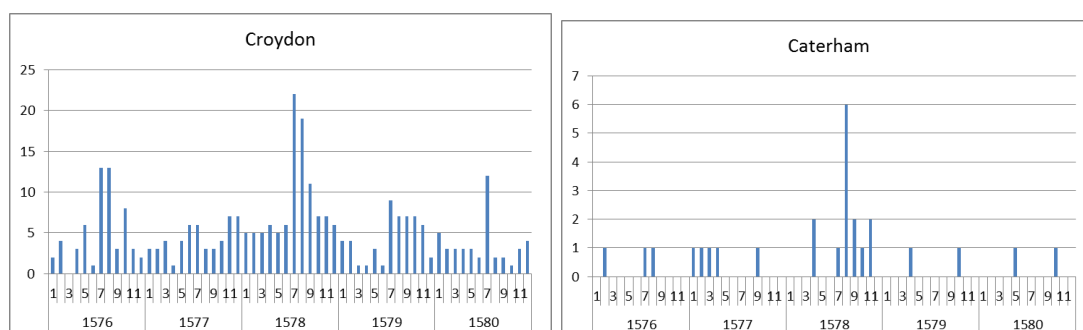


Figure 147 Monthly burials in individual parishes, 1576-80

There was another outbreak of plague in London in 1582.⁶⁹¹ Again, there appears to have been some plague in Surrey, notably in Kingston (Figure 148), though the picture is incomplete due to missing records in the previous decade. But the overall effect of the outbreak was limited and total non-metropolitan Surrey burials were only a little above their normal levels.

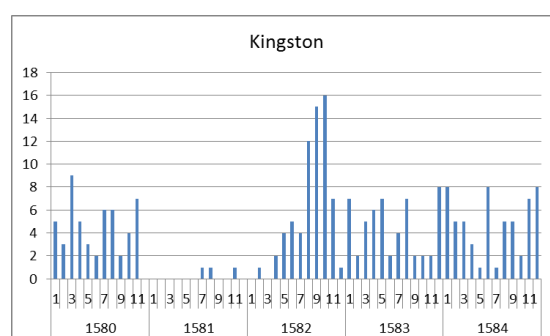


Figure 148 Monthly burials in Kingston, 1580-84

1593 was a major plague year in London, burials running at 4.6 times normal, only slightly less in proportionate terms than it suffered in its most deadly outbreaks.⁶⁹² In

⁶⁹¹ Ibid., p. 62.

⁶⁹² Ibid., p. 62; Cummins, Kelly, and Ó Gráda, 'Living Standards and Plague in London, 1560-1665', p. 16.

the 52 parishes of non-metropolitan Surrey for which records survive, burials rose to levels comparable to those it experienced in its peak plague years (Figure 149).

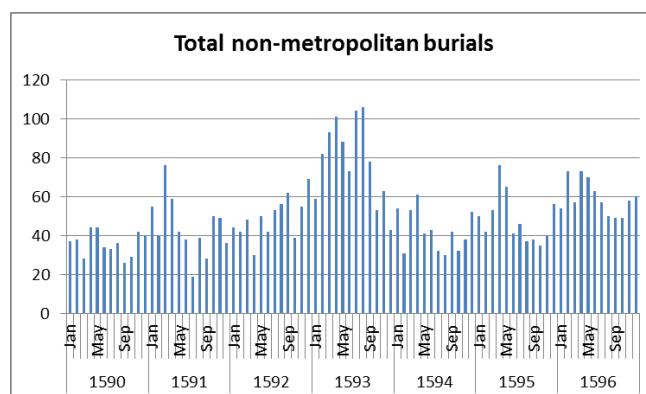


Figure 149 Non-metropolitan Surrey monthly burials, 1590-96

The seasonal pattern of these deaths, though, suggests it was not just plague that was involved. Deaths were high over most of 1593 and appear to have started rising in the latter part of 1592, suggesting a mix of diseases. In both Dorking and Kingston, the towns most affected, burials were at least four times the normal number (Figure 150) but the pattern of does not seem consistent with a simple plague outbreak. Their rise in burials started in 1592 and continued through much of 1593, returning to normal levels by the end of the year. In both towns, though, there was a clear peak in burials in the summer of 1593 – in July in Dorking and September in Kingston. There had been poor harvests in 1590 and 1591 which resulted in the price of grain rising to close to half as much again in the 1590 harvest year compared to the years immediately before.⁶⁹³ Perhaps in consequence, burials nationally in 1590-1 were 18 per cent above trend and in 1592-3 were 30 per cent above trend.⁶⁹⁴ These poor harvests may have contributed to Surrey's crisis, including resulting in movement of poor people into towns raising their numbers of burials. A winter disease or diseases may well also have been present, perhaps influenza or typhus, followed by a summer

⁶⁹³ P. Lawson, 'Property Crime and Hard Times in England, 1559-1624', *Law and History Review*, 4 (1986), p. 107; Bowden, 'Statistical Appendix'.

⁶⁹⁴ Wrigley and Schofield (eds.), *Population History of England*, p. 653.

disease or diseases, including plague. In contrast Guildford had a sudden but brief peak in burials mainly in July 1593, suggesting an outbreak of a single infectious disease, perhaps plague.

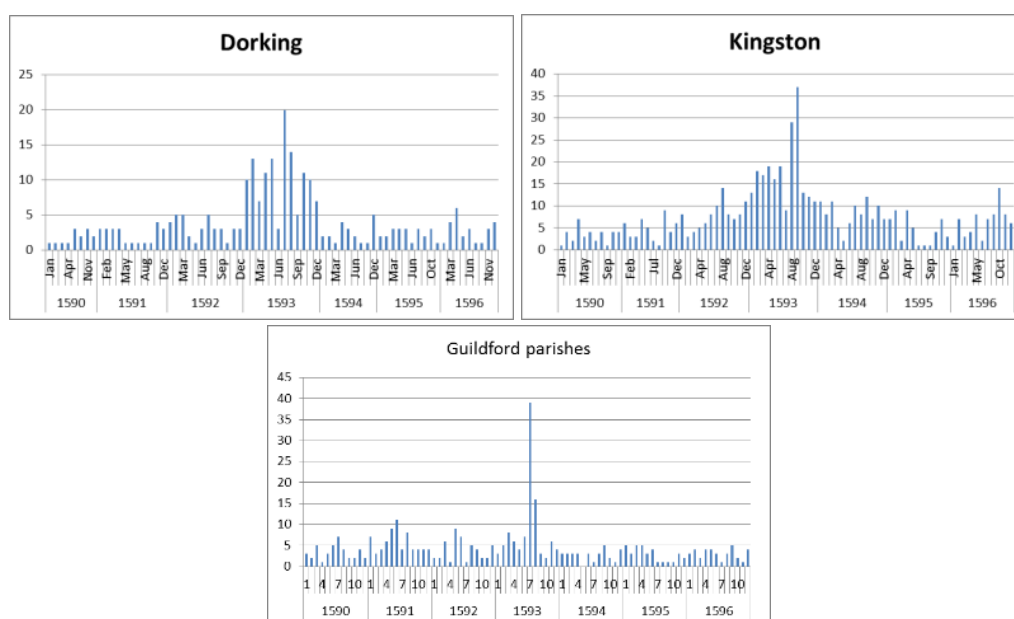


Figure 150 Monthly burials in individual parishes, 1590-96

Late 1590s

The years 1593 to 1597 saw harvest failures in England, Scotland, Ireland and elsewhere in Europe.⁶⁹⁵ They led to a major dearth-related mortality crisis in non-metropolitan Surrey in the late 1590s. Nationally the price of all grains was high as were those of peas and beans used by the poor to eke out their food supplies when grain was expensive. Agricultural prices were at their worst in the harvest year 1597.⁶⁹⁶ These figures do, though, need treating with a degree of caution. Emphasising that indexes of prices available are far from perfect Houston commented ‘measuring the economic environment in a pre-statistical age is notoriously difficult and historians

⁶⁹⁵ P. Clark, 'Introduction', in P. Clark (ed.), *The European Crisis of the 1590s* (London, 1985), pp. 6-8; Appleby, *Famine in Tudor and Stuart England*, pp. 133-4.

⁶⁹⁶ Bowden, 'Statistical Appendix'; Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640' (1973), p. 419.

have to use a range of more or less reliable indicators'.⁶⁹⁷ The data for the prices of wheat, for example, while using several sources, made use most especially of the Exeter series of wheat prices.⁶⁹⁸

In the two worst crisis years, 1596-7 and 1597-8, Wrigley and Schofield estimated mortality rates nationally in England as 20.9 and 25.6 per cent above trend. In the 1596-7 harvest year, 18 per cent of the parishes they had in observation experienced a crisis in mortality and 19 per cent in the following year, 1597-8.⁶⁹⁹ Subsistence crises occurred across much of England.⁷⁰⁰ Appleby suggested that by the late sixteenth century there were 'two Englands,' parts of the north which were vulnerable to starvation following failed harvests in the late 1590s and early 1620s, and the south where, although dearth was experienced, such crises were avoided.⁷⁰¹ In the north-west, burials increased by about a half compared to their trend levels.⁷⁰² In Cumberland and Westmorland Appleby found severe mortality crises linked to the harvest from late 1596 through all of 1597 and, in places, into 1598 and he suggested the pattern of deaths did not suggest either typhus or plague as the main cause but rather an extended period of deaths due directly to food shortages. Other parts of the north of England experienced high mortality in these years too. In Whickham on Tyneside, excess burials were concentrated in the five winter months of November 1596 to March 1597. Levine and Wrightson suggested this was consistent with a classic 'crisis of subsistence precipitated by food shortage' in what was 'essentially a

⁶⁹⁷ Houston, *The Population History of Britain and Ireland 1500-1750*, p. 71.

⁶⁹⁸ Bowden, 'Statistical Appendix', pp. 868-9.

⁶⁹⁹ Wrigley and Schofield (eds.), *Population History of England*, p. 653.

⁷⁰⁰ R. B. Outhwaite, 'Dearth, the English Crown and the 'Crisis of the 1590s'', in P. Clark (ed.), *The European Crisis of the 1590s* (London, 1985), pp. 34-5.

⁷⁰¹ Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640' (1973), p. 430.

⁷⁰² J. Healey, 'Famine and the Female Mortality Advantage: sex, gender and mortality in northwest England, c. 1590-1630', *Continuity and Change*, 30 (2015), p. 167.

pastoral, grain-poor region, dependent to a large extent on supplies of bread corn from southern England and abroad'.⁷⁰³ Durham, Newcastle, Northumberland and Berwick all had evidence of food shortages and increased numbers of deaths at this time, though there was also plague present in some places in 1597 and disentangling the two effects is difficult.⁷⁰⁴

The south of England is undoubtedly different from the north; as Healey, referring especially to the later 1623 famine in northern England, put it 'Cumbria [was] ... a world apart from the lush pastures and golden cornfields of southern England'.⁷⁰⁵ However the south was not immune and the dearth crisis of the late 1590s was not exclusively a northern one, southern England's fields and pastures being far from universally bountiful. In the midlands town of Tamworth there were high numbers of deaths over the three winters of 1596/7, 1597/8 and 1598/9, deaths which seemed linked with dearth and disease. The inhabitants of this semi-urban parish would have lacked a supply of grain to tide them over, making the crisis more acute.⁷⁰⁶ Parishes in northern Devon were affected, parishes which tended to be poorer, pastoral and to have less good transport connections, all of which reduced their access to grain in times of dearth.⁷⁰⁷ In Essex burials reached three times average levels in seven parishes in the north and west of the county, including some of the county's poorest villages.⁷⁰⁸ In London mortality was raised in 1597 both in central, wealthier, parishes and more so in outlying, poorer parishes.⁷⁰⁹

⁷⁰³ Levine and Wrightson, *The Making of an Industrial Society: Whickham, 1560-1765*, p. 197.

⁷⁰⁴ J. Walter and R. Schofield (eds.), *Famine, Disease and the Social Order in Early Modern Society* (Cambridge, 1989b), pp. 143-4.

⁷⁰⁵ J. Healey, 'Land, Population and Famine in the English Uplands: a Westmorland case study', *Agricultural History Review*, 59 (2011), p. 154.

⁷⁰⁶ Palliser, 'Dearth and Disease in Staffordshire, 1540-1670', pp. 70-1.

⁷⁰⁷ Slack, *Impact of Plague*, p. 91.

⁷⁰⁸ *Ibid.*, p. 100.

⁷⁰⁹ Appleby, *Famine in Tudor and Stuart England*, pp. 137-9.

As this discussion suggests, Appleby's concept of 'two Englands' has subsequently been modified to put greater emphasis on agrarian rather than geographical differences, stressing the influence of pastoral farming on vulnerability to harvest failure. Wrigley and Schofield wrote '[b]efore the mid seventeenth century there would therefore seem to be two Englands: one pastoral and remote, and the other engaged in arable farming but with a high degree of occupational specialization reflected in a relatively dense network of small towns.'⁷¹⁰ Moore, too, suggested that in the 1550s crisis, the midlands, pastoral areas suffered greater population loss than arable areas.⁷¹¹ This identification of pastoral areas as more vulnerable and arable areas less so provides a good degree of overlap with Appleby's north-south distinction since pastoral areas were found more often in the north of England than in the south. But this distinction raises the question of whether in the south there were pastoral communities which were vulnerable to dearth. On the whole, Wrigley and Schofield felt the south-east of England was less vulnerable. They wrote 'access to grain, together with ease of transport and the well-developed communications in the south-east made the area much less vulnerable to harvest failures'.⁷¹² Outhwaite took a similar, though more nuanced perspective, writing, '[s]ubsistence crises were possible in upland areas or in poor soil lowland regions; in pastoral areas – wherever situated – that were dependent generally on grain imports; in districts where there were lots of small farmers, labourers and artisans; in communities struggling to cope with industrial change and depression; in parts of England where communications were perhaps difficult'.⁷¹³

⁷¹⁰ Wrigley and Schofield (eds.), *Population History of England*, pp. 677-8.

⁷¹¹ Moore, 'The Mid-Tudor Population Crisis in Midland England, 1548–1563' (2009), p. 56.

⁷¹² Wrigley and Schofield (eds.), *Population History of England*, pp. 678.

⁷¹³ R. B. Outhwaite, *Dearth, Public Policy and Social Disturbance in England, 1550-1800* (Basingstoke, 1991), p. 30.

Surrey, containing both pastoral and arable areas, therefore provides an interesting case study. Communications in the 1590s from the Privy Council to Surrey's justices show concern. In November 1594 it wrote about the sudden rise in grain prices, including a reminder of instructions they had given previously 'for the stay of the dearth and for the relieving of the poor and furnishing of the markets' and the curbing of 'superfluous expense of bread and drink.'⁷¹⁴ It wrote again in May 1595 and in August 1596 concerned about the 'dearth' and the high price of grain, requiring that justices should 'entreat the wealthy persons to contribute', that justices be present at every market and 'move and exhort bringers and sellers of corn to abate their prices' and should 'cause the said corn to be distributed specially to the poorer sort'.⁷¹⁵ Thefts of grain in Surrey seem to have increased around this time. The relation between theft and economic conditions is complex and records of criminal prosecutions are notoriously difficult to interpret since recorded crime reflects the prosecution process well as the event itself.⁷¹⁶ The records of the Surrey Assize need therefore to be treated with caution, but it is interesting to note that of 31 indictments for grain thefts recorded in Elizabeth's 45 year reign almost half (14) were in the five years 1594 to 1598.⁷¹⁷

The Privy Council was right to be concerned about the situation in Surrey. It has been estimated wheat prices in south-east England in 1596-1597 all rose to at least double their normal levels.⁷¹⁸ In the late 1590s non-metropolitan Surrey suffered a mortality crisis. Burials were high in 1596, 1597 and 1598 (Figure 151). At their peak in 1597

⁷¹⁴ SHC 6729/4/73 Copy of letter from the Privy Council, Richmond, to the sheriff and justices of the peace of Surrey. Nov. 1594 .

⁷¹⁵ SHC 6729/13/86 Letter from the Privy Council to the sheriff and justices of the peace of Surrey. Aug. 1596. ; SHC 6729/10/92 Letter from the Privy Council to the sheriff and custos rotulorum of Surrey. May 1595 .

⁷¹⁶ Lawson, 'Property Crime and Hard Times in England, 1559-1624' (1986), pp. 96-7.

⁷¹⁷ J. S. Cockburn (ed.), *Calendar of Assize records. Surrey indictments, Elizabeth I* (London, 1980).

⁷¹⁸ *Prices and Wages in London and Southern England, 1259-1914*.

they were at least half as much again as normal. Burials were especially high in the early months of 1597 and again in the early months of 1598.

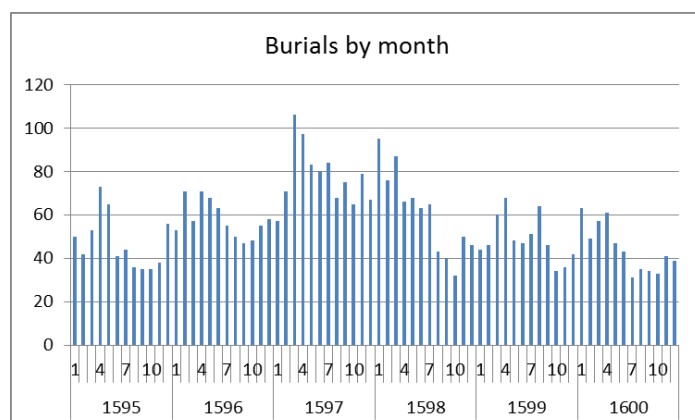


Figure 151 Non-metropolitan Surrey burials by month, 1595-1600

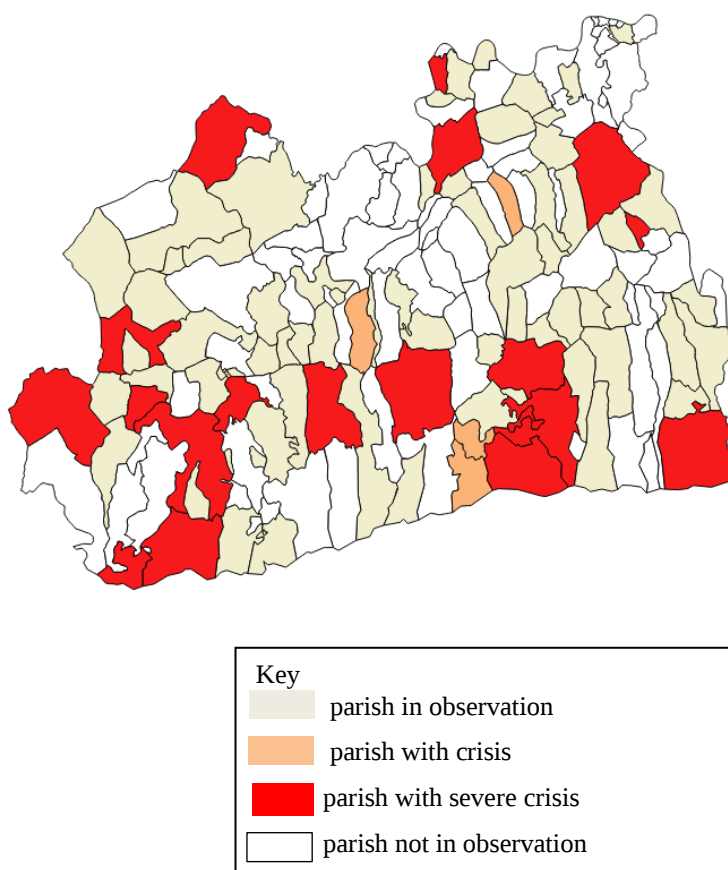


Figure 152 Parishes with mortality crises, 1596-98⁷¹⁹

⁷¹⁹ The description of ‘crisis’ and ‘severe crisis’ used in this map follows that of Connor and Hinde, 'Mortality in Town and Countryside' (2012) : a crisis was one where the number of deaths might be exceeded by chance one year in 20 or one year in 100 in a severe crisis, based on comparison with burials in the previous decade.

The crisis does not seem to have affected all parts of Surrey equally. Of the 59 parishes with surviving records for these years, burials rose substantially in about a third (Figure 152 and Figure 153). Those affected tended to be one of two distinct types: some were towns – Dorking, Reigate, Farnham, Kingston, Guildford and Croydon; others were rural parishes in one particular part of the county, towards the south. As well, a couple of Thames-side parishes seem to have been badly affected. In June 1597 the Mores of Loseley, near Guildford, received a letter from William Wright of Egham, expressing concern some people in Egham were near to starvation ‘in this dear time’.⁷²⁰ The parish registers confirm burials had been high in Egham in the spring of 1595 and especially in the winter and spring of 1595/96 and 1596/97, overall, around double their usual levels in both 1595 and 1596. In Richmond too, burials were substantially above normal.

In the south-west of Surrey, the neighbouring rural parishes of Chiddingfold, Haslemere, and the part-urban parish of Godalming, a town involved in the cloth trade, all experienced high numbers of deaths. In Chiddingfold, burials were high in 1596 and higher still in 1597. The neighbouring parish of Haslemere appears to have been affected too but its registers do not start until 1596. Burials in Godalming, a large parish with both rural areas and the town of Godalming, were similarly raised in 1596 and 1597, especially in the spring of those two years. Some of Godalming’s inhabitants would have been likely to have been wage earners involved in the cloth trade thus more exposed to the rising price of food and less able to support themselves from eating what they had grown themselves. A little further north, Shere, another parish involved in the cloth trade, was badly affected. Contributing to the vulnerability

⁷²⁰ SHC LM/COR/3/567 Letter from William Wright, Egham, to Sir William More and George More. Jun. 1597.

in some of these parishes may have been the decline in their glass and iron workings by that time.

