

SOURCES AND METHODS

This item considers a range of sources and methods commonly used in local population history. These vary in sophistication and complexity, but are intended to be of benefit to the broad *LPS* readership, and are accompanied by worked examples. Items are written by experienced population history practitioners, and will usually address both the possibilities and the pitfalls of the respective sources and methods under discussion. The members of the *LPS* Board are happy to enter into correspondence on this item, which should be addressed in the first instance to the *LPS* General Office.

ESTIMATING LOCAL POPULATION SIZES AT FIXED POINTS IN TIME:

PART II—SPECIFIC SOURCES

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Introduction

The first part of this two-part item on estimating local population sizes considered general issues.¹ In this section we examine a range of specific sources, giving advice on their content and coverage, examples of how they can be used to estimate population totals, some guidance about the major pitfalls to be avoided with each, and a short bibliography of works giving either further details of the source, or good examples of their use. The main focus will be on the pre-censal period, as there are many excellent works dealing with the use of the census reports for the decennial censuses from 1801 onwards and the census enumerators' books, which for most places are available for censuses from 1841 onwards.² We shall, however, briefly discuss the isolated surviving census returns for the first four censuses. The discussion is divided into sections corresponding roughly to the period between the Norman Conquest and 1500, the sixteenth and early seventeenth centuries, the late seventeenth century, and the eighteenth and early nineteenth centuries.

The medieval period

The most widely available sources for this period are Domesday Book (1086) and the Poll Taxes of 1377, 1379 and 1381. These two sources possess the twin advantages that they survive for a large proportion of local communities, and they are relatively straightforward to use. Manorial court rolls are also widely

available, and they have been used to chart population totals over time, but the effort required is prodigious. It is more difficult to persuade other sources to produce credible population totals, and their survival is patchy.

Domesday Book, 1086

Although the reason for the Domesday inquest, the results of which are compiled in the Domesday Book, remains open to speculation, it clearly was not intended to be a head count of the population.³ Nevertheless, it does provide a useful basis for estimating local populations at an early date for 13,418 English settlements. Unfortunately there are no returns for the counties of Cumberland, Westmorland, Northumberland, Durham and parts of Lancashire, while all towns—London included—are omitted.

In order to compute a population total from a Domesday entry, it is first necessary to locate the entry which refers to the place in which one is interested. This is not always easy, as many counties contain several Domesday entries with the same place name. Many edited county editions of Domesday Book include tables which 'map' Domesday entries on to modern parishes, but even with these it can sometimes be almost impossible to work out exactly which place is being referred to in a particular Domesday entry.

Assuming this problem has been overcome, the next stage is to look through the entry or entries relating to the relevant community and total the number of individuals mentioned therein. Domesday records distinct categories of people: tenants-in-chief, sub-tenants, peasants (who might be described as 'freemen', 'sokemen', 'villeins', 'bordars' or 'cottars') and *servi* or slaves. These categories need to be treated in different ways. Tenants-in-chief or sub-tenants (usually identifiable by the descriptions 'land of X' or 'Y holds Z', where X and Y are people and Z is a place) may not have lived in the place in question and, if so, should not be counted as part of their population. If they are counted, then a multiplier should be applied which is equal to the size of their family. The Domesday entry relating to the various category of peasant actually refers to 'peasant households'. Therefore the number recorded should be multiplied by a quantity equal to the average size of the peasant household. Unfortunately, there is disagreement about the likely household size at this date, and historians have used multipliers as low as 3.5 and as high as 5.0. Direct evidence from Lincolnshire suggests a figure towards the top end of this range (4.5–5.0), while consideration of what is known about contemporary fertility and mortality also points to a similar multiplier. Slaves present a different problem, in that it is not known whether reference to a 'slave' means one single slave or a 'slave household'. Therefore two estimates of the population should be made, one counting slaves as individuals and one counting them as heads of household. Finally, there is disagreement about the extent of undercounting. Omissions from the lists may have been as low as 5 per cent, or as high as 20 per cent. A mid-range formula would assume an omission rate of 10 per cent.

Thus, consider an entry in which there was one sub-tenant, 20 villeins, 10 bordars and 2 slaves. A low estimate for the Domesday population might be

obtained by assuming an average household size of 4.0, that slaves were recorded as individuals, that the sub-tenant was non-resident, and that omissions were 5 per cent. This gives:

$[(20 + 10) \times 4.0] = 120$ persons in the households of villeins and bordars
+ 2 slaves = 122 persons recorded
 $\times (100/95)$ for 5 per cent omissions = 128.