Also affected were a group of parishes in the south-east of Surrey, in the pastoral poorer Wealden area, including Horley, Charlwood and Lingfield. The absolute numbers of burials in Horley and Charlwood, though raised, remained modest but Lingfield suffered particularly badly. Its 44 burials in 1597 were around three times their usual level, due mainly to a peak in burials in the early months of 1597. The nearest town was Reigate where monthly burials were around twice their usual level in much of 1597 and 1598, peaking in early 1598. Perhaps in part they were the burials of people from surrounding rural parishes who had come to the town in search of aid – the slightly later timing of Reigate’s peak burials compared to those in surrounding rural parishes would seem to be consistent with this interpretation.

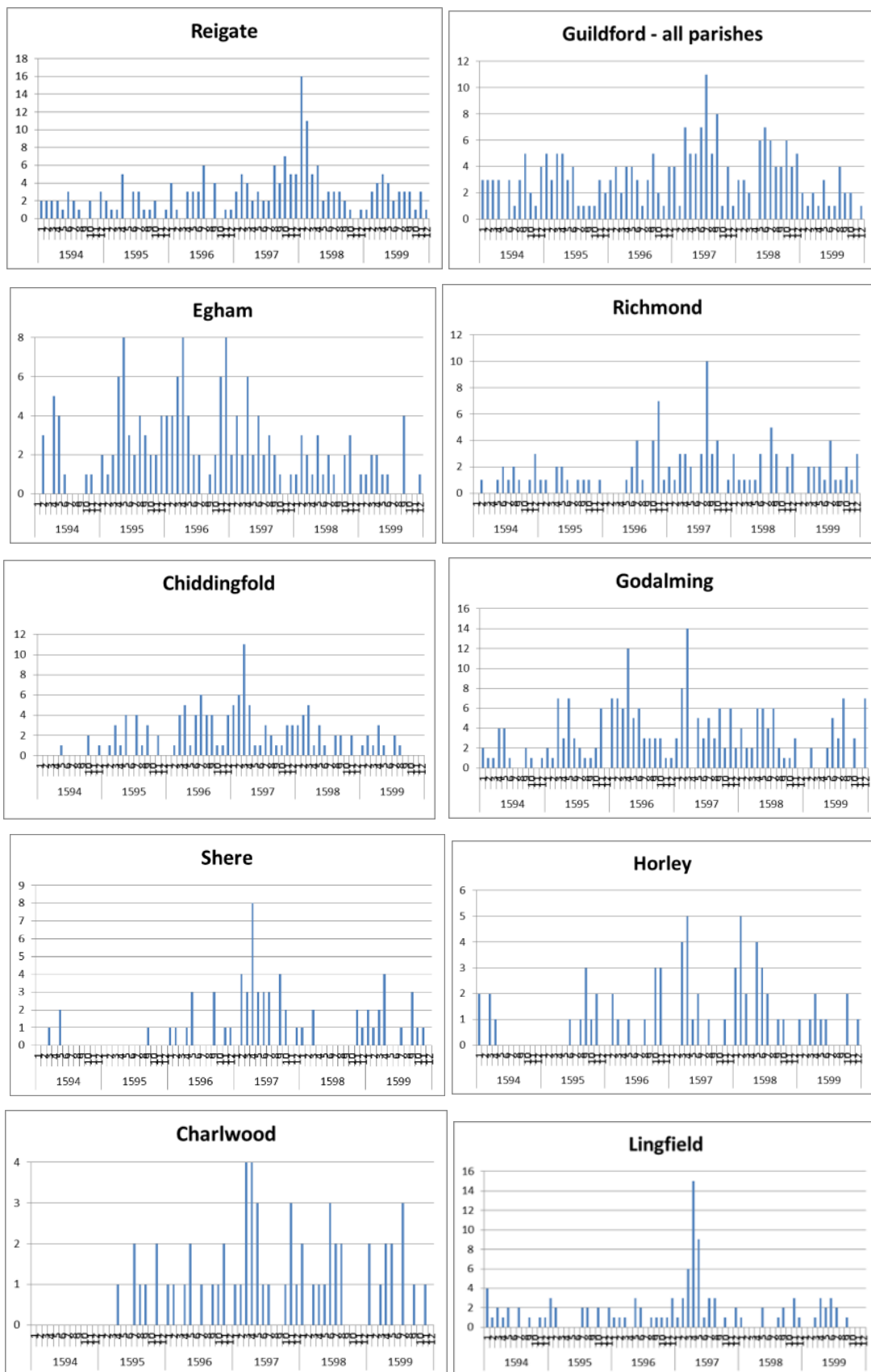


Figure 153 Monthly burials in individual parishes, 1594-1599

The scale of the crisis is also indicated by the fall in births at that time (Figure 154). In Reigate there was a substantial fall in baptisms in 1599 the year after the peak in burials. However, the graph also suggests baptisms recovered quickly, back to their normal level by the following year. There was a similar effect in other parishes where the crisis hit hard, such as Lingfield in the far south-east of the county and in Egham beside the Thames.

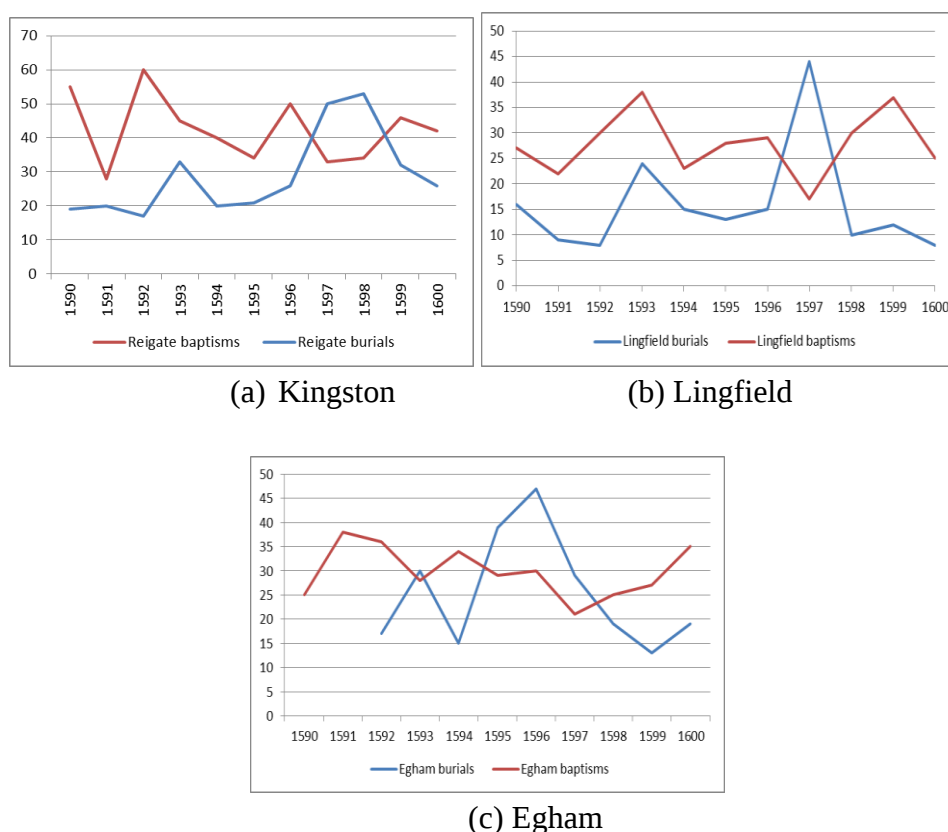


Figure 154 Annual baptisms and burials in individual parishes, 1590-1600

An immediate cause of the increased numbers of deaths may well have been outbreaks of typhus, a disease often associated with food shortages. There is evidence of typhus in the rural parishes most affected, both from the timing of deaths and in the age distribution of those buried, typhus being more likely to be fatal to adults than to children. The timing of deaths was typical of typhus, increasingly severe peaks occurring in the early months of each of 1595, 1596 and 1597, after which burials started to return to more normal levels (Figure 155). In terms of the age of those dying,

establishing the age of a person whose burial is recorded in a parish register is not easy. The only information in parish registers is the description of a person buried as ‘child of’ (or ‘son of’ or ‘daughter of’) someone. This is a rather crude approach as it may include teenagers still living at home, but it is an approach other studies have used as a proxy for identifying children.⁷²¹ Cummins et al. concluded that where a deceased person was described as ‘son of’ or ‘daughter of’ the deceased was young, probably below fifteen.⁷²² In the crisis-hit group of rural Surrey parishes in the late 1590s it does seem it was especially adults who died and that children were relatively little affected (Figure 156). Emphasising this distinction further, it is notable this also shows that children were as likely as adults to succumb in the crisis which followed a few years later, the plague outbreak of 1603. Combining this with the seasonality of burials in the crisis years suggests the presence of typhus. Other possible causes of death with similar seasonality, possibly influenza or even directly from lack of food, would have been unlikely to affect adults disproportionately and leave children relatively unaffected.

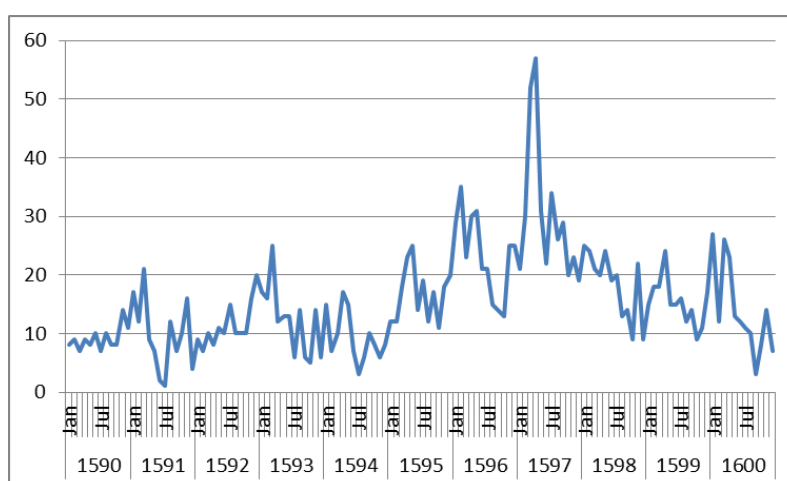


Figure 155 Monthly burials (numbers) in rural parishes with crises in late 1590s

⁷²¹ Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640' (1973), p. 413.

⁷²² Cummins, Kelly, and Ó Gráda, 'Living Standards and Plague in London, 1560-1665', p. 26.

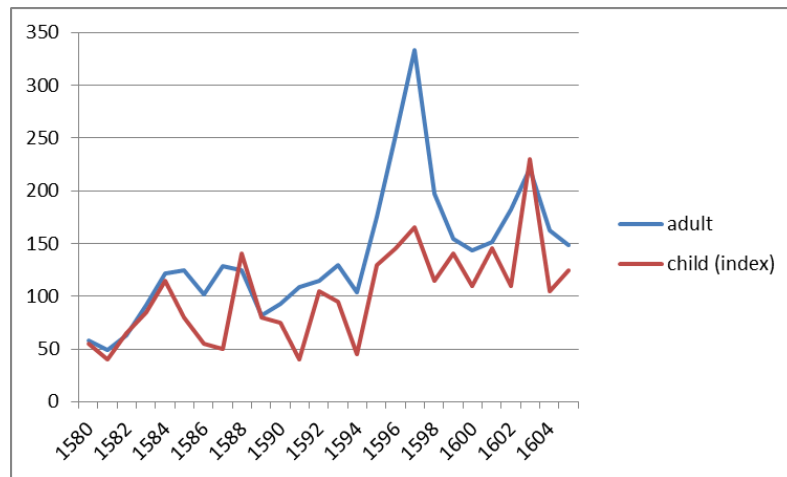


Figure 156 Adult and child (indexed) annual burials in rural parishes which experienced a crisis in late 1590s

This detailed study of the 1590s dearth, unlike most previous studies, has focussed on the south of England. It suggests that the 1590s harvest failures did have a serious effect in non-metropolitan Surrey substantially increasing the numbers of people dying but that not all Surrey was equally affected. One type of parish affected was rural parishes in the south of the county, both Wealden pastoral parishes in the far south-east and parishes linked to the cloth trade or other rural industries in the centre and south-west of the county. Adding to their vulnerability may have been the presence of partible inheritance and the absence of resident gentry (see Chapters 5 and 6), factors which have been suggested elsewhere as relevant to dearth mortalities, but more research would be needed to confirm this.⁷²³ In these areas, burials were highest in 1596 and 1597 and they probably experienced epidemics of typhus, a disease often associated with food shortages. Also affected were urban parishes. Here the timing of the crisis was different, building more slowly and peaking in 1598, later than in the rural parishes. It seems likely that contributing to the raised numbers of urban deaths was both the deaths of inhabitants of the towns and of some who had travelled to the towns from rural areas in search of work, food or aid. The experience of Surrey sits

⁷²³ Walter and Schofield, 'Famine, Disease and Crisis Mortality in Early Modern Society', pp. 22-5.

well with the conclusions of Walter and Schofield that ‘no single factor was fatal’ but that what made areas vulnerable to poor harvests was a combination of unfavourable factors.⁷²⁴

The late 1590s were the last time non-metropolitan Surrey experienced a dearth-related mortality crisis. Fifteen years later, in 1623, there was another poor harvest, resulting in a mortality crisis mainly in the north of England.⁷²⁵ Burials in Cumberland and Westmorland rose in winter or early spring 1623 and continued at a high level through 1623 and into 1624. Shortage of food seems to have been the major cause.⁷²⁶ Burials were high too in some parishes in Durham.⁷²⁷ There is limited evidence of problems further south. In Devon there is some evidence of a subsistence crisis in some of its towns.⁷²⁸ Similarly in Essex, mortality rose in several parishes.⁷²⁹ But in neither Devon nor Essex was the scale of the rise comparable to that in the north of England, nor to that which these areas had experienced in the late 1590s.

In non-metropolitan Surrey there is no sign of excess deaths in 1623. The number of burials was in line with other years (Figure 157). The rising burials towards the end of the following year, 1624, were possibly due to plague (there was a major outbreak the next year, 1625, discussed below). In no parish was there any substantial increase in burials in 1623. Nor is there any apparent change in burials in later years when harvests were poor, in 1629-31, 1647-50 or 1697-9.

⁷²⁴ Walter and Schofield (eds.), *Famine, Disease and the Social Order in Early Modern Society*, p. 24.

⁷²⁵ Wrigley and Schofield (eds.), *Population History of England*, pp. 675-6.

⁷²⁶ Appleby, *Famine in Tudor and Stuart England*, p. 121 ff.

⁷²⁷ Levine and Wrightson, *The Making of an Industrial Society: Whickham, 1560-1765*, p. 199.

⁷²⁸ Slack, *Impact of Plague* pp. 94-96.

⁷²⁹ *Ibid.*, p. 100.

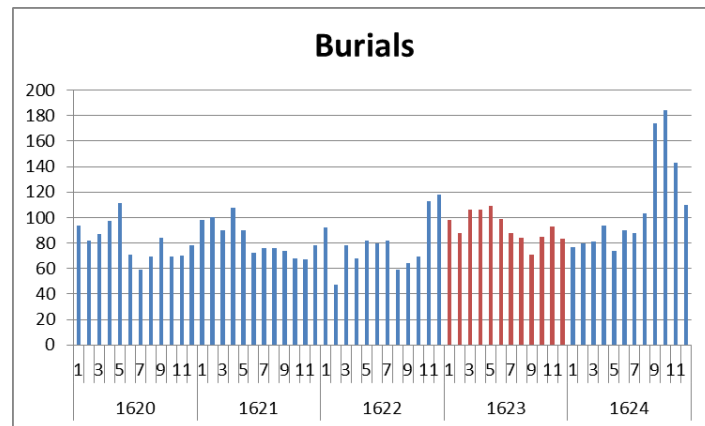


Figure 157 Non-metropolitan Surrey monthly burials 1620-24

Concluding remarks: Dearth-related mortality crises

The sixteenth century was the last period in which Surrey experienced a dearth-related mortality crisis. Nationally, poor harvests in sixteenth century England could result in raised mortality but by the seventeenth century there was a decline in harvest sensitivity and while there remained poor harvests they no longer resulted in widespread famines. Factors which made this possible included the slowing of population growth, agricultural improvements, transport improvements, better market integration and the development of an effective welfare system, the poor law, which protected the most vulnerable from starvation.⁷³⁰ In Surrey the decline and eventual disappearance of dearth-induced mortality is evident. This section began by considering what can be gleaned about the mortality crises of the later 1550s in non-metropolitan Surrey. Increases in deaths may have been above the national estimate of Wrigley and Schofield of around five per cent and closer to the higher figures suggested by others. In the other major sixteenth century mortality crisis linked to harvest failure, that of the late 1590s, there is evidence of heightened mortality in Surrey, though with a more limited geographical distribution than in late 1550s. There

⁷³⁰ Outhwaite, *Dearth, Public Policy and Social Disturbance in England, 1550-1800*, pp. 32-4.

is no clear evidence of increases in deaths in Surrey following either the poor harvests of 1586/7 or that of 1623 during which at least parts of the north of England experienced a severe crisis and Appleby's 'two Englands' hypothesis is thus supported at a broad level. But at a more detailed level the picture is more nuanced. In particular, within the late 1590s crisis some areas of Surrey – the poor pastoral south, cloth areas, those with other rural industries and towns - seem to have been most vulnerable to the food shortages and they experienced a rise in mortality. In these parishes there were likely to have been people who were particularly vulnerable to harvest failures and to the resulting increase in prices and fall in wages as demand fell. In this, non-metropolitan Surrey seems to follow the same pattern as observed in both Devon in the south of England and Whickham in the north of poorer, pastoral areas being more vulnerable to bad harvests. Surrey's experience suggests a significant part of the distinction between the 'two Englands' was indeed between a pastoral one and an arable one.

Seventeenth century

Plague was the cause of four main periods of crisis mortality in non-metropolitan Surrey in the parish register period, in 1563, 1603, 1625 and 1665. All coincided with the most substantial outbreaks in London, emphasising the closeness of the two areas. The 1563 outbreak is described above. The three seventeenth century crises are discussed here along with some of the more minor outbreaks of plague and other infectious diseases in the seventeenth century.

1603

The 1603 outbreak was the most severe of all the plague outbreaks in non-metropolitan Surrey. Records of 66 non-metropolitan parishes in Surrey survive and

show annual burials more than doubled (based on the 21-year average of burials). Burials in August were around twice their normal level, and rose by as much again in September, after which the numbers of burials began to fall back though not returning to normal until part of the way through 1604 (Figure 158).

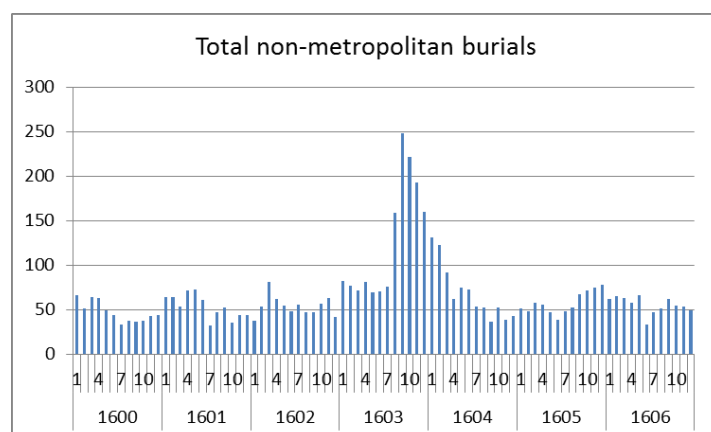


Figure 158 Non-metropolitan Surrey monthly burials, 1600-06

As in 1563 many of the deaths were in towns. Three towns in the centre and east of Surrey were particularly affected – Croydon, Dorking, and, especially, Reigate. In Croydon and Dorking burials were three or four times the numbers in normal years. In Reigate burials, normally around 30 a year, rose seven-fold to over 200 in 1603 mainly in August, September, and October (Figure 159). A contributory factor may have been the distress its inhabitants had experienced a few years earlier in the dearth of the late 1590s when Reigate and its rural hinterland seem to have suffered more than average, perhaps because of the pastoral emphasis of the area's farming. This may have weakened its inhabitants both physically and economically making them more vulnerable to an outbreak of disease. Towns to the west of Surrey were less affected. Farnham and Guildford both experienced crises but smaller than those in the more easterly towns, with burials around double those in normal years.

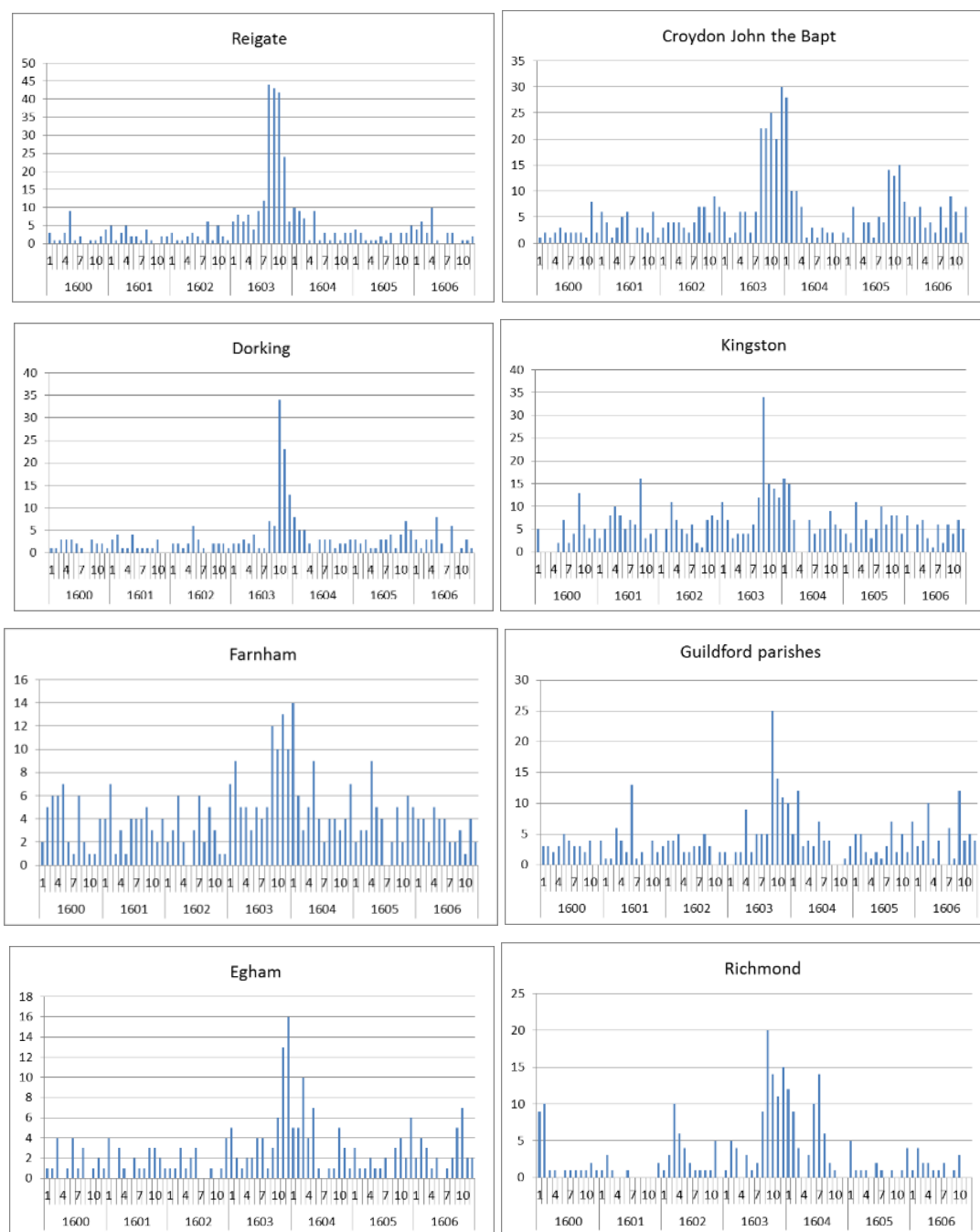


Figure 159 Monthly burials in individual parishes, 1603

Also affected were several Thames-side parishes (few Thames-side parishes have records surviving from the previous plague year, 1563, so it is uncertain what their experience was then). In Kingston there were 34 burials in September, over three times the normal monthly burials and overall burials in the year were around fifty per cent above normal (Figure 159). Other Thames-side parishes also show signs of plague, including Egham and Richmond, both comparatively densely populated

parishes (see above, Chapter 4: Population) providing an environment in which plague could spread readily, and they were all on the Thames providing a means by which the disease could travel quickly to the parish.

1625

The crisis in 1625 was shorter-lived and less intense than that of 1603. Burial records survive for 68 parishes. Overall annual burials were around a half as much again compared to normal (based on the 21-year average of burials). Burials rose rapidly in July to around three times their usual monthly level, remaining high in August and September before starting to fall in October and returning to close to normal by the end of the year (Figure 160). The pattern of burials suggests the possibility that plague had been present in the previous year, 1624 and also that it recurred, in a less intense form, in the following year, 1626.

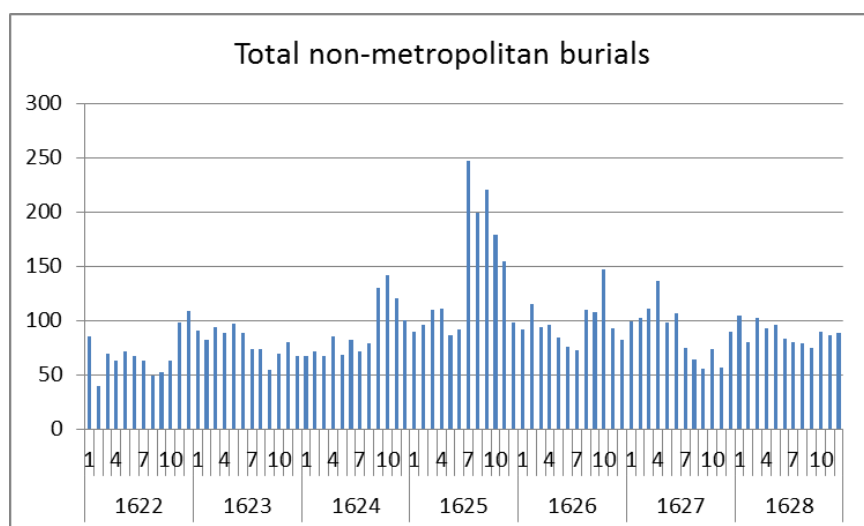


Figure 160 Non-metropolitan Surrey monthly burials, 1622-28

The scale of the crisis varied considerably between towns, affecting especially the two closest to London, Croydon and Kingston (Figure 161). In Croydon, burials rose rapidly in July and the annual total was double that of normal years. The pattern of burials suggests plague recurred the following year, 1626. In Kingston burials were

close to three times their normal level, peaking suddenly in July. In Farnham, the outbreak was a year later, 1626 (Figure 161). The strength of the outbreak in the towns closer to London and the timing of the outbreaks suggests that, although plague was present at that date both in London to the north of Surrey and in Portsmouth to the south, it is more likely London was the primary source of Surrey's infection.⁷³¹

As before, parishes along the Thames were badly affected (Figure 161). The crisis was substantial in Richmond where burials in 1625 were around five times their normal level and in Barnes and Wandsworth where burials were nearly four times their normal levels, while in Putney they were around twice their normal levels. Putney's parish register recorded explicitly that some deaths were from the plague. The first four were all from one family: Joan, wife of Francis Fisher, and three of their children, Giles, Nicholas, and Richard, were buried between 23rd July and 4th August. In all, 19 burials between July and November were ascribed to plague in the parish register. A few parishes close to the southern suburbs of London were also affected, including Clapham and Mitcham where burials were more than twice those in normal years and the monthly timing of burials suggests the presence of plague.

⁷³¹ Cummins, Kelly, and Ó Gráda, 'Living Standards and Plague in London, 1560-1665', p. 2; W. Page, 'The liberty of Portsmouth and Portsea Island: Introduction', *A History of the County of Hampshire: Volume 3* (1908), pp. 172-92.

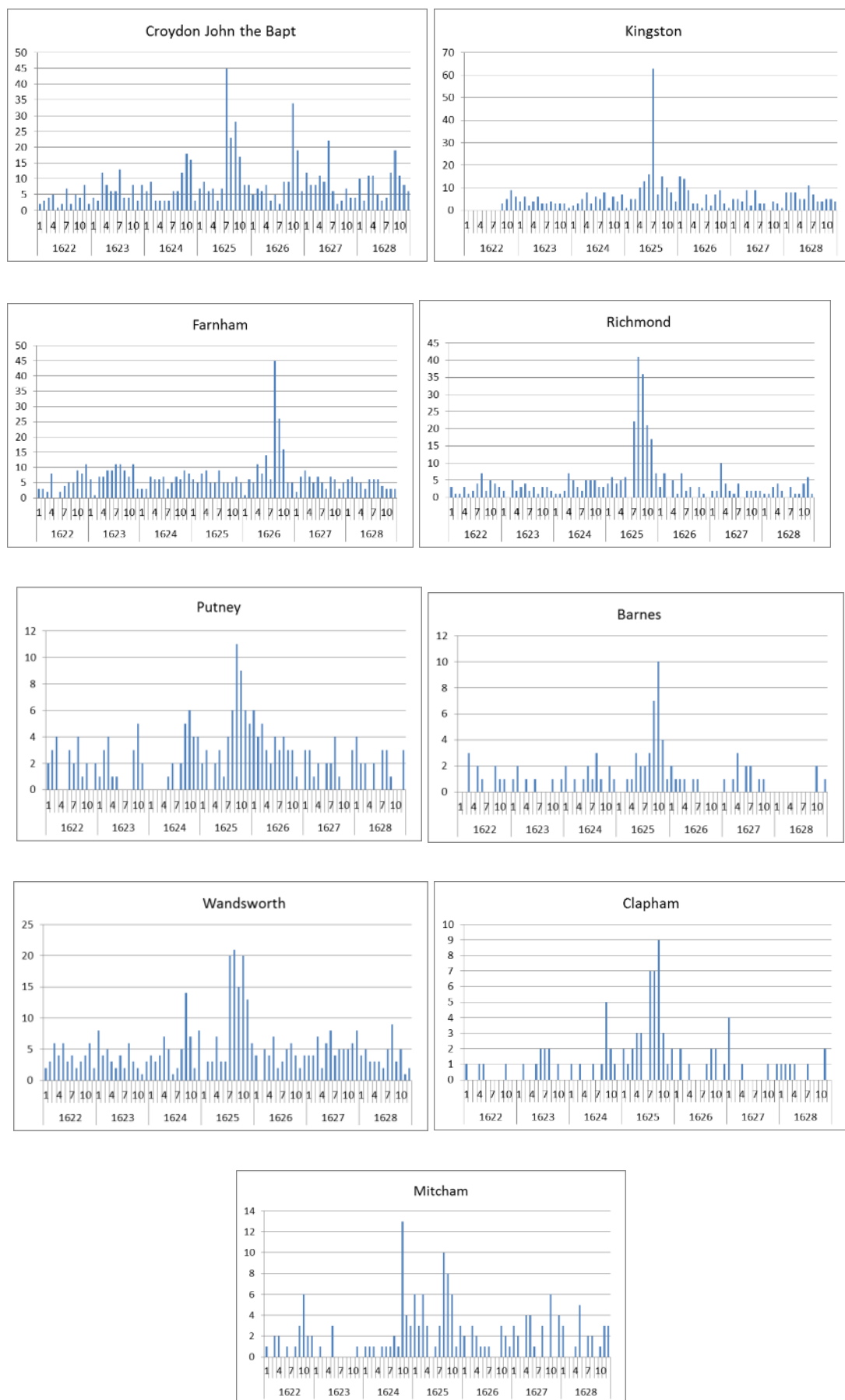


Figure 161 Monthly burials in individual parishes, 1622-28

1665

The 1665 outbreak of plague is the best documented. Pepys wrote in 1665 of ‘meeting dead corpses of the plague, carried to be buried close to me at noon-day through the City in Fanchurch-street’.⁷³² In London the 1665 outbreak killed more than any other but the population of London had doubled since the beginning of the century and proportionately deaths in London were at a similar rate, about one in five Londoners, to previous outbreaks.⁷³³ In non-metropolitan Surrey there were 89 parishes with surviving parish burial registers and annual burials were around a half as much again compared to normal (based on the 21 year average of burials). Burials started to rise in August to double their usual monthly level, peaked in September and October at around three times their usual level and then fell back quite rapidly to normal levels by the end of the year (Figure 162 and Figure 163).

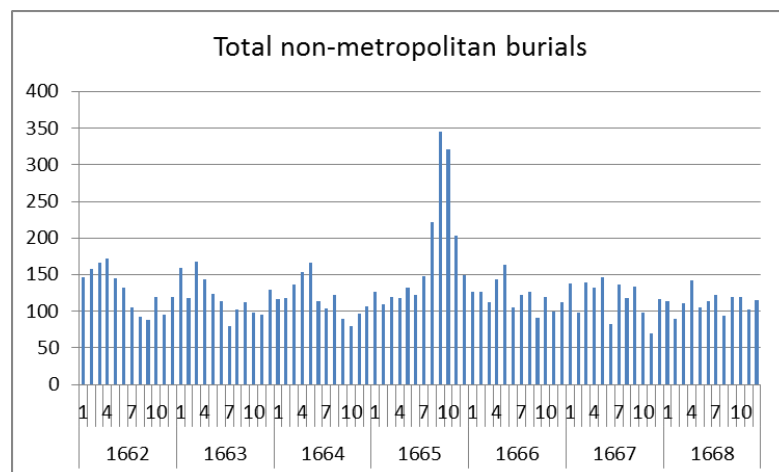


Figure 162 Non-metropolitan Surrey monthly burials, 1662-68

Only three towns, Croydon, Reigate and probably Kingston, seem to have experienced substantial crises. In Croydon and Reigate burials were between two and three times their normal level, peaking in September or October. In Kingston, the parish register

⁷³² quoted in E. Sperry, 'Lord Have Mercy on Us: Broad-sides and London Plague Life', *The Sixteenth Century Journal*, (2018), p. 107.

⁷³³ Cummins, Kelly, and Ó Gráda, 'Living Standards and Plague in London, 1560-1665', p. 2.

is incomplete though it does show unusually high numbers of burials in September including several involving the same family - for example Elizabeth, wife of Phaniel Mathew was buried on 9th September and their children Mark, William, Ann, and John between the 16th and the 27th September. In other towns there is no sign of a mortality crisis in 1665.

As in earlier years, a particular focus of the disease was Thames-side parishes. There were 200 burials in Mortlake in 1665, eight times their normal levels and 260 burials in Wandsworth, five times those in normal years. In Putney the crisis, though still substantial, was smaller, with burials between two and three times those in normal years. Some burials were identified in the Putney register as from plague. The first was that of Elizabeth, wife of John Coombes, on 23rd July. The plague also killed their daughter, Elizabeth buried on 8th August and Christopher Combes, described as their servant, buried on 9th September. Esther, wife of Robert Combes, probably a relative, was buried on 9th September. The family may have been watermen for a Robert Combes, when he died a decade later, was described as a waterman, as was another John Combes, who had been buried in Putney in 1656. Watermen would have travelled extensively along the river between London and the various Thames-side settlements, had close contact with other travellers and were likely to have been an important means by which the disease spread along the Thames to places like Putney.

Some rural parishes were affected. In Albury, there was a surge in burials. The first to die in the August to October cluster of burials was Joan Fell, wife of Mr William Fell, a citizen of London. It seems likely family connections brought them to Albury when they fled the plague in London, only to bring the plague with them, for they were

related to the Duncombes who held the manor of Albury.⁷³⁴ The diarist John Evelyn sent his family to the nearby parish of Wotton where his brother resided but himself remained in London at the time of 1665 plague.⁷³⁵ Such behaviour was not uncommon. A letter in 1580 from the Privy Council to the Commissioners of the Subsidy in Surrey, for example, described how citizens of London who also had property in the country resorted there for short periods to 'avoid sickness'.⁷³⁶

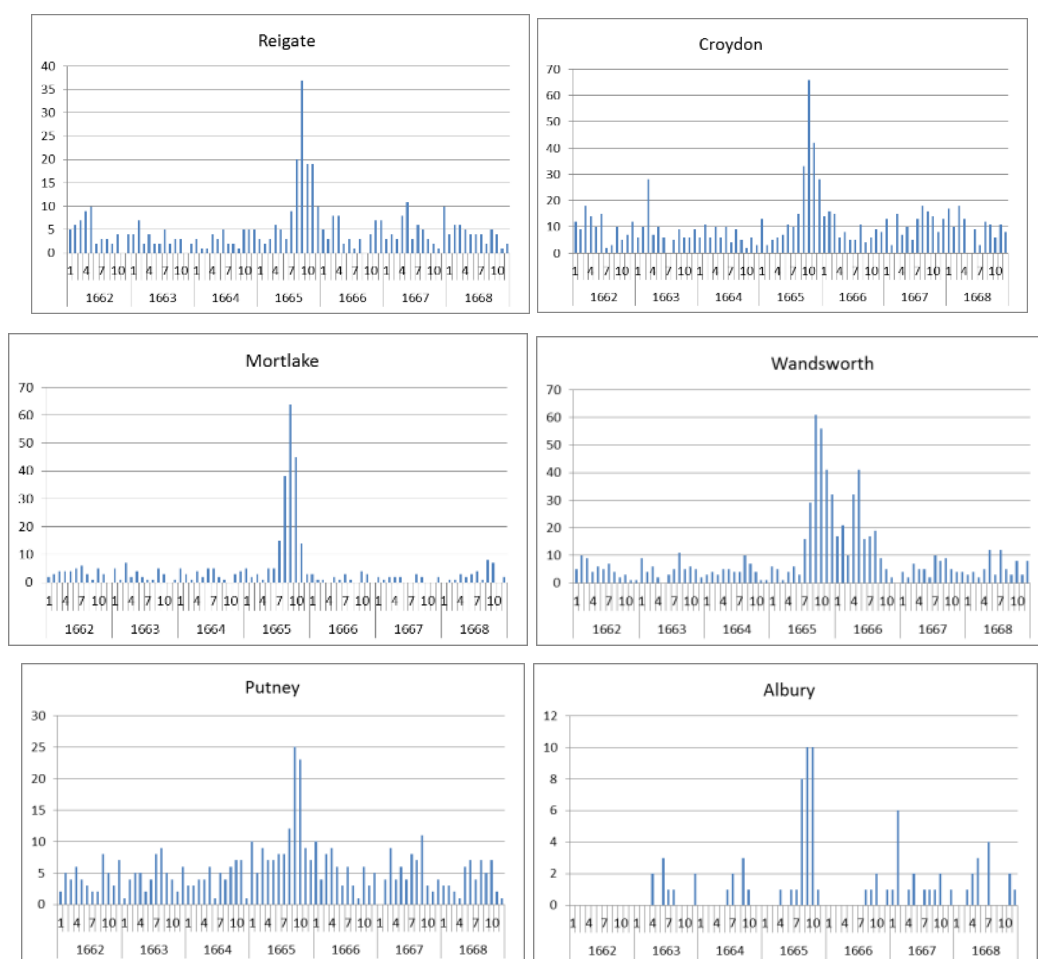


Figure 163 Monthly burials in individual parishes, 1662-68

⁷³⁴ I am grateful to Catherine Ferguson for this information on William and Joan Fell.

⁷³⁵ Evelyn, *The Diary of John Evelyn*, p. 309.

⁷³⁶ SHC 6729/10/45 Letter from the Privy Council, to the commissioners of the subsidy in Surrey. Apr. 1580 .

Other plague outbreaks

There were other more limited outbreaks of plague through much of the first half of the seventeenth century. The processes by which they occurred are hard to pin down. As Slack commented, contacts may help explain apparently random selections of parishes attacked by plague.⁷³⁷ They included an isolated outbreak in a rural parish, Charlwood, in 1610; plague deaths in a scattering of parishes at the time of a fairly major London outbreak in 1636; a devastating crisis in Guildford in 1644; and a crisis limited mainly to Thames-side parishes in 1661 which may have involved plague.

In late August 1610, the parish register in Charlwood in the far south of the county recorded “The infection began” and in November it noted “Here ended the infection”. Burials, usually no more than a couple per month, peaked at 11 in September (Figure 164). The outbreak affected several families, including that of John Burstone, who lost two daughters, a son and his wife Marie in three weeks between mid-September and early October.

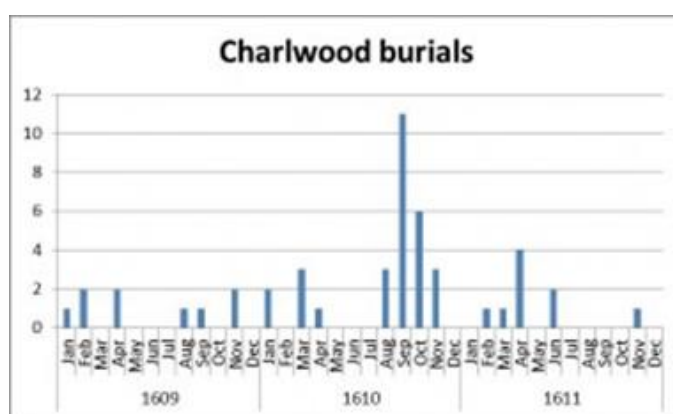


Figure 164 Monthly burials in Charlwood, 1609-11

⁷³⁷ Slack, *Impact of Plague*, pp. 86-7.

1636 was a plague year in London: it was a lesser crisis, burials being 2.3 times normal.⁷³⁸ Across non-metropolitan Surrey burials in 1636 were not overall above normal but plague was present in some parishes. Haslemere experienced 51 burials in 1636 compared to an average of around 10 to 20 and in Bisley amongst the seven deaths recorded that year were those of three members of one family, all buried in August and all described as being of plague: Catherine Edmead, a widow, Richard Edmead, and his son Henry.