A high estimate might use an average household size of 5.0, and assume that slaves were recorded as heads of household, that the sub-tenant was resident and that omissions were 20 per cent. This gives:

$[(20 + 10) \times 5.0] = 150$ persons in the households of villeins and bordars
+ (2×5.0) slaves = 160 persons recorded
+ (1×5.0) for the sub-tenant = 165 persons recorded
 $\times (100/80)$ for 20 per cent omissions = 206.

A good general introduction to Domesday Book is still provided by R. Welldon Finn, *Domesday Book: a guide* (London, 1973). The best known edition in print is probably the county series produced by Phillimore under the general editorship of John Morris. There is one volume for each of the counties surveyed in 1086. Useful websites include <http://www.domesdaybook.co.uk>, which contains a list of all the places mentioned in Domesday Book. For more details on using Domesday Book to estimate population totals, see A. Hinde, *England's population: a history since the Domesday Survey* (London, 2003), 15–9 and 66–8. For analyses of the population, economy and society of eleventh-century England using the Domesday data, see H.C. Darby, *Domesday England* (Cambridge, 1977).

The Lay Subsidies

Lay subsidies were taxes raised from time to time on moveable items. Early examples date from the twelfth and thirteenth centuries (for example that in London in 1292) but they survive most widely from the first half of the fourteenth century, and especially 1332–33 under Edward III. Before 1332 the tax was a varying proportion of the value of moveable property, but in 1332 it was fixed at either one tenth or one fifteenth (indeed, the tax is sometimes known as ‘fifteenths and tenths’). Certain items were exempt from the tax, and those whose moveable items, taken together, were valued at less than a minimum threshold were not required to pay. The surviving returns typically detail the names of those who paid the tax, together with either the amounts that they paid, or the total values of the goods on which they were assessed. The returns are arranged place by place.⁴

To use the lay subsidy to estimate population totals requires at least three adjustments of the raw number of persons listed in the returns. First, those who owned moveable items whose value was below the minimum threshold must be added. Second, a correction for those who were omitted in error from the returns might be made. Applying these two corrections produces a list of ‘owners of moveable items’. Most of the people on this list would probably have been heads of household, and therefore an inflation factor for the average household size must be applied to produce an estimated population total. However, it is not certain that everyone listed in the lay subsidy returns was a

head of household. There are individuals described as 'son of A' who might have been living in the same household as A.

Lay subsidies are not confined to the medieval period: several survive for the sixteenth and even early seventeenth centuries, but most of those of interest to the population historian are concentrated in the late thirteenth and early fourteenth centuries. A useful general reference is R.E. Glasscock, *The Lay Subsidy of 1334* (London, 1975). Several county or regional studies are also available.⁵ An important recent discussion, which argues that urban wealth was under-recorded in the lay subsidies after 1294—and which might also have implications for estimates of urban population sizes—is P. Nightingale, 'The lay subsidies and the distribution of wealth in medieval England, 1275–1334', *Economic History Review*, 57 (2004), 1–29.

Other taxation lists

For certain towns and villages other taxation or rental lists for the medieval period survive. One example is the 1416–17 Tarrage Rolls for the city of Winchester. Tarrage was a 'ground rent paid to the King', and therefore analysis of the tarrage returns can reveal the number of dwellings in the city.⁶

Manorial records

Manors were legal and administrative units over which a single lord had control. They have left a voluminous documentary legacy, of which several elements can be made to furnish estimates of population totals. The *manorial court* dealt with a wide range of legal and administrative activities, so wide in fact that it was very difficult for a man living in a manor for more than a year or two to avoid encountering the court, and being mentioned by name in its records. By examining these records, often called *manorial court rolls*, dividing time up into three or five year periods, and noting the number of different named men mentioned in the records within each period, it is possible to estimate the trend in the male population of a manor. There is some controversy over the extent to which poorer males escaped making an appearance in the court rolls.⁷ Even if a proportion of males did not appear in the records, however, provided that this proportion is roughly constant over time, estimates of the population trend should still be reliable. Other manorial records which have been employed by historians to chart population totals include *views of Frankpledge*, by which men were divided into groups the members of which were mutually answerable for one another's conduct, and jointly liable for damages caused by any one of them.⁸ Finally, the manorial records also provide *extents* (values of land, labour services and rents) and *customals* (lists of tenants, sometimes written *custumals*) which might also provide indirect evidence about population numbers.⁹