In 1644 the clerk keeping the burial register for the Guildford parish of Holy Trinity abandoned his usual systematic recording of the names and dates of individual burials. Instead, presumably shortly after the end of the year, and heading his list ‘buried this year of the pestilence’, he simply wrote down the numbers of people buried in his parish in 1644 from different properties. The 52 burials recorded, approaching three times the usual number, came from 13 households and three inns, The Half Moon, The Bell, and the Lion. Burials in the adjacent parish of St Mary Guildford rose even more, to 130, or around four times their usual level and in St Mary’s the details of who was buried and when were recorded (Figure 165). The outbreak was centred on July, August and September, peaking in August when 31 people were buried, more than in an entire normal year. As Joseph Wright wrote to his friend Sir Poynings More (owner of Loseley, an estate close to Guildford, but presumably away from home at the time) ‘In some houses it hath swept all away’.⁷³⁹ The Guildford outbreak was unusual. It caused more deaths in Guildford than earlier outbreaks had done and it was not mirrored by substantial outbreaks elsewhere. Given the presence of plague in several of the inns it seems most likely to have arrived with travellers on the London

⁷³⁸ Cummins, Kelly, and Ó Gráda, *Living Standards and Plague in London, 1560-1665*, p. 16.

⁷³⁹ SHC LM/COR/5/58 .

to Portsmouth road which ran through the town and for whom the various inns in Guildford provided an overnight stopping place. Increased movement of people brought about by the civil war may well have contributed to the arrival of plague in the town. There were crises in some other parts of the country around this time. Between 1642 and 1644 parishes in the south-west, the Midlands and Yorkshire all experienced crises. Some may have been linked with military activities.⁷⁴⁰ In Berkshire there was a mortality crisis in 1643 and 1644 which affected both troops and civilians.⁷⁴¹

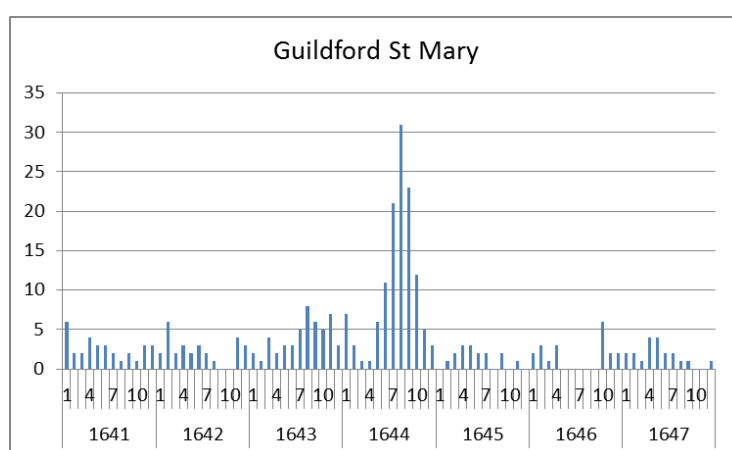


Figure 165 Monthly burials in Guildford St Mary, 1641-47

The harvests of 1659, 1660 and especially 1661 were poor and there is evidence of the presence of infectious diseases.⁷⁴² In 1661 there was a rise overall in the numbers of burials in non-metropolitan Surrey (Figure 166). The scale of the increase was relatively modest in most places. Larger increases occurred in some Thames-side parishes, including Mortlake and Putney and the southern town of Godalming, (Figure

⁷⁴⁰ Wrigley and Schofield (eds.), *Population History of England*, pp. 680-1.

⁷⁴¹ J. A. Dils, 'Epidemics, Mortality and the Civil War in Berkshire, 1642-6', in R. C. Richardson (ed.), *The English Civil Wars: Local Aspects* (Stroud, 1997).

⁷⁴² W. G. Hoskins, 'Harvest Fluctuations and English Economic History, 1620-1759', *The Agricultural History Review*, 16 (1968), pp. 28-31; Dobson, *Contours*, pp. 406-7; C. Creighton, *A History of Epidemics in Britain* (Cambridge, 1891), Vol. 2, pp. 5-9.

167). The timing of the rise in deaths, mostly in the late summer and autumn, suggests the likelihood of plague as the cause.

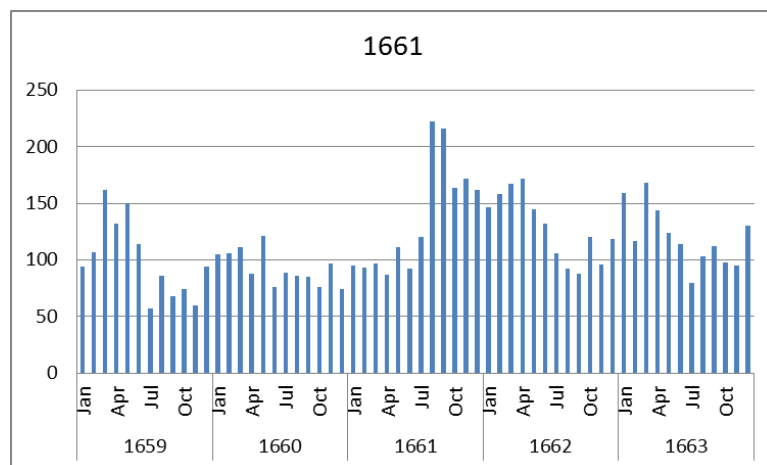


Figure 166 Non-metropolitan Surrey monthly burials, 1661

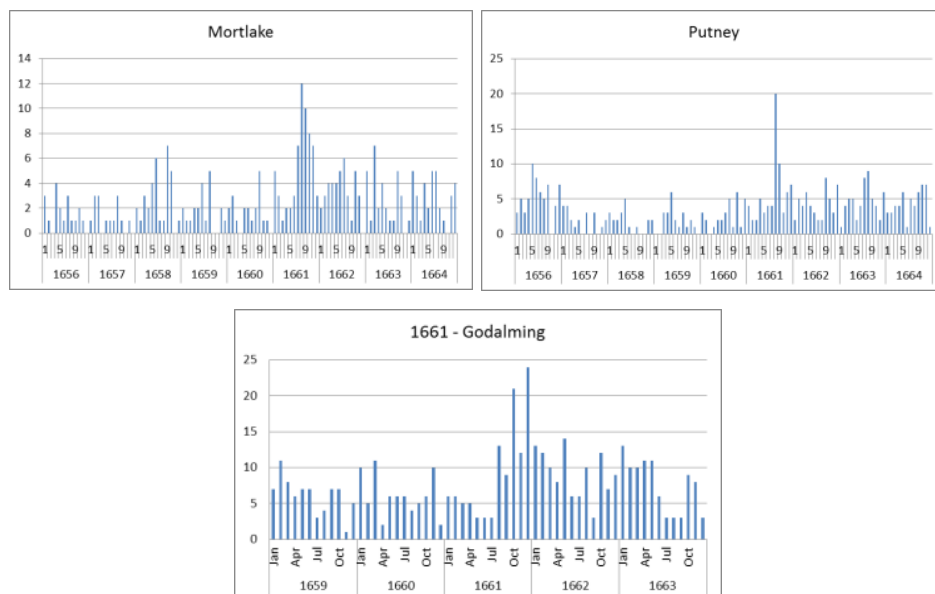


Figure 167 Monthly burials in individual parishes, 1661

Comparison of plague-related mortality crises

One finding to emerge from this study is the closeness of the mortality regimes of Surrey and London. As noted in Chapter 3: Study Area, Surrey had strong social and economic connections with London and, in parts, reasonable transport links all of which would have encouraged the ready spread of an infectious disease such as plague. Contributing may have been the tendency of Londoners with property in

Surrey to vacate London for the duration of an outbreak of plague. But there are indications the south coast ports may have at times been another source. All four major outbreaks of plague in London between the mid-sixteenth and the mid-seventeenth centuries were contemporaneous with the four major outbreaks of plague experienced by non-metropolitan Surrey. In this Surrey's experience differed from that of some other south-eastern counties. At the time of the London 1563 outbreak, in Essex there were only minor outbreaks of plague and there was no widespread crisis in the Kentish Wold.⁷⁴³ Kent, Essex and Sussex experienced no mortality crisis in 1603, a crisis in 1625 and only a minor crisis in 1665.⁷⁴⁴

There were, though, differences in the details of non-metropolitan Surrey's four main plague outbreaks. They varied both in the timings of the start of the outbreaks and in their intensity. In terms of the timing of the start of outbreaks, it is difficult to comment on the 1563 crisis as relatively few parish registers survive from that date. The timing of the start of later crises shows no simple pattern of movement of the infection. In 1603 the crisis in Croydon and Reigate started in August, in Kingston, Guildford and Farnham in September, in Dorking and Egham in October (Figure 159). The 1625 crisis started in July in several Thames-side parishes - Wandsworth, Richmond, Clapham, Kingston - and also in Croydon, a few miles south of London. It appeared in August in Mitcham, on the northern borders of Croydon, while in the Thames-side parishes of Putney and Barnes it started in September (Figure 161). It also seems likely – more so than in other crises – that plague had been present in places in the year before the peak year, 1624, and also remained present in the year after, 1626. In Wandsworth, Clapham, Croydon, Mitcham and Putney burials peaked

⁷⁴³ Slack, *Impact of Plague*, p. 100.; Zell, *Industry in the countryside*, p. 65.

⁷⁴⁴ Dobson, *Chronology of Epidemic Disease and Mortality*, pp. 9-11.

in 1624 in a manner consistent with an outbreak of plague, though on a smaller scale than in 1625. And in Croydon the pattern of burials suggest plague re-emerged in 1626 while in Farnham it was only in 1626 and not in 1625 that there appears to have been an outbreak of plague. In the final major outbreak, in 1665, plague broke out in Mortlake in July, in Albury, Wandsworth and Reigate in August and in Putney and Croydon in September (Figure 163). In summary, there was not a consistent pattern to the spread of disease suggesting that there was no single driver causing the spread of the disease. Rather it seems likely chance played a part, the movement of a few infected individuals.

The intensity of crises varied too. In London, all four major outbreaks caused deaths to rise to 5.5 to 6 times their usual levels.⁷⁴⁵ Non-metropolitan Surrey's greatest mortality crisis due to plague occurred in 1603 when deaths more than doubled compared to normal years. In the other major plague years, burials, while locally intense, rose overall by less, an increase of about a half compared to normal years. It was in towns and in Thames-side parishes that plague was most destructive. They were (see Chapter 4: Population), non-metropolitan Surrey's most densely populated parishes. The Thames-side parishes appear also to have experienced greater movement of people (see Chapter 5: Economy). And, of course, their position on the Thames provided them with good transport links. All would have contributed to the ease with which a highly infectious disease such as the plague could take hold. A link between plague and transport routes was present in Essex where outbreaks of plague were associated with the main road between London and the coast and in Devon where it was the better connected and more densely populated south of the county which was

⁷⁴⁵ Cummins, Kelly, and Ó Gráda, *Living Standards and Plague in London, 1560-1665*, p. 2.

affected more by plague.⁷⁴⁶ Different towns did not experience the plague equally (Figure 168). In 1603 plague seems to have been present in most of Surrey's towns, but in the other major outbreaks it was only a couple of towns each time which experienced major epidemics. The experiences of Dorking and Reigate, for example, two towns only about seven miles apart in central Surrey, were markedly different. Dorking experienced epidemics in 1563 and 1603 but only a minor outbreak in 1625 and was largely unaffected in 1665. In contrast, Reigate suffered relatively little in 1563 but then experienced a devastating outbreak in 1603, followed by a minor one in 1625 and then another severe outbreak in 1665.

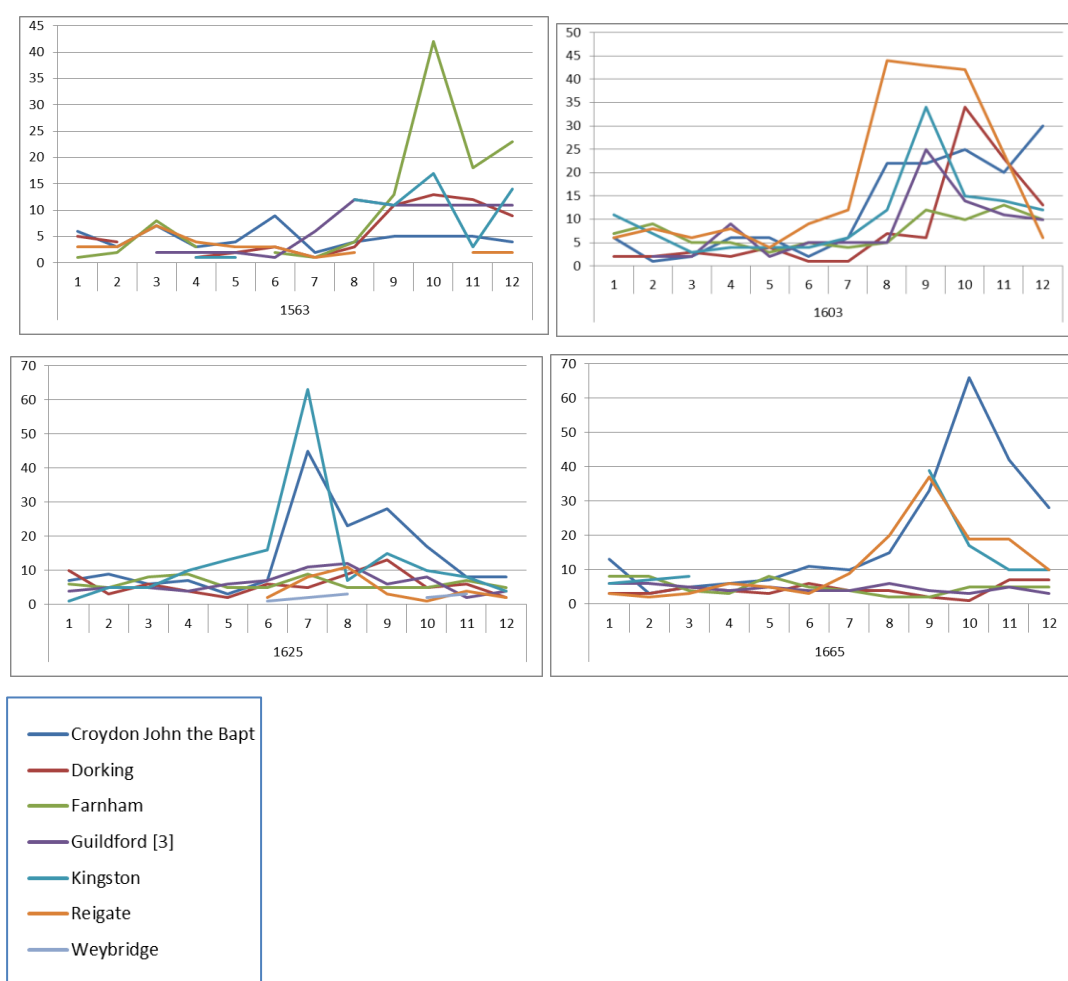


Figure 168 Burials in towns by month, crisis years (1563, 1603, 1625, 1665)

⁷⁴⁶ Slack, *Impact of Plague*, pp. 91, 101.

When plague did affect one of Surrey's towns or other parishes it is possible to suggest that at times the effect was as devastating as it was in London. Three parishes badly affected by the plague were Reigate in 1603, Richmond in 1625 and Mortlake in 1665. Using the population estimates calculated in Chapter 4: Population suggests that in Reigate in 1603 and in Richmond in 1625 burials amounted to around 15 per cent of the parish's population. The death rate may have been higher in Mortlake where perhaps 20 per cent of the population died in 1665 (Table 23).

	Burials, population and death rate	Reigate 1603	Richmond 1625	Mortlake 1665
	Number of burials	212	170	200
	Estimated population (for details see Chapter 4: Population):			
A	1603 diocesan returns	-	521-579	-
B	1601-30 based on number burials	1634	1167	481
C	1631-60 based on number burials	1601	1513	592
D	1664 hearth tax	1494-1651	1187-1312	944-1042
E	1661-90 based on number burials	1898	1996	1439
F	1676 Compton Census	1418	3000	695
	Estimated death rate: burials in specified crisis as percentage of population estimate			
A	1603 diocesan returns	-	29-33%	-
B	1601-30 based on number burials	13%	15%	42%
C	1631-60 based on number burials	13%	11%	34%
D	1664 hearth tax	14-15%	14-15%	21-22%
E	1661-90 based on number burials	11%	9%	14%
F	1676 Compton Census	15%	6%	29%

Table 23 Burials, population estimates and death rates in three parishes

The differences in the locations and intensities of the various outbreaks of plague point to the role of chance in the development of the epidemics. People's behaviours would have contributed. Nationally, the Book of Orders issued by the Privy Council in 1578

required houses infected by plague to be shut up for at least six weeks during which time all members of the family were to remain inside.⁷⁴⁷ In Surrey, both local government and individuals made attempts to limit the spread of the disease. In 1570 Kingston banned everyone coming from infected areas and established what was, in effect, an isolation hospital on the outskirts of the town.⁷⁴⁸ In 1577 William More was asked that the Surrey Quarter Session be moved from Reigate to Guildford or Croydon because of fear of the plague and in 1608 Charles Howard, Earl of Nottingham requested the postponement of the muster and survey of Surrey's forces because of plague in the city and elsewhere.⁷⁴⁹ Individuals too changed their plans, such as John Wolley who wrote in 1582 inviting Sir William More to stay with him at Chobham while there was plague near More's house, Loseley, near Guildford, or Edward Herbert who postponed his meeting with Sir George More in 1603 commenting the plague 'will hinder our meeting this many aday'.⁷⁵⁰ In Albury, as described above, the arrival of one family may well have brought plague into the parish.

1638-41

As well as outbreaks of plague there was also a period of four years in the middle of the seventeenth century when burials in non-metropolitan Surrey rose substantially above their usual levels. In each of 1638, 1639, 1640, and 1641, annual burials averaged around 1,600, or around half as much again as normal, based on a 21 year moving average (Figure 169). Nationally, too, burials were high, 15-35 per cent above

⁷⁴⁷ P. Slack, 'The response to plague in early modern England: public policies and their consequences', in J. Walter and R. Schofield (eds.), *Famine, disease and the social order in early modern society* (Cambridge, 1991), p. 169.

⁷⁴⁸ Andrews, 'Kingston - Saxon Royal Estate to Post-Medieval Market Town: the Contribution of Archaeology to Understanding Towns in Surrey' p. 180.

⁷⁴⁹ SHC 6729/13/24 Letter from Charles, Lord Howard, to Sir Thomas [sic; recte William] More. Sep. 1577 ; SHC 6729/9/77 Letter from [Charles Howard] Earl of Nottingham to his son Lord Howard of Effingham, Sir Francis Carew, Sir George More, and Sir Thomas Vincent. Sep. 1608 .

⁷⁵⁰ SHC LM/COR/3/338 Letter from John Wolley to Sir William More. Oct. 1582 ; SHC 6729/13/100 Letter from Edward Herbert to Sir George More, Loseley. Aug. 1603 .

average.⁷⁵¹ Bad weather may have contributed. The years 1638-41 were all years when the weather seems to have been poor.⁷⁵² Part of a longer period covering much of the seventeenth century which experienced global disruptions to normal weather patterns, it does not, however, seem to have been exceptional compared to the decades before or after.⁷⁵³ Cressy, for example, has documented how from the start of Charles I reign in 1625 England experienced year after year of weather extremes.⁷⁵⁴ Wrigley and Schofield identified a heavy mortality in 1638 confined almost entire to the south-east of England and associated with fever and some outbreaks of plague. There had been a poor harvest in 1637 but they suggested this was unlikely to have been the cause in part because of the long time lag between the 1637 poor harvest and the onset of the crisis in late summer 1638.⁷⁵⁵ Creighton noted an increase in deaths in London in 1638 and in the four successive years 1640-43.⁷⁵⁶ Plague and smallpox were present in London, elsewhere in the south-east and in some other parts of the country in 1640-2.⁷⁵⁷

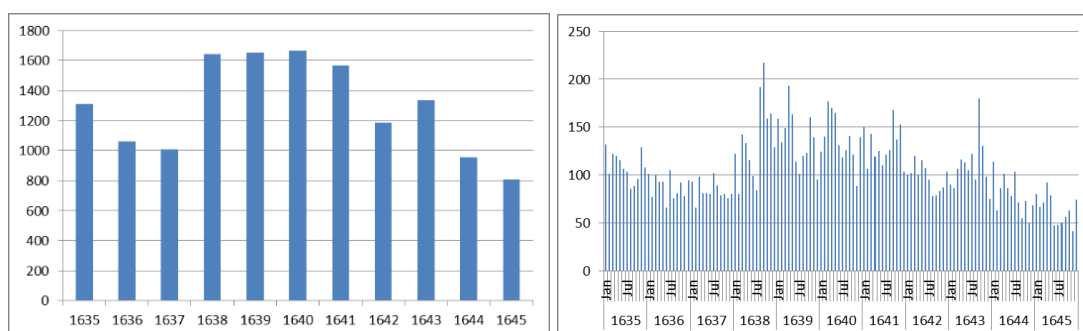


Figure 169 Annual and monthly burials in non-metropolitan Surrey, 1635-45

⁷⁵¹ Wrigley and Schofield (eds.), *Population History of England*, p. 333.

⁷⁵² G. Parker, *Global Crisis: war, climate change and catastrophe in the seventeenth century* (New Haven, 2014), pp. 4-5, 340.

⁷⁵³ Ibid., Ch. 1.

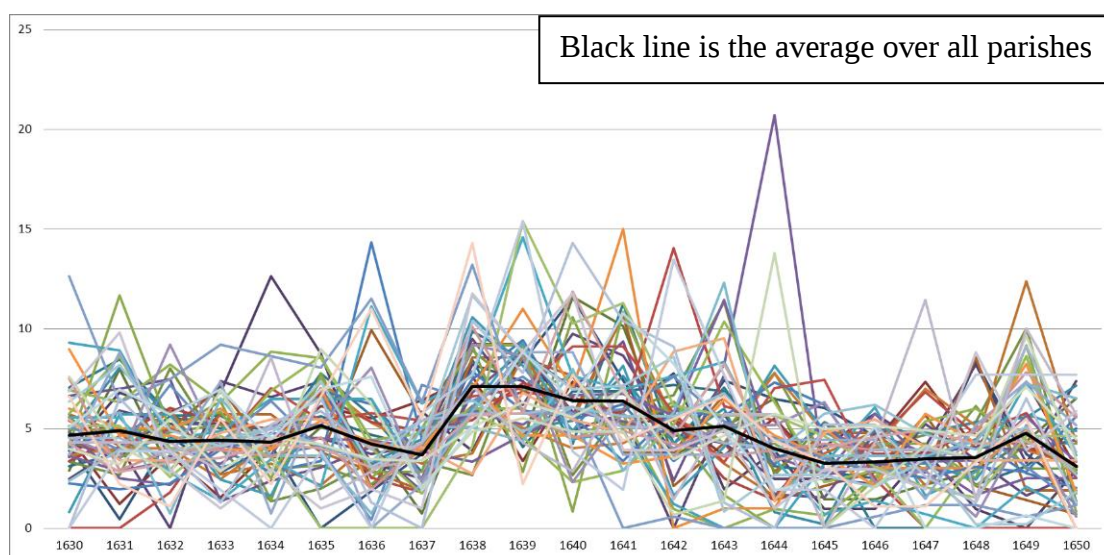
⁷⁵⁴ D. Cressy, *Charles I and the People of England* (Oxford, 2015), pp. 54-64.

⁷⁵⁵ Wrigley and Schofield (eds.), *Population History of England*, pp. 677-9.

⁷⁵⁶ Creighton, *A History of Epidemics in Britain*, Vol. 1, pp. 533-4.

⁷⁵⁷ D. Cressy, *England on Edge: Crisis and Revolution 1640-1642* (Oxford, 2006), pp. 60-7.

A broad range of Surrey parishes was affected. Figure 170 shows the percentage of each parish's burials (of those whose records survive) in the two decades 1630-1650 that occurred each year and it is clear from this that the crisis of 1638-41 was not a crisis of a few places but of many. Numerous parishes experienced an increase in burials and in addition there was a decline in the number of parishes with few or no burials in a year.



*Figure 170 Burials by parish and year, 1630-50
(Percentage of each parish's burials which occurred in each year)⁷⁵⁸*

Plague was likely to have been one of the diseases present. Plague was present in London in both 1640 and 1641. According to a letter sent from London in September 1641, for example, there had been nearly 200 plague deaths there in the last week of August and Parliament had issued orders about the treatment of plague.⁷⁵⁹ In October of the same year, Sir Edward Nicholas of Thorpe in Surrey, writing about the king's intended return from Scotland, commented plague was rife in London and in

⁷⁵⁸ results for 53 parishes, those with reasonably complete registers and with average of at least 6 burials per year).

⁷⁵⁹ J. F. D. Shrewsbury, *A History of Bubonic Plague in the British Isles* (Cambridge, 1970), pp. 388-9.

consequence Parliament was to be adjourned.⁷⁶⁰ In non-metropolitan Surrey, the monthly patterns of burials supports the presence of plague as there was a rise in burials in late summer and autumn 1638, peaking in September at over double their usual numbers before falling back towards the end of the year. Richmond probably experienced outbreaks in 1640, 1641 and 1643, Kingston in 1643 and (as discussed above) Guildford in 1644 (Figure 171).

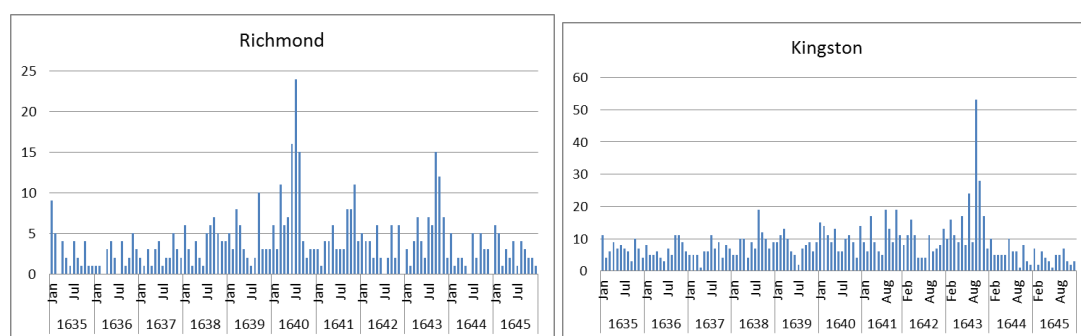


Figure 171 Monthly burials in individual parishes, 1635-45

But both in 1638 and more so in subsequent years, the patterns of burials suggest plague was not the only disease present. Dobson identified typhoid or typhus as a main cause of the sudden rise in burials in her survey of southern and eastern England in these years and also showed typhoid, typhus and smallpox were all present in London or the south-east at that time.⁷⁶¹ In non-metropolitan Surrey, urban and rural burials showed different patterns of mortality (Figure 172). Urban burials peaked in the late summers of 1638, 1639 and 1643, suggesting the presence of plague, or perhaps a gastro-intestinal disease such as typhoid or dysentery. In rural parishes burials were high in autumn 1638 but also in the early part of each of 1638, 1639, and 1640, which suggests the presence perhaps also of typhus or other winter disease. A characteristic of typhus is that it was less likely to kill children (as discussed above). The pattern of

⁷⁶⁰ SHC G52/2/19/21 Letter from Sir Edward Nicholas, Thorpe, to Mr Thomas Webb. Oct 1641 ; SHC G85/5/2/14 Copy of letter from Sir Edward Nicholas, Thorpe, to [Thomas] Webb. Oct. 1641 .

⁷⁶¹ Dobson, *Contours*, pp. 397-9.

adult and child burials in this period (Figure 173) does indeed suggest typhus as a particular cause of death as there were proportionately more adult than child deaths in this period. It also suggests smallpox or gastro-intestinal diseases were not major contributors to the deaths, diseases to which children were more vulnerable than adults.

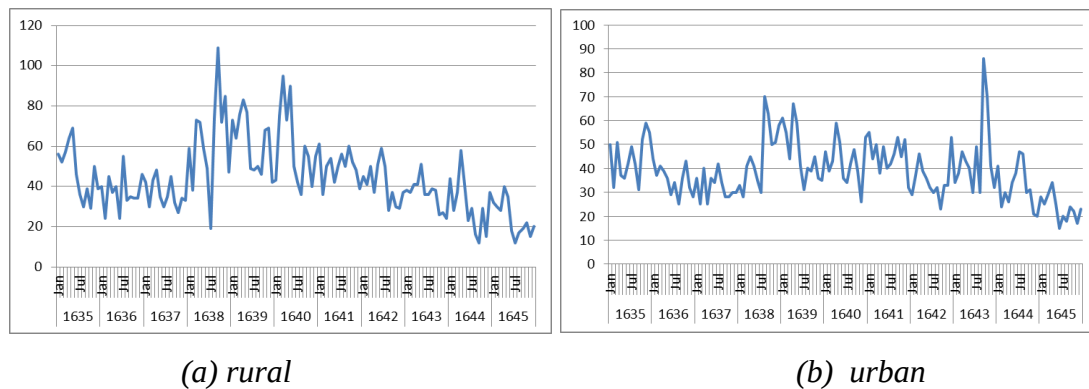


Figure 172 Monthly burials by type of area, 1635-45

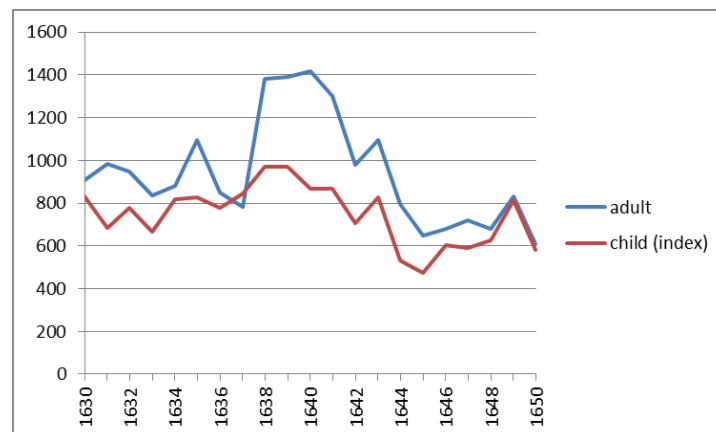


Figure 173 Non-metropolitan Surrey annual adult and child burials, 1630-50

The raised numbers of burials in Surrey does not seem to have continued after the outbreak of civil war in 1642. There was little fighting in Surrey (Surrey was mainly Parliamentary) and, although there was increased movements of people and troops in Surrey, it does not seem to have experienced raised levels of burials into the mid-1640s other than in specific locations such as Guildford in 1644.

1700 to 1750

In the first half of the eighteenth century non-metropolitan Surrey experienced two mortality crises, both extending over several years, in 1729-31 and 1739-42. While the levels of mortality in any individual year was not as high as in the major crises discussed above, they were part of national periods of high mortality and the duration of the raised mortalities in these two periods in Surrey warrants their further consideration. Both were periods linked to poor harvests though Kelly and Ó Gráda have suggested, based on the duration of excess mortality after grain prices peaked and on contemporary accounts, that both involved not only dearth but also diseases other than those normally associated with famine.⁷⁶²

Smallpox may have been one factor in these eighteenth-century crises. Smallpox was relatively rare as a fatal disease before the 1630s but from the later seventeenth century it became more prevalent and more virulent with an increase in the case fatality rate. By the first half of the eighteenth century it is thought almost everyone had suffered from the disease at some time and that it was responsible, directly or indirectly, for about one death in five.⁷⁶³ In Surrey a few burials, mostly in non-metropolitan parishes, recorded the cause as smallpox. In Carshalton in 1641, for example, there was an outbreak in which the deaths of six people were described as from smallpox over the course of a few weeks in November and December: the wife, daughter and two servants of John Herriman, described as Yeoman of the Guard so perhaps based in London, along with two others in the parish.

⁷⁶² Kelly and Ó Gráda, 'The Poor Law of Old England: Institutional Innovation and Demographic Regimes' (2011), pp. 359-61.

⁷⁶³ Duncan, Scott, and Duncan, 'Smallpox Epidemics in Cities in Britain' (1994), p. 255.

1729-31

Wrigley and Schofield calculated that nationally the mortality crisis of the late 1720s was second only in the parish register era (excluding the civil war period) to that of the late 1550s in the severity and extent of the crisis. Deaths in each of 1727-8, 1728-9, and 1729-30 were 35 to 40 per cent above trend and nearly half the parishes included in their study were affected at some time.⁷⁶⁴ More detailed local studies have confirmed the existence of crises in, for example, Lancashire, the Vale of Trent, Warwickshire and Worcestershire.⁷⁶⁵ In both Lancashire and Worcestershire burials were about double their normal levels.⁷⁶⁶ An epidemic of smallpox occurred in Banbury in Oxfordshire in 1731-3.⁷⁶⁷ Poor harvests were one factor. In Ireland they culminated in a famine in 1728-9 and Appleby suggested a few parishes in the English Midlands experienced famine.⁷⁶⁸ In England the harvest of 1728 was deficient, grain prices increased and in 1728 and 1729 England, by then usually a grain exporter, became a net importer.⁷⁶⁹ The presence of several diseases was noted at the time and

⁷⁶⁴ Wrigley and Schofield (eds.), *Population History of England*, pp. 333, 662.

⁷⁶⁵ J. Healey, 'Socially Selective Mortality during the Population Crisis of 1727-30: Evidence from Lancashire', *Local Population Studies*, 81 (2008); Chambers, *The Vale of Trent*; D. E. C. Eversley, 'A Survey of Population in an Area of Worcestershire from 1660-1850 on the Basis of Parish Records', *Population Studies*, 10 (1957), p. 267; J. A. Johnston, 'The Impact of the Epidemics of 1727-30 in South West Worcestershire', *Medical History*, 15 (1971); A. Gooder, 'The Population Crisis of 1727-30 in Warwickshire', *Midland History*, 1 (1972).

⁷⁶⁶ Healey, 'Socially Selective Mortality during the Population Crisis of 1727-30: Evidence from Lancashire' (2008), p. 61; Johnston, 'The Impact of the Epidemics of 1727-30 in South West Worcestershire' (1971), pp. 281-2.

⁷⁶⁷ R. A. Leadbeater, 'Smallpox in Oxfordshire, 1700-99, and the Implications of Familial Transmission Routes', *Local Population Studies*, 98 (2017), p.15.

⁷⁶⁸ D. E. Jordan, *Land and Popular Politics in Ireland : County Mayo from the plantation to the land war* (Cambridge, 1994), p. 43; Creighton, *A History of Epidemics in Britain*, Vol. 2, p. 237; A. Appleby, 'Epidemics and Famine in the Little Ice Age', *The Journal of Interdisciplinary History*, 109 (1980), p. 643.

⁷⁶⁹ Wrigley and Schofield (eds.), *Population History of England*, p. 667; Prices and Wages in London and Southern England, 1259-1914 <http://www.nuffield.ox.ac.uk/users/Allen/studer/enclyeo.xls>; Appleby, 'Epidemics and Famine in the Little Ice Age' (1980), p. 662.

it seems likely disease was the major cause of the increased mortality with the poor 1728 harvest exacerbating the effects of disease.⁷⁷⁰

Evidence of the scale of the crisis in the south-east is mixed. Creighton described the four years 1726-29 as ‘a great fever-period’ in London and noted that burials were especially high in London in late 1729.⁷⁷¹ But according to Wrigley and Schofield’s study, the south-east was largely unaffected by this crisis. They commented ‘some parts of the country escaped infection almost entirely. Throughout England south of a line running through Gloucester, Oxford, and Chelmsford, and including London, there were very few instances of local crises’.⁷⁷² Their criteria for identifying crises were demanding.⁷⁷³ While Surrey’s crisis was less severe than that in some other parts of the country, it did experience a rise in mortality, with burials at least 20 per cent above normal for several years in succession and worse in some parishes. Surrey’s burials rose rapidly in the summer of 1727, dipped somewhat then peaked again in the winter of 1729-30. There were subsequent, lesser, peaks in burials in spring 1731 and winter 1732 (Figure 174).

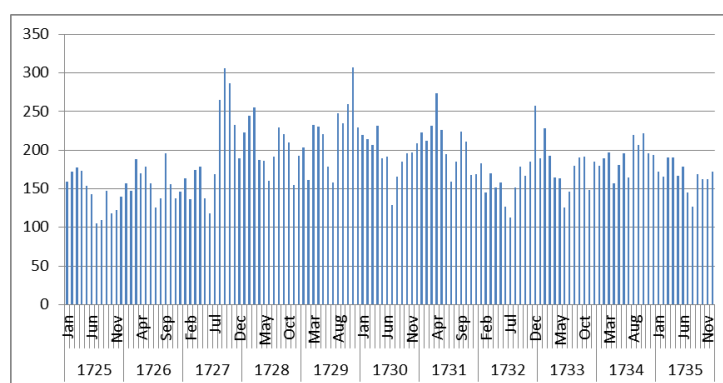


Figure 174 Non-metropolitan Surrey monthly burials, 1725-35

⁷⁷⁰ Wrigley and Schofield (eds.), *Population History of England*, pp. 663-8; Creighton, *A History of Epidemics in Britain*, Vol. II pp. 66ff.; Healey, 'Socially Selective Mortality during the Population Crisis of 1727-30: Evidence from Lancashire' (2008), p. 60; Appleby, 'Epidemics and Famine in the Little Ice Age' (1980), p. 653; Chambers, *The Vale of Trent*, p. 29.

⁷⁷¹ Creighton, *A History of Epidemics in Britain*, Vol. 2, pp. 66, 343.

⁷⁷² Wrigley and Schofield (eds.), *Population History of England*, pp. 682-3.

⁷⁷³ *Ibid.*, p. 647.

Some individual parishes experienced a severe period of crisis. They included Lingfield, in the Wealden south-east, where the crisis seems to have been worst in the winter of 1730/1 and Guildford which seems to have suffered both then and also in the previous winter, 1729/30 (Figure 175). There does not seem to have been a clear pattern as to which parishes were affected: for example, two other Wealden parishes, Horley and Horne, seem to have been much less affected (Figure 176).

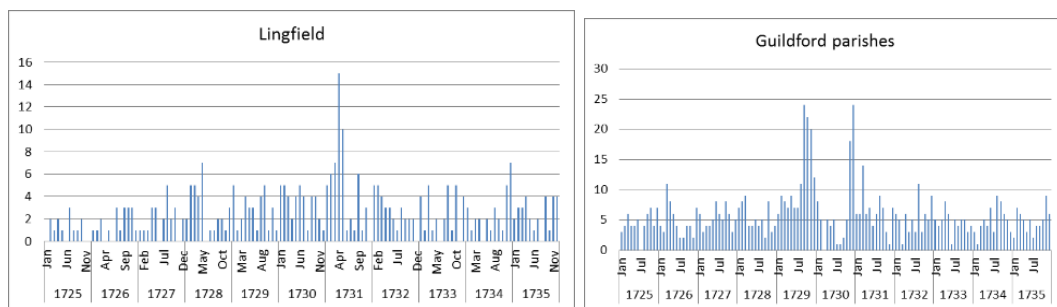


Figure 175 Monthly burials in individual parishes, 1725-35

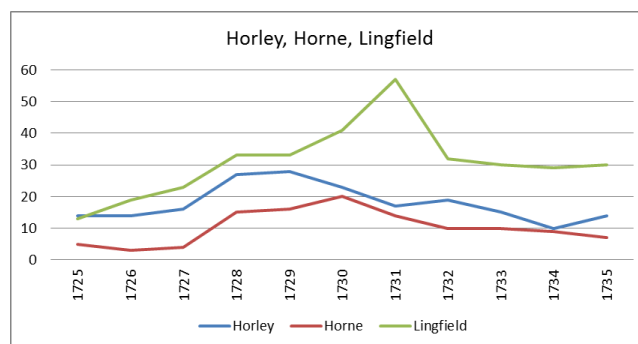


Figure 176 Monthly burials 1725-35, comparison of three Wealden parishes

The timing of Surrey's crisis is similar to that of crises further north in England, suggesting similar causes. Its onset, with burials peaking in July-September 1727, coincided with the outbreak in Worcestershire where the beginning of the crisis 'was sharp and severe ... [t]he death rate increased in August 1727 and remained high for two or three months'.⁷⁷⁴ Its profile is similar also to the crisis in southern parishes of Lancashire where 'an initial peak in burials in the late summer and autumn of 1727 was followed by a similar, albeit less severe one, 12 months later ... [f]inally, high

⁷⁷⁴ Johnston, 'The Impact of the Epidemics of 1727-30 in South West Worcestershire' (1971), p. 284.

mortality was recorded in both the winter of 1728/9 and 1729/30'.⁷⁷⁵ In Lancashire the causes are thought to have been fevers of various sorts, including typhus and influenza, and it seems plausible, given the similarities of the timing of the crises in southern Lancashire and Surrey (and despite the distance of a couple of hundred miles between them) that similar fevers were present in Surrey. Consideration of the proportion of deaths which were of children suggests typhus may have been one of the diseases present as adult burials rose during the crisis while child burials were much less affected (Figure 177), a pattern typical of typhus. This also suggests smallpox or gastro-intestinal diseases were not major factors since these were more likely to kill children.⁷⁷⁶

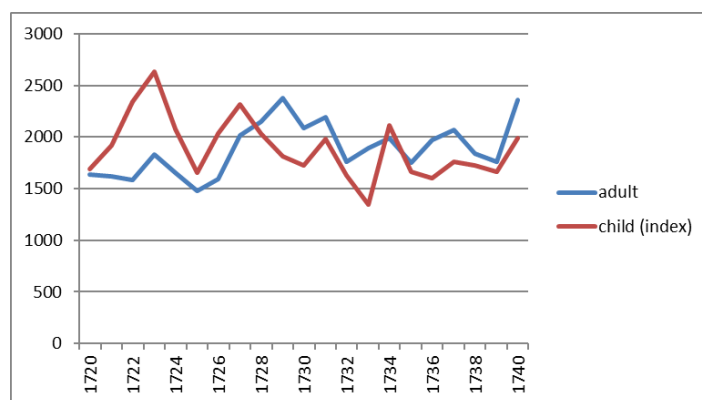


Figure 177 Non-metropolitan Surrey adult and child annual burials, 1720-1740

1739-42

Another mortality crisis struck England around 1740. It was part of a wider European crisis associated with extreme weather patterns and high food prices during which the British Isles, France, the Low Countries, the German states, Switzerland, Italy and

⁷⁷⁵ Healey, 'Socially Selective Mortality during the Population Crisis of 1727-30: Evidence from Lancashire' (2008), pp. 61-2.

⁷⁷⁶ The high number of child burials around 1722 may be due to an outbreak of smallpox. There were smallpox outbreaks in the adjacent county of Hampshire about this time (my thanks to Andrew Hinde for this information).

Scandinavia were all affected by epidemic diseases.⁷⁷⁷ Post summarised mortality patterns in 13 European countries, deriving indices from aggregate totals of deaths in Bills of Mortality and published demographic studies. Deaths rose from 1739, peaking in 1742 at 24 per cent above the level of 1739 though the experience of different countries varied considerably.⁷⁷⁸ Post's figures for England show its mortality peaking in 1742 at about half as much again as its pre-crisis level, a scale of crisis similar to the (unweighted) average of the 13 sets of European data used by Post (Figure 178), though individual countries' experiences varied considerably. Wrigley and Schofield calculated death rates in England in 1741-2 as 36 per cent above trend and in the following year, 1742-3, 15 per cent above trend.⁷⁷⁹ Local crises occurred scattered across the country, though greater in the north and west.⁷⁸⁰ In the south of the country Devon experienced a mortality crisis in 1740-2, affecting especially the towns.⁷⁸¹ In Basingstoke in Hampshire, not far from the western border of Surrey, there was a smallpox outbreak in 1741. In all more than half of the deaths that year were recorded in the parish's burial register as being from smallpox, 112 out of 205 deaths in total.⁷⁸² In the same year there was a mortality peak in London.⁷⁸³ In January 1740 the Gentleman's Magazine reported the winter in London was unusually cold, that '[t]he Thames floated with Rocks and Shoals of Ice' and that '[s]everal perished with Cold in the Streets and Fields about the City'.⁷⁸⁴ It also noted the numbers of

⁷⁷⁷ J. Post, 'Climatic Variability and the European Mortality Wave of the early 1740s', *The Journal of Interdisciplinary History*, 15 (1984), p. 3.

⁷⁷⁸ Ibid., pp. 10-11.

⁷⁷⁹ Wrigley and Schofield (eds.), *Population History of England*, p. 333.

⁷⁸⁰ Ibid., pp. 683-5.

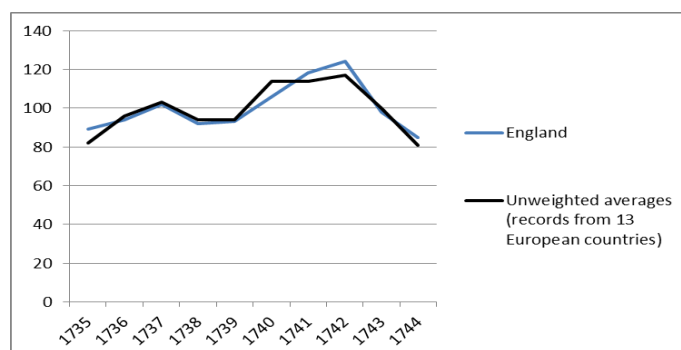
⁷⁸¹ J. D. Post, *Food Shortage, Climatic Variability and Epidemic Disease in Preindustrial Europe: the mortality peak in the early 1740s* (Ithaca, 1985), p. 35.

⁷⁸² A. Hinde (2018), 'Two Hampshire Epidemics' (unpublished, Local Population Studies Society Newsletter 63) .

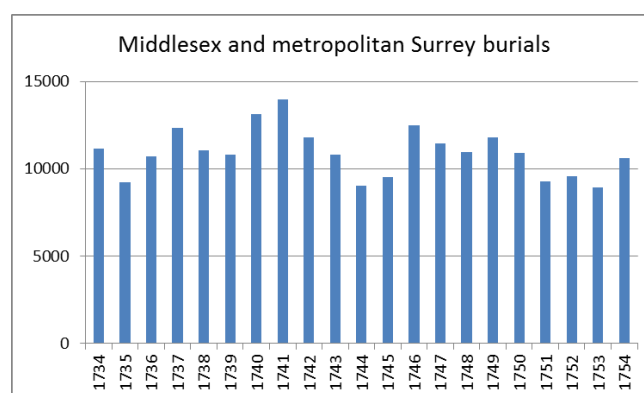
⁷⁸³ Cummins, Kelly, and Ó Gráda, 'Living Standards and Plague in London, 1560-1665', pp. 21-2.

⁷⁸⁴ various (from 1731), 'Gentleman's Magazine' (London), Vol. 10. I am grateful to Julian Pooley for assistance in identifying and accessing this reference.

burials recorded in the Bills of Mortality for Middlesex and the metropolitan parishes of Surrey, suggesting annual burials in the period 1734-54 which averaged a little under 11,000 reached 13,000 in 1740 and 14,000 in 1741 (Figure 179).⁷⁸⁵



*Figure 178 European mortality, 1740s crisis
(indices of annual numbers of deaths, 1735-44 = 100)*



*Figure 179 Burials in Middlesex and metropolitan Surrey recorded in Gentleman's Magazine, 1734-54*⁷⁸⁶

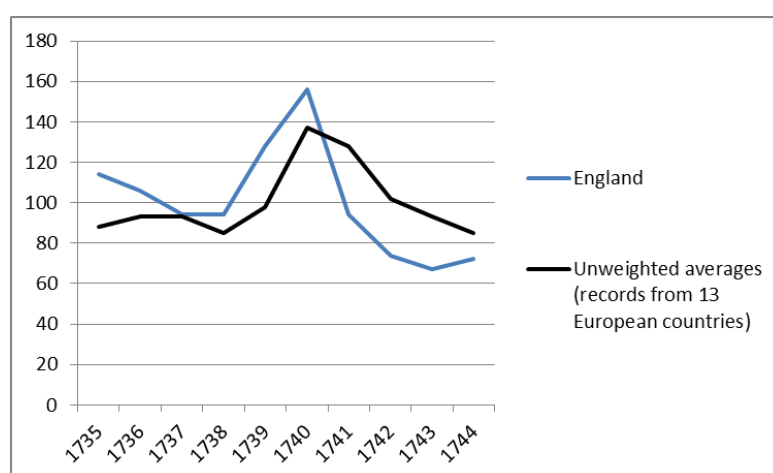
The crisis was most likely the result of the abnormal weather leading to a series of bad harvests combining with conditions which encouraged outbreaks of disease – extremely cold winters creating conditions for outbreaks of typhus and dry springs and summers for epidemics of gastro-intestinal diseases such as dysentery and typhoid.⁷⁸⁷ Post's survey of grain prices in 13 countries or areas in Europe showed them rising by broadly similar levels in all the areas he considered, peaking in 1740

⁷⁸⁵ Ibid. Vols. 1-24. I am grateful to Julian Pooley for assistance in identifying and accessing these references.

⁷⁸⁶ Post, 'Climatic Variability and the European Mortality Wave of the early 1740s' (1984), p. 10.

⁷⁸⁷ Ibid., p.24

at around 60 per cent more than in 1738. England's grain prices were in line with this trend, also peaking in 1740 at a similar level (Figure 180).⁷⁸⁸ Post concluded that the mortality crisis in England was not greater as a result of two main factors. One was the availability of lower-priced barley and the developed internal trade in cereals which guaranteed the flow of food to deficit areas helped prevent the crisis turning into a famine.⁷⁸⁹ The other was the effectiveness of England's welfare and relief measures: Post wrote 'England escaped the crisis mortality that beset Scandinavia and Ireland, owing to the existence of an obligatory poor law and the absence of widespread itinerant vagrancy'.⁷⁹⁰



*Figure 180 Grain prices, 1740s crisis
(indices of annual grain prices, 1735-44 = 100)*

In non-metropolitan Surrey too, burials rose (Figure 181). They rose in January 1740, remaining high until June. They peaked again in early and then in late summer 1741, before declining though remaining high until spring 1742. There was a final peak in Surrey in April 1743. Towns affected included Kingston where burials peaked in May 1741 at about three times normal, and Croydon where burials peaked similarly but a

⁷⁸⁸ Ibid., pp. 14-5.

⁷⁸⁹ Post, *Food Shortage, Climatic Variability and Epidemic Disease in Preindustrial Europe: the mortality peak in the early 1740s*, p. 123.

⁷⁹⁰ Ibid., p. 183.

few months later in autumn 1741 (Figure 182). Some more rural areas experienced similar levels of crisis, such as Ewell in the north-west, where burials peaked in autumn 1740, or Carshalton, also in the north-west where burials peaked in autumn 1741. The experience of Surrey does not therefore seem fully to bear out Post's view that 'the continued epidemic fevers of the early 1740s were primarily an urban phenomenon' but instead suggests both urban and rural areas suffered (Figure 183), though it does appear that some of the crises experienced by Surrey's urban areas were spread over a somewhat longer period.⁷⁹¹

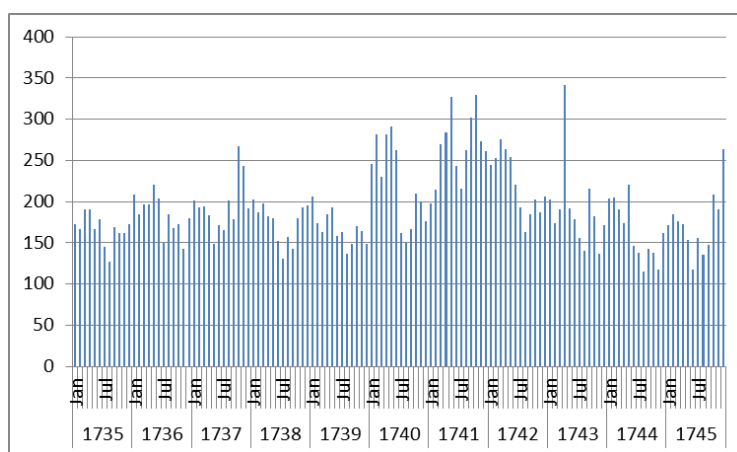


Figure 181 Non-metropolitan Surrey monthly burials, 1735-45

⁷⁹¹ Ibid., p. 36.



Figure 182 Monthly burials in individual parishes, 1735-45

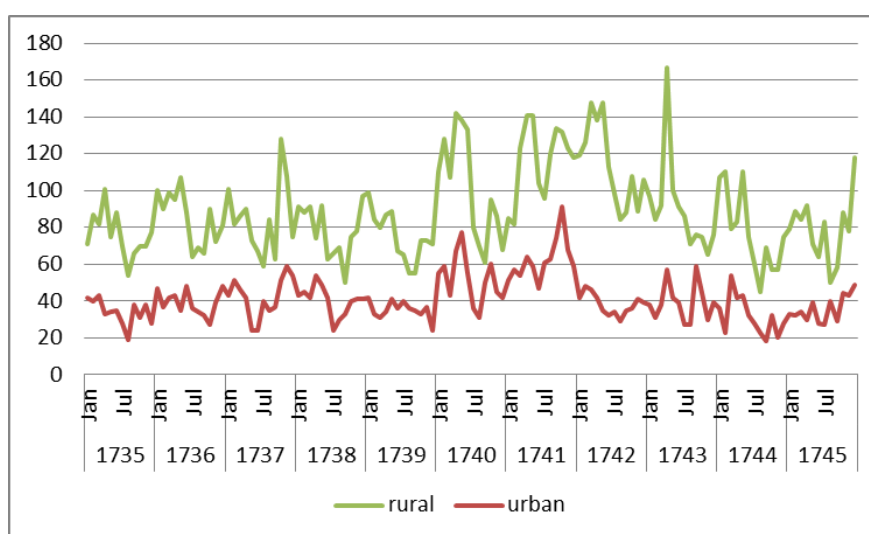


Figure 183 Non-metropolitan Surrey urban and rural monthly burials, 1735-45

A study of crime in Surrey by Beattie underlines further the disruptive scale of the crisis in the county. He noted two indicators of crisis in Surrey at this time. The numbers of offenders charged with crimes against property peaked in 1740-1 at a level roughly double that over the previous century (Figure 184). As well, the number of offenders who died in jail awaiting trial peaked in 1739-42, especially during winter of 1740-1. Post wrote of this outbreak that '[t]he increase in the number of cases of gaol fever unquestionably added considerable fuel to the typhus epidemics but represented only one of the networks that disseminated the infection'.⁷⁹²

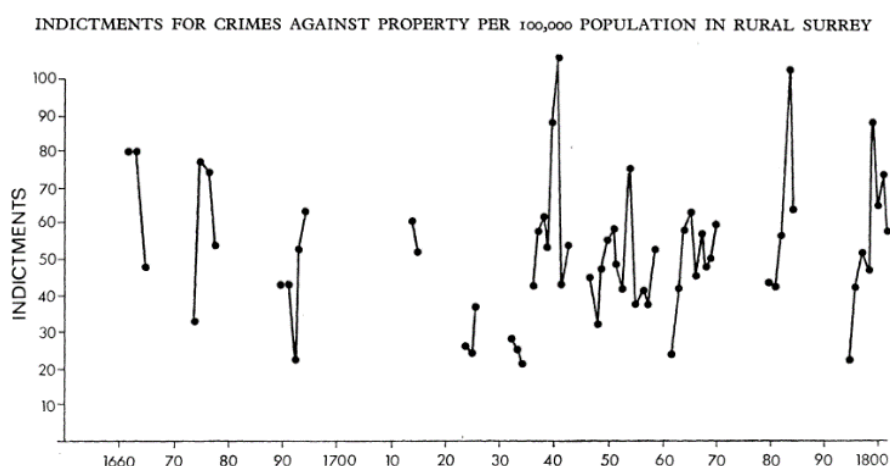


Figure 184 Indictments for property crime in rural Surrey, 1660-1800⁷⁹³

Post identified the extremely cold winters as creating the conditions for outbreaks of typhus and the dry springs and summers conditions for epidemics of gastro-intestinal diseases such as dysentery and typhoid.⁷⁹⁴ The resultant poor harvests would have contributed to the crisis too. In Surrey the patterns of mortality are consistent with this interpretation, with peaks in burials in winter and spring and also in summer. The similarity in the mortality of adults and children (Figure 185), though, suggests neither typhus nor smallpox nor gastro-intestinal diseases (the latter two being more likely to

⁷⁹² Ibid., p. 275.

⁷⁹³ reproduced from J. M. Beattie, 'The Pattern of Crime in England 1660-1800', *Past & Present*, (1974), p. 76.

⁷⁹⁴ Post, *Food Shortage, Climatic Variability and Epidemic Disease in Preindustrial Europe: the mortality peak in the early 1740s*, pp. 24-5.

kill children, the former less likely) was a dominant disease and reinforces the possibility of a range of diseases being present.

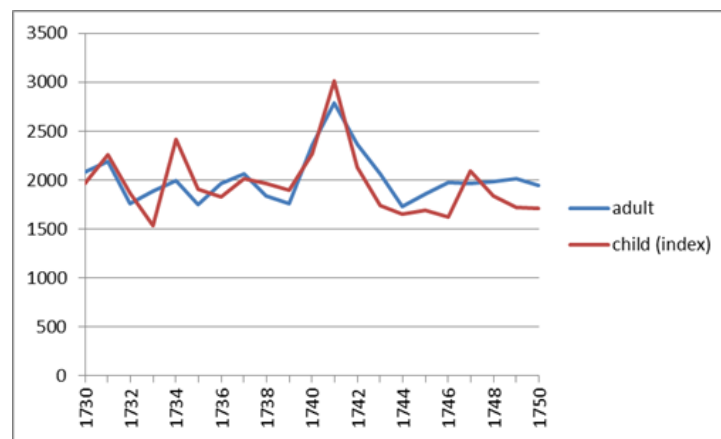


Figure 185 Non-metropolitan Surrey adult and child burials, 1730-50

Selective mortalities

This final section explores further the characteristics of some of Surrey's mortality crises. It considers evidence first of differential adult and child mortality and then of differential female and male mortality in the various crises the period experienced.

Adults and children

Differences in adult and child burials were often linked to the causes of death in particular crises. As discussed above, children were more vulnerable than adults to gastro-intestinal diseases, such as dysentery, and to smallpox and less vulnerable than adults to typhus. This differential between child and adult mortality provides a means of assessing the diseases present.⁷⁹⁵

In Surrey there were occasions when the differences between adult and child burials were marked. In particular, as discussed above, in rural parishes in the late 1590s crisis

⁷⁹⁵ Appleby, 'Disease or Famine? Mortality in Cumberland and Westmorland 1580-1640' (1973), p. 413; Healey, 'Socially Selective Mortality during the Population Crisis of 1727-30: Evidence from Lancashire' (2008), pp. 63-5.

and in the 1638-41 crisis (Figure 186 and Figure 187, reproduced from relevant sections, above). Both show an increase in adult burials during the crisis but not in child burials. It is plausible therefore that typhus was a major cause of death.

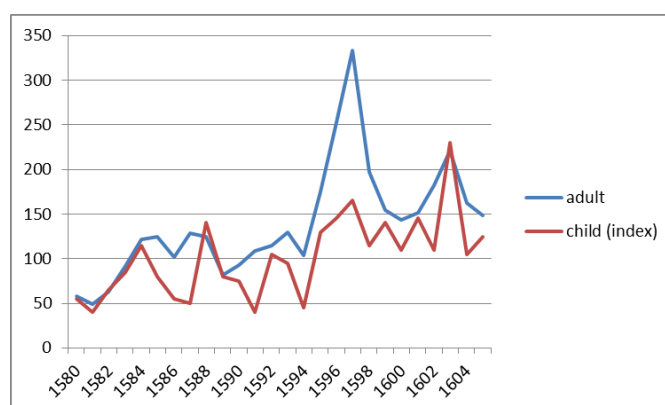


Figure 186 Adult and child (indexed) annual burials in rural parishes which experienced a crisis in late 1590s

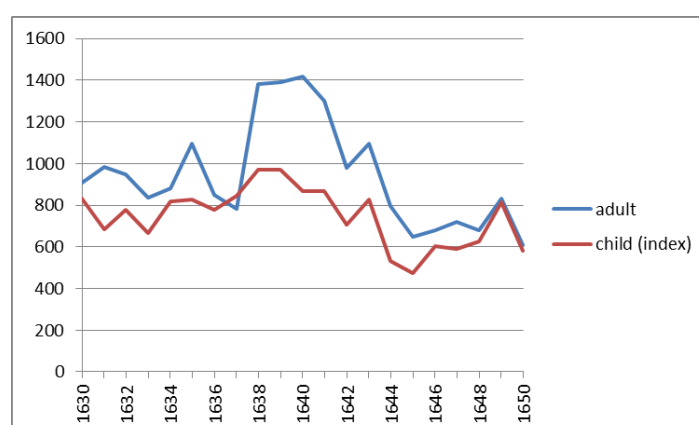


Figure 187 Non-metropolitan Surrey adult and child annual burials, all parishes with records, 1630-50

Reinforcing the unusual nature of burials in these two crises is the observation that in other crises the numbers of adults and children dying were much more in line with each other. For example, in the Wealden parishes a few years later during the 1603 outbreak of plague both adults and children were equally affected (Figure 188). More generally in non-metropolitan Surrey there was little difference between the total numbers of adults and children dying during any of the four major plague outbreaks (Figure 189). Such a pattern supports the interpretation of the crises as predominantly

due to plague. This would seem to make less likely an alternative explanation which has been suggested for some of the death in these crises, that gastro-intestinal diseases were significant contributors, as if that had been the case then it might be expected that child deaths would have been higher.⁷⁹⁶ It is also of interest that in neither the eighteenth century crises, 1729-31 and 1739-42 (reproduced here as Figure 190) were child burials markedly different from adult burials suggesting that, although smallpox was becoming more prevalent nationally and locally, it may have been of only limited importance in these particular crises.⁷⁹⁷

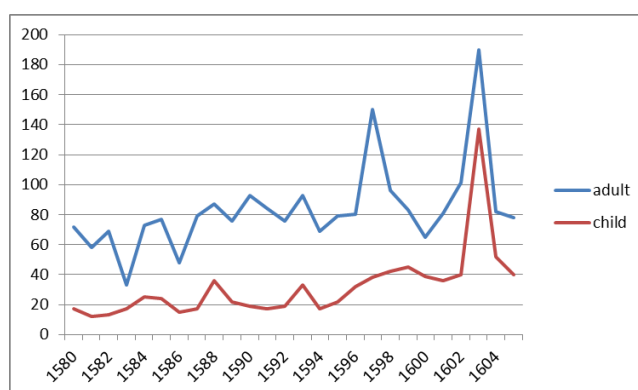


Figure 188 Baptisms and burials in Wealden parishes. 1580-1605

⁷⁹⁶ G. Twigg, 'Plague in London: spatial and temporal aspects of mortality', in J. A. I. Champion (ed.), *Epidemic Disease in London* (London, 1993).

⁷⁹⁷ In Lancashire Healey found adult burials higher than child in the 1727 and 1728 peaks, but in the 1728/9 peak burials increased across the board (Healey, 'Socially Selective Mortality during the Population Crisis of 1727-30: Evidence from Lancashire' (2008), pp. 63-5).

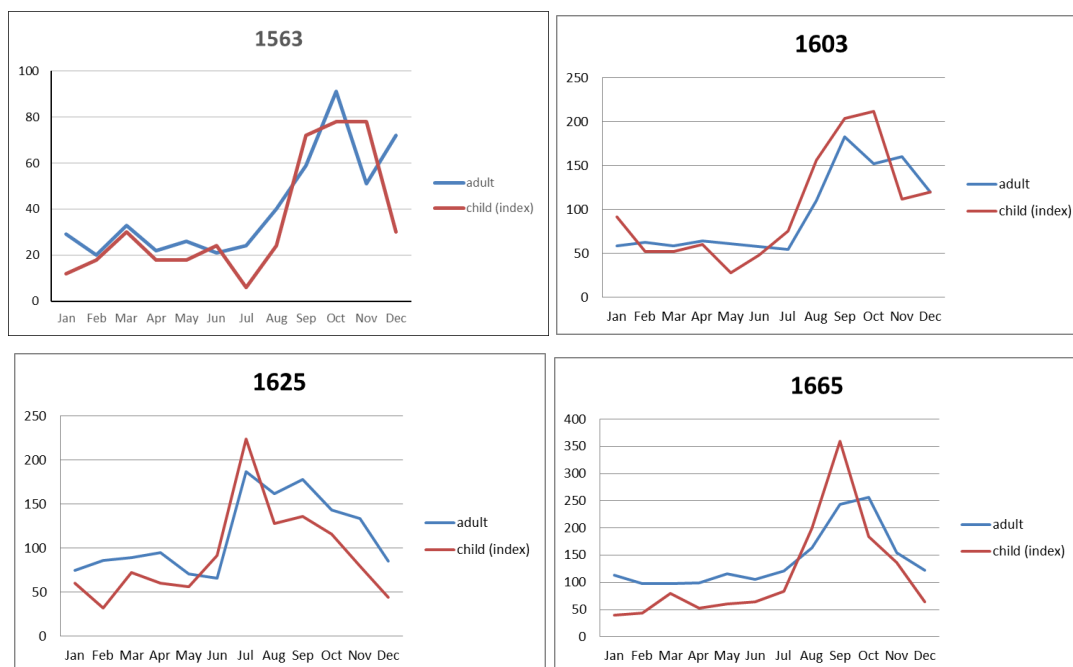
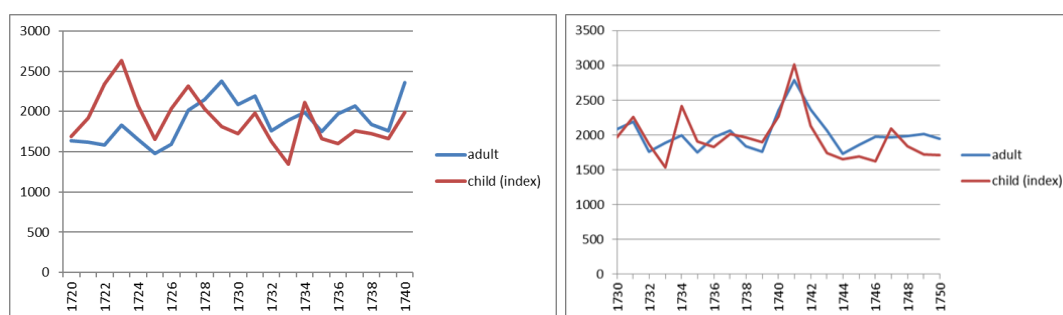


Figure 189 Non-metropolitan Surrey adult and child burials in peak plague years



(a) 1720-1740

(b) 1730-50

Figure 190 Non-metropolitan Surrey adult and child annual burials, eighteenth century crises

Males and females

A person's sex or gender could affect their chances of dying. Macintyre identified evidence of a female mortality advantage in a wide range of famine studies, both cross-national and over time.⁷⁹⁸ Ó Gráda described the evidence males were more likely to succumb in famines than females as 'overwhelming'.⁷⁹⁹ Healey tentatively

⁷⁹⁸ K. Macintyre, 'Famine and the Female Mortality Advantage', in T. Dyson and C. Ó Gráda (eds.), *Famine Demography: Perspectives from the Past and Present* (Oxford, 2002), p. 240.

⁷⁹⁹ Ó Gráda, *Famine: a Short History*, p. 100.

identified such a female mortality advantage in the subsistence crisis that hit parts of north-west England in the 1620s.⁸⁰⁰ Plague has been suggested as another cause of differential female and male mortality. Slack hypothesised that for economic and cultural reasons females and males might be exposed differently to the plague pathogen and hence might experience different mortality. However, he also pointed out the possibility that the sex ratio at death may alternatively simply reflect the sex ratio of the population at risk, especially those aged between 15 and 25 who were relatively poorly represented in non-plague years.⁸⁰¹ This section finds evidence for the presence of a female mortality advantage in Surrey during the crisis which resulted from the harvest failures of the 1590s. It finds male and female mortality to have been similar during the main plague outbreaks. But it suggests a female mortality advantage may have existed also during the mortality crisis of the late 1630s and early 1640s, a time when there was no severe harvest failure and the rise in deaths was almost certainly due to infectious disease and also a time also when there does not seem to have been substantial movements of people which might have resulted in an apparent difference in the numbers of male and female deaths.

In famines a range of factors – socio-political, cultural and biological – are all thought likely to have contributed to a female mortality advantage.⁸⁰² Zarulli et al. reported on the survival of men and women in seven populations experiencing extreme conditions and high mortalities from famines, epidemics and slavery. They suggested ‘female advantage stems from fundamental biological roots and is influenced by

⁸⁰⁰ Healey, 'Famine and the Female Mortality Advantage: sex, gender and mortality in northwest England, c. 1590–1630' (2015).

⁸⁰¹ Slack, *Impact of Plague*, pp. 179-81.

⁸⁰² Macintyre, 'Famine and the Female Mortality Advantage', p. 240.

socially and environmentally determined risks, opportunities, and resources’.⁸⁰³ Physiologically, a female advantage may result from the greater proportion of body fat and lower proportion of muscle in women’s compared to men’s bodies. In consequence the female mortality advantage may be the direct consequences of food shortage rather than of disease.⁸⁰⁴ Contributing may also be differential male and female susceptibility to some diseases. Ubeda and Jansen commented ‘[f]atality rates of infectious diseases are often higher in men than women’.⁸⁰⁵ Macintyre reported studies which showed females survive typhoid and malaria better than males, diseases which often occurred in famines.⁸⁰⁶ Another influence may be that famines tend to produce a fall in conceptions, freeing some women from the risk of dying in childbirth. It is also possible women were treated preferentially by providers of welfare or were better able to control the distribution of food within the household. Men were more likely to migrate at times of crisis in search of food or work, travel which may have exposed them to unfamiliar pathogens to which they had less resistance resulting in an apparent female mortality advantage in some areas.⁸⁰⁷ However, emphasising the complexity of causations, Hionodou’s study of famine on the Greek island of Mykonos during World War Two identified the existence of a female mortality advantage even though it was a ‘closed’ population at the time of the famine and there were no epidemics associated with or resulting from the famine. Thus, the explanations of a female mortality advantage being the result of differential migration

⁸⁰³ V. Zarulli et al., 'Women Live Longer than Men even during Severe Famines and Epidemics', *Proceedings of the National Academy of Sciences*, 115 (2018).

⁸⁰⁴ Ó Gráda, *Famine: a Short History*, p. 101.

⁸⁰⁵ S. Nhamoyebonde and A. Leslie, 'Biological Differences Between the Sexes and Susceptibility to Tuberculosis', *The Journal of Infectious Diseases*, 209 (2014); F. Úbeda and V. A. A. Jansen, 'The Evolution of Sex-specific Virulence in Infectious Diseases', *Nature Communications*, 7 (2016).

⁸⁰⁶ Macintyre, 'Famine and the Female Mortality Advantage', p. 248-9.

⁸⁰⁷ Healey, 'Famine and the Female Mortality Advantage: sex, gender and mortality in northwest England, c. 1590–1630' (2015), p. 154.

or differential susceptibility to diseases were not applicable and the excess male mortality was an immediate consequence of the famine.⁸⁰⁸

Parish burial records in non-metropolitan Surrey enable the identification of the sex of most of those buried, about 95 per cent (239 thousand out of 252 thousand) between 1550 and 1750. Those for whom it was not possible to identify their sex were those recorded simply as 'child of' and those with ambiguous or unusual names whose sex was not wholly certain. Within the records coded there is a slight excess of men over women, 486 women and 514 men in every thousand burials, a ratio of 1.06 males per female, broadly consistent with a typical population distribution (see also Chapter 7: Migration).

There appears to have been a modest female mortality advantage in non-metropolitan Surrey in the crisis of the 1590s, a crisis related to a series of bad harvests. The burials of males and females (Figure 191) were fairly similar but male deaths rose more than females in the mortality peak in the winter of 1595/6 and in the peak in early 1597. But this differential did not continue throughout the crisis and was not present in the peak of early 1598. This pattern of extra male deaths in the early part of a dearth-related crisis but not in the later part of the crisis is similar with that found in north-west England in the 1620s dearth crisis.⁸⁰⁹

⁸⁰⁸ V. Hionidou, 'The Demography of a Greek famine: Mykonos, 1941–1942', *ibid.* 10 (2008).

⁸⁰⁹ Healey, 'Famine and the Female Mortality Advantage: sex, gender and mortality in northwest England, c. 1590–1630' (2015).

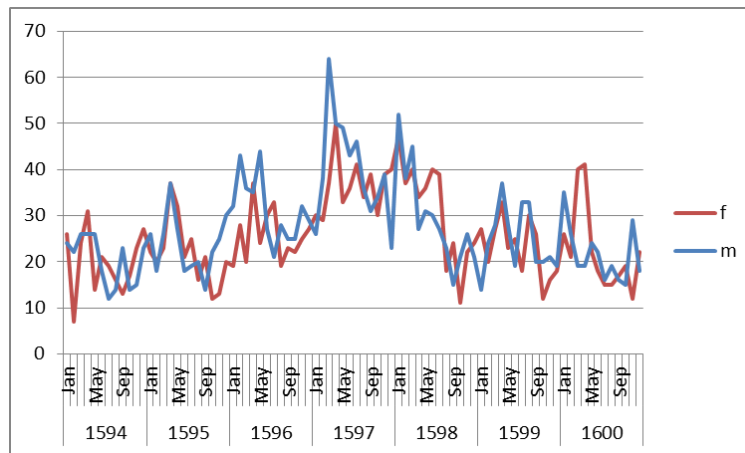


Figure 191 Non-metropolitan Surrey female and male burials, 1590s

To test further the presence of a female mortality advantage in this period a statistical test of significance was applied (Table 24). The control period, the decade 1580 to 1590, was chosen as it was not distorted by the 1592-3 mortality crisis which affected Surrey. In this control period 52.7 per cent of burials were of males. In the early and central part of the crisis, October 1595 to May 1597, there were a greater proportion of male burials, 56.2 per cent. In other words, a difference of 3.5 percentage points in the ratio of male and female burials compared to the control period. Based on a chi-squared test, this is a statistically significant difference at the 95 per cent confidence level.

All parishes with surviving records	Female burials	Male burials	Percentage burials which were male
Control period: Pre-crisis (1580-90)	2204	2460	52.7%
Test period: Early Crisis (Oct 1595-May 1597)	531	681	56.2%

Table 24 Chi-squared test of significance, all burials, 1590s

The crisis was experienced particularly harshly in the Wealden south of Surrey and it appears the female mortality advantage was especially strong there. As Figure 192 illustrates, the excess of male deaths compared to females was marked. In the Wealden parishes for which sufficient records survive (Burstow, Horley, Limpsfield, Lingfield, Leigh and Newdigate) during the 1580s, 52.0 per cent of all burials were of males.

During the early part of the crisis, October 1595 and May 1597, the balance changed, and 68.2 per cent of burials were of males, while if the entire crisis is considered (1596-98) 62.0 per cent of burials were male. The difference is marked. Both are statistically significant, based on a chi-squared test, at the 99 per cent level (Table 25).

Wealden parishes	Female burials	Male burials	Percentage burials which were male
Control period: Pre crisis (1580-90)	294	318	52.0%
Test period 1: Early Crisis (Oct 1595-May 1597)	48	103	68.2%
Test period 2: All crisis (all 1596-8)	92	150	62.0%

Table 25 Chi-squared test of significance, burials in Wealden parishes, 1590s

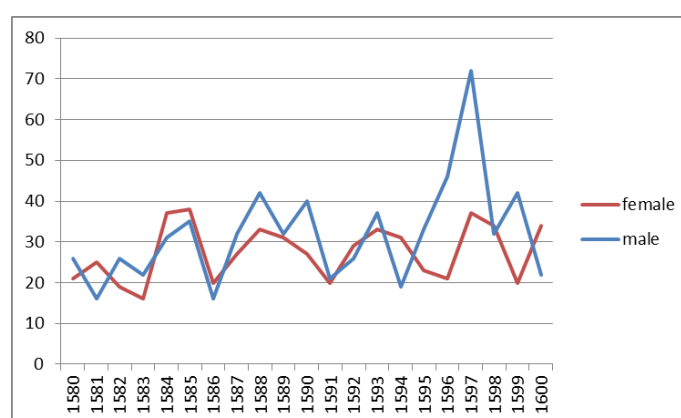


Figure 192 Female and male annual burials in Wealden parishes, 1580-1610

Examining the burials in more detail confirms the additional deaths were especially of adult males. As Figure 193 illustrates, deaths of children, both male and female, did not alter significantly during the crisis.

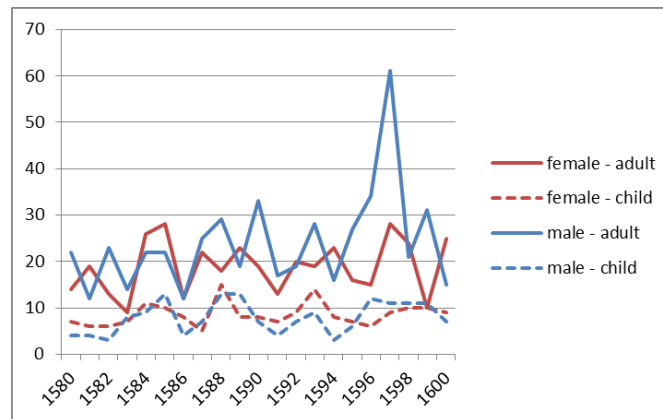


Figure 193 Female and male adult and child annual burials in Wealden parishes, 1580-1610

This suggests there was a female mortality advantage in Surrey in the 1590s dearth crisis, an advantage which was evident more in the earlier part of the crisis than the later part and particularly strong in the part of the county, the Wealden south – a relatively poor, pastoral and remote area – where the crisis was experienced most fiercely. Since literal starvation does not seem to have been present in Surrey, Ó Gráda’s comment, ‘there is some presumption that the more important is literal starvation rather than infectious disease as the cause of death, the greater the female advantage,’ perhaps suggests the direct effect of famine was not sufficiently severe as to produce a female mortality advantage. Instead it would seem that the consequential difficulties of the time resulted in higher male mortality for a combination of cultural (eg. males migrating more than females, exposing them to unfamiliar pathogens to which they were vulnerable) and biological (eg. males more vulnerable to some diseases than females) reasons.⁸¹⁰

The possibility of differential male and female mortality has also been suggested in relation to plague. Slack hypothesised either that men might be more vulnerable to plague through their workplaces such as urban wharves or workshops or that women

⁸¹⁰ Ó Gráda, *Famine: a Short History*, p. 101.

might be more vulnerable because ‘they spent more time in rat-infested houses and because they nursed the sick’.⁸¹¹ In Surrey there seem to have been similar numbers of male and female deaths during three of its major outbreaks of plague, though there is an indication that rather more women than men died in 1665 (Figure 194).

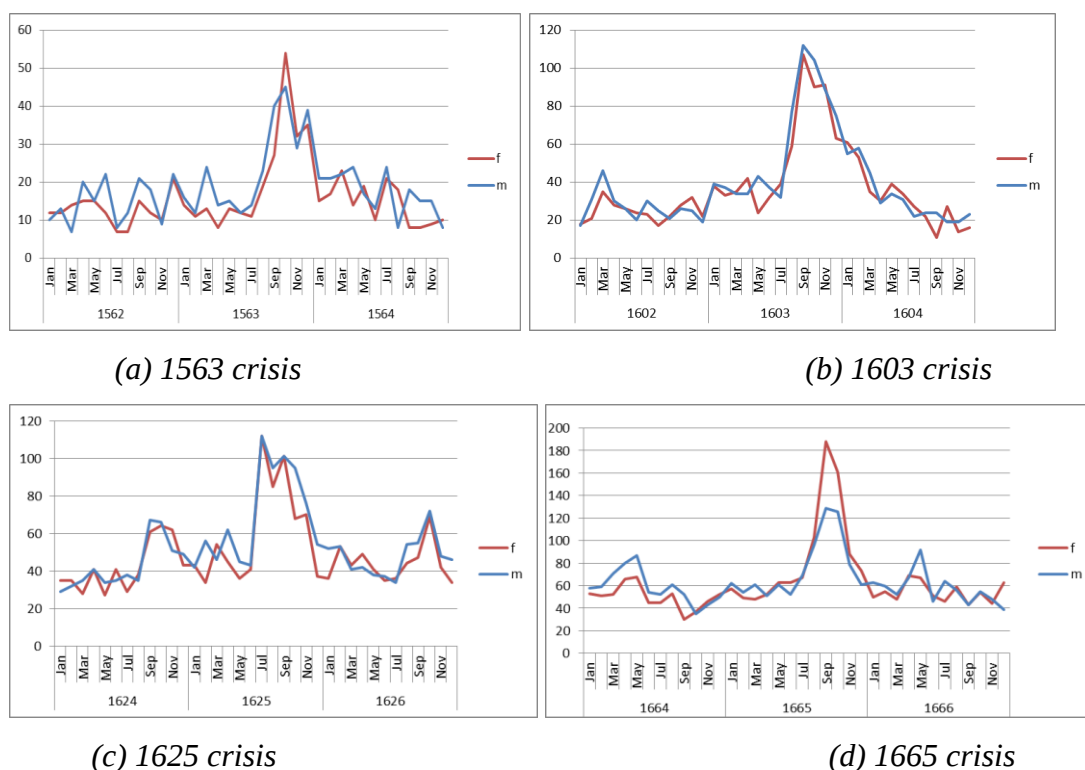


Figure 194 Female and male monthly deaths in major plague years

The role of disease in creating a female mortality advantage is reinforced by it appearing to exist in the mortality crisis of 1638-41 (Figure 195), thought to have resulted not from famine or dearth but from a mix of diseases. In this period there appears to have been a disproportionate number of male deaths over several years. This is the only period when such an imbalance has been identified over a period of several years in non-metropolitan Surrey, supporting its unusual nature.

⁸¹¹ Slack, *Impact of Plague*, p. 180.

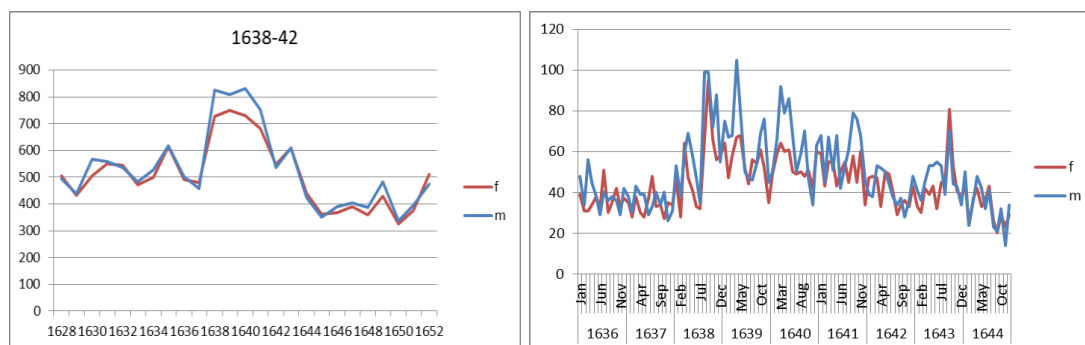


Figure 195 Female and male annual burials, 1628-52 and monthly burials, 1636-44

The additional deaths were especially of adult, rather than child, males (Figure 196)

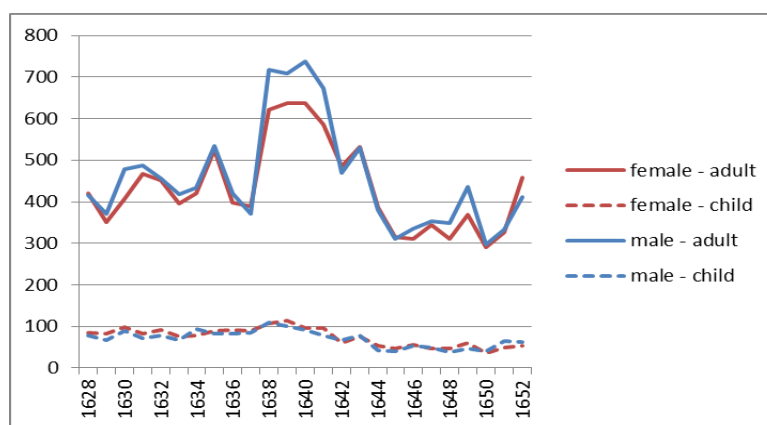


Figure 196 Female and male adult and child annual burials, 1628-52

A statistical test of significance was applied to this apparent difference in mortalities (Table 26). In this case the ‘control’ period was the decade 1626-36. In this period 50.8 per cent of burials were of males. During the crisis, the years 1638, 1639, 1640 and 1641, 52.7 per cent of burials were male. This difference is statistically significant at the 95 per cent level. This adds weight to the role of infectious diseases in, at times, causing differential male and female mortalities.

	Female burials	Male burials	Percentage burials which were male
Control: Pre crisis (1626-36)	5633	5816	50.8%
Test period: Crisis (1638-41)	2890	3216	52.7%

Table 26 Chi-squared test of significance, burials, 1638-41

Overall, the evidence of Surrey suggests there were at times differences in the responses of females and males to mortality crises. There appears to have been a

female mortality advantage around 1640, a time when several diseases caused a rise in mortality. There also appears to have been a female mortality advantage in Surrey during the 1590s when disease rather than starvation is likely to have been the dominant proximate cause of death. Together these emphasise the role of disease in causing the female mortality advantage. A consequence is that the corollary of the female mortality advantage in famines needs treating with a modicum of caution. While Ó Gráda's work suggests strongly that if there is a famine then there will be a female mortality advantage, it is clearly not always the converse is the case. If there is a female mortality advantage then it does not necessarily show the presence of famine, qualifying the view that 'an observable female mortality advantage can be read as proxy evidence for the presence of real starvation, or at least for disease mortality caused directly by malnutrition'.⁸¹²

Concluding remarks - crisis mortality

Some of non-metropolitan Surrey's mortality crises in the sixteenth, seventeenth and eighteenth centuries were caused by plague. The main ones were contemporaneous with the major outbreaks in London, 1565, 1603, 1625 and 1665. Although causing deaths of people in most parts of the county, it was in the towns, especially those nearer London, and also the parishes alongside the Thames where the crises tended to be worst. Outbreaks of plague may have killed about one in five of some towns' populations. The main source of the infection seems to have been London but on occasion the South coast ports from which roads ran through Surrey to London may also have been a source. As well, there were some crises caused by diseases but the details of which are less certain, in 1638-42, 1729-31 and 1739-42.

⁸¹² Healey, 'Famine and the Female Mortality Advantage: sex, gender and mortality in northwest England, c. 1590-1630' (2015), p. 155

Harvest failures affected non-metropolitan Surrey in the 1550s and the 1590s. The 1550s crisis, thought to have been due to a mix of disease and dearth, appears to have been substantial in Surrey. The evidence from non-metropolitan Surrey supports the proposition some have made that the national fall in population in the 1550s may have been greater than some previous estimates have suggested, 10 per cent rather than 5 per cent seeming plausible.

Harvest failures in the 1590s have been studied in the north of England but less so in the south. The dearth did have a serious effect in Surrey resulting in a substantial increase in the numbers of people dying. The areas affected were especially the poorer, the more remote, the cloth-working and the more pastoral Wealden area and also towns and areas containing industrial activities. Typhus was likely to have been a proximate cause of death for many. The existence of such a substantial mortality crisis in the south of England reinforces the suggestion that the view of the country as 'two Englands' should be more in terms of the pastoral and remote being more vulnerable to harvest failure rather than it being a simple north-south distinction. The poor harvests of the 1620s did not, unlike in parts of the north of England, result in greater mortality in Surrey.

There were at least two period of raised mortality which affected males more than females. One was during the dearth of the 1590s. A female mortality advantage is sometimes associated with famine but at this time the evidence is of disease-based deaths rather than starvation. There was also a period of raised mortality which affected males more than females, between 1638 and 1641, illustrating how the female mortality advantage was not present solely in famines but may also have been a result of the physiological differential vulnerability of males and females to some diseases.

As well as the times when mortality crises occurred in particular parts of Surrey it is also interesting to note when they did not. Towns were not universally vulnerable in the major outbreaks of plague: in each main outbreak some were affected but others were not. And although the 1590s dearth crisis seriously affected parts of Surrey, not everywhere was affected equally. One area in particular where a crisis might have been expected was the north-west, an area with high levels of poverty, poor soils, not an arable area at that date and still within Windsor Forest with the attendant difficulties for farmers. All would have seemed likely to have increased its vulnerability to dearth. But it does not seem to have resulted in a substantial rise in mortality in this area.

The various mortality crises the towns and rural parishes of the county experienced would have been locally devastating, the high numbers of deaths in the south of the county in the dearth of the 1590s and the considerable proportion of the populations of some towns who died in plague outbreaks both resulting in substantial distress and disruption to people's lives. Who was most affected, the processes by which they coped both during the crisis and afterwards and the consequent social and economic disruption these areas experienced all deserve further research.

9. Conclusions

Wrigley and Scofield's study of the course of England's early modern population change had two main themes, modelling national population levels and suggesting linkages between population change and economic change. They were well aware the national picture they developed was not fully able to explore the complexity of local or regional circumstances. This study refines our understanding of the functioning of England's interconnected early modern demographic and economic systems, exploring some of the patchwork of local experiences which made up the national picture. Taking a quantitative emphasis and a parish level framework of analysis, it considers the majority of the historical county of Surrey, excluding only the handful of parishes which were in practice subsumed within Surrey's neighbour, London.

Non-metropolitan Surrey was a mainly rural area within which lay about a dozen small or modestly-sized market towns. This study considers the area's population levels, its economy and in particular its agriculture, the mobility of its people and its patterns of mortality. The study is not concerned with the fine detail of individual lives nor with the differing experiences of different social groups, but with some of the area's broader demographic and economic characteristics. It has a geographical emphasis, taking advantage of Surrey's varied topography which encompassed half a dozen different geologies and soils and ranged in height from near sea level to close to a thousand feet.

Demographically, the parishes within the study area exhibited both similarities and differences. While its population, around 50,000 in the late seventeenth century, increased over the period of this study, it did so in ways which tended not to alter substantially the balance of the distribution of people across the county – more

populous areas grew rather more and their population density remained above average and less populous ones grew rather less and remained less densely populated. As well as experiencing population growth, most parishes were sources of net out-migration while a few experienced net in-migration. Many people changed where they lived over the course of their lives, movement which resulted in considerable turnover of parish populations. The characteristics of the movements of several different groups of people, although their movement was driven by different factors, showed marked similarities. Movements of the poor, of apprentices and of those marrying all tended to be influenced by the distance which could be travelled within a day, by the availability of transport routes and by the attraction of towns. Movement into and out of Surrey tended to be focussed on the south of England, though some much longer distance connections existed too. One movement out of Surrey was that of apprentices to London which took place from all parts of the county. This differed, even after allowing for the size of their populations, according to the type of area, being lower from rural areas and higher from most urban or Thames-side ones, especially from Surrey's two largest and wealthiest towns, Kingston and Guildford.

Background levels of mortality appear to have been similar in different parts of the county, not differing consistently between high and low ground in the way which has been identified in neighbouring Kent. Some differences are, though, identified in the seasonality of background mortality. Thames-side parishes tended to have higher late summer mortality levels than parishes elsewhere in Surrey even after the end of plague as an epidemic disease: the most likely explanation is the greater presence of gastrointestinal diseases in these areas. A modest difference in the seasonality of male and female deaths is also noted; the reasons are unclear but are plausibly related to the seasonality of childhood deaths. Non-metropolitan Surrey's experiences of crisis

mortality varied considerably between its parishes. Some, but not all, experienced periods of very high mortality as a result of one or both of harvest failures and infectious diseases, often but not solely plague. The timing and intensity of these crises varied, influenced by the characteristics of localities or their connectedness with other areas especially London, or sometimes simply by chance. The frequency and intensity of mortality crises changed over time: non-metropolitan Surrey's final dearth crisis struck in the 1590s and its final serious outbreak of plague was in 1665. Nevertheless, it experienced two extended periods of high mortality in the first half of the eighteenth century due most likely to a combination of diseases.

Economically, too, the county experienced both change and continuity. In general, the north was wealthier than the south, a distinction that remained throughout the period of the study. While much of the county seems to have been relatively economically stable, parishes near London showed signs of economic vibrancy in the seventeenth century. In contrast the more isolated south-east of the county remained relatively poor throughout the period while the south-west showed signs of economic stagnation in the seventeenth century, probably due to difficulties in the cloth trade which was based in this part of the county. This stagnation seems to have been alleviated by the improvement in transport provided by the opening of the nearby Wey Navigation.

The major economic activity of the county, agriculture, altered considerably over the period from mixed farming to increased agricultural specialisation. Different areas shifted their emphasis over time between arable and pastoral farming driven both by national changes such as the development of new approaches to farming and by local changes such as improved transport and the growth in the London market. There is evidence also of consequent rural economic divergence within the county, there

appearing to be an increase in the prosperity of yeomen in some parts of the county and a greater divide between them and the small farmers, the husbandmen.

Non-metropolitan Surrey's towns contained about a quarter of the area's population, a somewhat larger percentage than the national proportion but less than some other Home Counties, and were small, reaching populations of at most of 2,500 by the mid-seventeenth century. Some grew little while others substantially increased their populations and developed a much wider role as social centres. As well as agriculture and towns, the area contained some industrial activities but it is possible they involved directly only relatively modest numbers of workers. By the early eighteenth century the male occupational structure of non-metropolitan Surrey, similar to the proportion noted elsewhere, contained around a third of men described as labourers.

Connections between the demographic and the economic in non-metropolitan Surrey are revealed. Such connections were influenced by the area's varied soils and topographies, Surrey's proximity to London's rapidly increasing population, the nature and location of its towns, its agriculture and its accessibility by road or water. For example, the south-east of the county was an area badly affected by the dearth mortality of the 1590s. It was relatively remote, pastoral and poor, all of which made it especially vulnerable to dearth. It also seems to have been more self-contained than other areas, its people having fewer connections into or out of it than was the case elsewhere. Also affected in this crisis were south-western parishes linked to the cloth trade or other rural industry and this may have contributed to the difficulties the area experienced later when the cloth trade was in decline by the mid-seventeenth century. Conversely some areas closer to London and with better transport links show signs of economic strength. They were also more likely to focus on forms of agriculture, such

as market gardening, which served the London market. Their connectedness, though, meant they were more likely to experience severe outbreaks of plague.

The broadscale, big data approach of this study also reveals some intriguing examples of events that did not happen, even though they might have been expected. At times, such as in outbreaks of plague, chance seems to have been a factor. But sometimes it would seem other influences must be sought. Notably, the north-west of Surrey does not seem to have experienced a mortality crisis at the time of the 1590s dearth even though other parts of Surrey did and the area's high levels of poverty and its poor agriculture might have been expected to increase the vulnerability of its inhabitants to harvest failures. This underlines the complexity of causalities and points to the value of more detailed research to unravel underlying influences.

Overall, this study suggests something of the varied inter-related demographic and economic 'landscapes' within non-metropolitan Surrey. It shows much of life having a local focus influenced by local conditions, the area in some ways forming what might be termed a county of 'countries', areas larger than the parish but smaller than the county. This sense of 'countries' arises out of the evidence of the sources used, an approach which emphasises how a source-led study such as this provides a caution to the unthinking use of the approach sometimes taken in local studies of choosing a small pre-defined study area, often one based on local administrative boundaries or on a pre-existing sense of a particular place as being, in some way, 'different'. Such an approach may be unavoidable and can also be successful but it has the attendant risk of determinism, that is of identifying what are perceived as unique or unusual characteristics of a study area but without challenging how specific those

characteristics were to that particular study area or whether they were in fact more widespread.

Central to the conclusions of this study are its contributions to a number of discussions of relevance to the course of national economic or demographic change, challenging some and supporting others. The study raises the possibility that the fall in population in the mid-sixteenth century may perhaps have been greater than the 5 or 6 percent suggested by Wrigley and Scofield. The evidence is limited but it adds support to the suggestions by some of their critics that it was at least twice as high by identifying one mechanism which may have distorted the parish registers, their failure to be kept in times of mortality crisis because of the depth of the disruption caused by the crisis. Its identification of a significant level of dearth-related mortality in Surrey in the 1590s, reinforces the view that the concept of 'two Englands' relates at least in part to more remote and pastoral areas being more vulnerable than the more accessible and arable and emphasises the vulnerability of the south of England to harvest failure in the sixteenth century. The existence of a female mortality advantage is identified in a mortality crisis where disease, not famine, was the cause, providing a cautionary check on using the existence of a female mortality advantage as an indicator of a dearth-related mortality crisis. The process of agricultural 'revolution' is addressed through the identification of the timing and distribution of changes in agriculture over the two centuries of the study. The area's agriculture changed over the period shifting initially from farmers mainly producing for their own domestic consumption or for sale locally towards greater specialisation with an increased area of pastoral farming, influenced by the different soils and also by accessibility to the London market. But in the later seventeenth century the trend partially reversed with an increase in arable agriculture on the lighter soils in the west of the county. As part of this, the strength

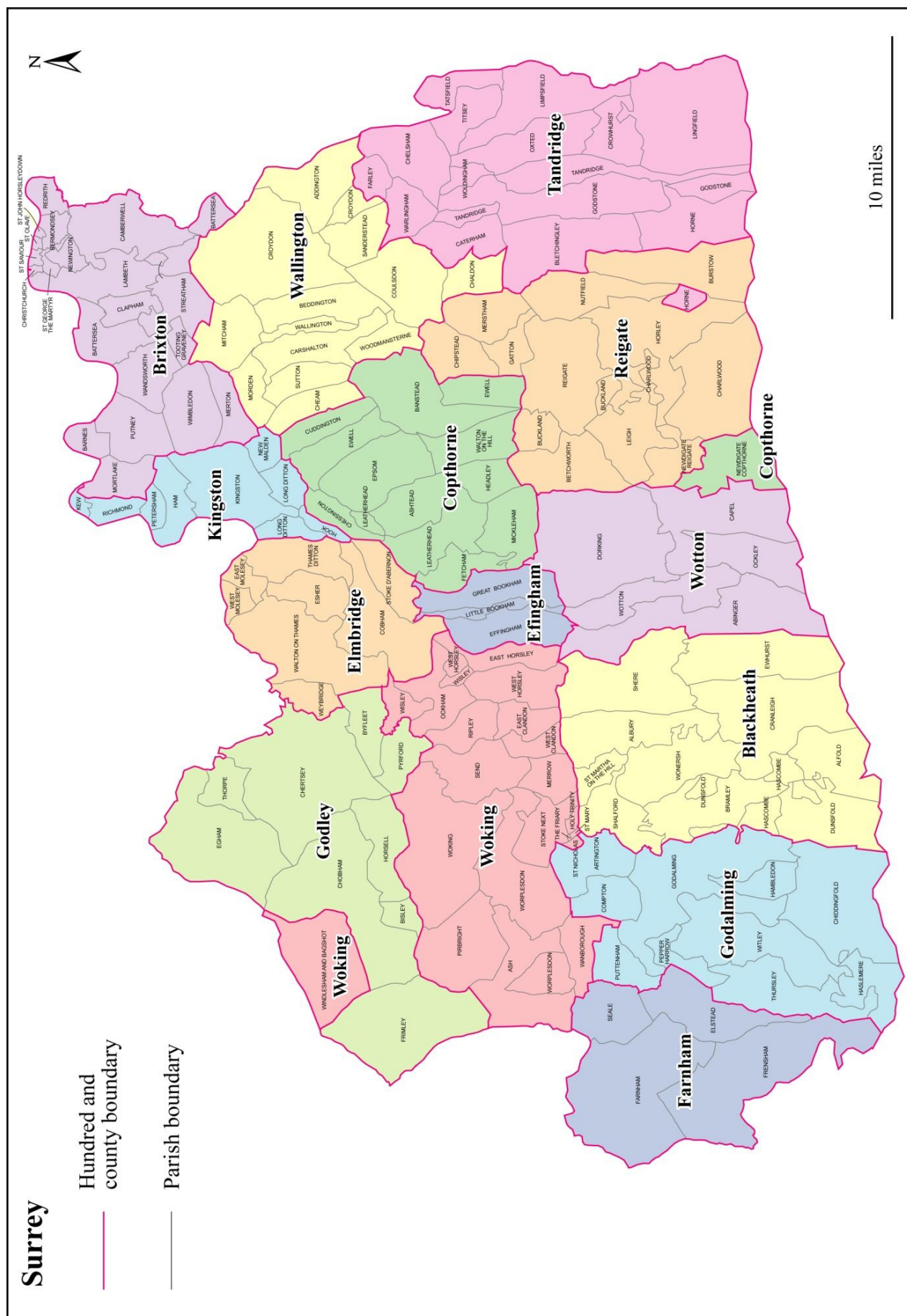
of Kussmaul's marriage seasonalities as indicators of local agricultural priorities is demonstrated though the observation of numerous adjacent parishes on similar soils showing the same marriage seasonality. The study points to the presence of population growth in many parishes in the seventeenth century, a period when nationally population growth stagnated, and also supports the substantial extent of population movement and the local nature of much migration. It extends the understanding of the nature of movement by apprentices to London by showing differences in the propensity to move of the sons of urban compared to rural parishes.

A further outcome from the study is its illustration of the value of the methodological approach adopted. Building on the approaches of previous studies this study shows how a range of demographic-based techniques can be used to explore a variety of aspects of the lives of people across a wide area and over a considerable period of time. This has involved using both the direct evidence such sources contain but also the indirect, unwitting, evidence they provide. The core sources used, parish registers, probate documents, apprenticeship records and poor law records, are widely available in many areas of England and in a fairly consistent form over a considerable period of time. The approach used here thus has widespread applicability, providing a potential template for comparative studies elsewhere in the country and also a crucial context for more local and detailed studies within Surrey.

Appendix: Surrey parishes

Hundred	Parishes
Blackheath:	Albury, Alfold, Bramley (at one time a chapelry of Shalford, a separate parish by the time of parish registers, but indications of continuing links between the two parishes) Cranleigh, Dunsfold, Ewhurst, Hascombe, St Martha (also known as Chilworth), Shalford, Shere, Wonersh.
Brixton:	Barnes, Battersea, Camberwell, Clapham, Merton, Mortlake, Putney, Streatham, Tooting Graveney, Wandsworth, Wimbledon; plus the metropolitan parishes of Bermondsey, Lambeth, Newington, Redrith (Rotherhithe) and the parishes of Southwark.
Copthorne :	Ashted, Banstead, Chessington, Cuddington (existed in name only, village was pulled down by Henry VIII to make way for Nonsuch palace), Epsom (Ebisham), Ewell, Fetcham, Headley, Leatherhead, Mickleham, Newdigate (part), Walton on the Hill.
Effingham:	Effingham, Great Bookham, Little Bookham.
Elmbridge:	Cobham, Esher, East Molesey, West Molesey, Stoke D'Aberon, Thames Ditton, Walton on Thames, Weybridge.
Farnham:	Elstead, Farnham, Frensham, Seale.
Godalming:	Artington (parish of St Nicholas, Guildford comprised Artington in Godalming Hundred and St Nicholas in the borough of Guildford), Chiddingfold, Compton, Godalming, Hambledon, Haslemere, Peper Harow, Puttenham, Thursley, Witley.

Godley:	Bisley, Byfleet, Chertsey, Chobham, Egham, Horsell, Pyrford, Thorpe, chapelry of Frimley (in parish of Ash in Woking Hundred, but also regarded as part of Godley Hundred) which maintained its own parish registers.
Kingston :	Kew, Kingston upon Thames, Long Ditton, Malden, Petersham, Richmond (note: Hook and Ham shown on map in Chapter 3: Study Area were hamlets within Richmond, identified separately in the hearth tax but not having separate parish registers).
Reigate:	Betchworth, Burstow, Buckland, Charlwood, Chipstead, Gatton, Horley, Leigh, Merstham, Nutfield, Reigate, Newdigate (part).
Tandridge:	Bletchingley, Caterham, Chelsham, Crowhurst, Farleigh (Farley), Godstone, Horne (a chapelry of Bletchingley until 1705), Limpsfield, Lingfield, Oxted, Tandridge, Tatsfield, Titsey, Warlingham, Woldingham.
Wallington:	Addington, Beddington (including Wallington) Carshalton, Chaldon, Cheam, Coulsdon, Croydon, Mitcham, Morden, Sanderstead, Sutton, Woodmansterne.
Woking:	Ash, East Clandon, West Clandon, East Horsley, West Horsley, Merrow, Ockham, Pirbright, Send and Ripley (Ripley was formerly a chapelry of Send), Stoke next Guildford, Wanborough, Windlesham, Wisley, Woking, Worplesdon. Borough of Guildford, in Woking Hundred: St Nicholas, St Mary, Holy Trinity (St Mary and Holy Trinity were combined in 1715 but maintained separate parish registers).
Wotton:	Abinger, Capel, Dorking, Ockley, Wotton



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