Two major studies of demographic change which have used manorial records are Z. Razi, *Life, marriage and death in a medieval parish: economy and demography in Halesowen 1270–1400* (Cambridge, 1980); and L.R. Poos, *A rural society after the Black Death: Essex 1350–1525* (Cambridge, 1991). There are several analyses of individual communities available: an example is D. Postles, 'Demographic

change in Kibworth Harcourt, Leicestershire, in the later Middle Ages', *Local Population Studies*, 48 (1992), 41–8.

The Poll Taxes of 1377, 1379 and 1381

The Poll Tax of 1377 was levied at the rate of one groat (about 1½ p) per head on all males and females aged 14 years or over, apart from the beneficed clergy (who paid a separate tax) and 'mendicant friars', who were exempt completely.¹⁰ The 1377 tax was collected on a county and borough basis by local collectors who went from house and street to street collecting the money. The surviving records relate to the receipts given by county collectors to the local collectors, and the enrolment of the collectors' reports at the central office.¹¹

To use the 1377 returns to estimate the population of any local area, assumptions have to be made about the proportion of the population aged under 14 years and the proportion who evaded paying the tax completely. Richard Smith has used demographic models to estimate the proportion aged under 14 years at between 32 and 45 per cent, a range which neatly encompasses the previous estimates of J.C. Russell and M.M. Postan.¹² The extent of evasion is difficult to determine: existing estimates range from 2.5 per cent to 25 per cent.¹³ There is little or no evidence to support any particular figure within this range, though the justification which Russell produced for the lower figure seems flawed.¹⁴ It is probably best to make two estimates of a local population total, one using a 'low' evasion rate (perhaps 5 per cent) and the other a 'high' evasion rate (perhaps 25 per cent).

Consider an example. The number of Poll Tax payers in England's smallest county of Rutland in 1377 was 5,994.¹⁵ Assuming 5 per cent evasion and that one third of the population was aged under 14 years produces a 'low' estimate of the total population of

5,994

x 100/95 to take account of evasion = 6,309

x 3/2 to take account of those aged under 14 = 9,464

Assuming 25 per cent evasion and that 45 per cent of the population was aged under 14 years produces a 'high' estimate of the population of Rutland as

5,994

x 100/75 to take account of evasion = 7,992

x 100/55 to take account of those aged under 14 = 14,531.

The true figure probably lies somewhere between these two extremes.

In 1379 and 1381 two more Poll Taxes were levied. These used a sliding scale so that the rich paid more than the poor, but the scale slid only upwards, so that the minimum payment was set at one groat and the average payment was two groats in 1379 and three groats in 1381. Possibly because of the increased severity of these taxes, public resistance to paying was greater than it had been in 1377, with a consequent impact on evasion rates. Therefore these taxes are less useful than that of 1377 for estimating the population. The detailed listings surviving for some localities which give the amounts paid by each resident, however, give a fascinating insight into the social structure.¹⁶

Poll Tax records can be found in C.C. Fenwick, *The Poll Taxes, of 1377, 1379 and 1381, part I: Bedfordshire-Leicestershire*, British Academy Records of Social and Economic History (BARSEH), new series, 27 (Oxford, 1998); *part 2: Lincolnshire-Westmorland*, BARSEH, new series, 29 (Oxford, 2001); *part 3: Wiltshire-Yorkshire*, BARSEH, new series, 37 (Oxford, 2005). A good short description of the Poll Taxes can be found in M.W. Beresford, 'The Poll Taxes of 1377, 1379 and 1381', *Amateur Historian*, 3 (1958), 271–8. For more detail on using the Poll Taxes to estimate population totals, see A. Hinde, *England's population: a history since the Domesday Survey* (London, 2003), 68–73.

The Poll Taxes form the latest comprehensive source of data about local population sizes in the medieval period. Though there are isolated sources relating to the fifteenth century, none cover a large proportion of the country.

The sixteenth and seventeenth centuries

During the period from 1500 until the advent of the first census of population in 1801, there are a range of sources which might be used to derive population totals for local areas. None of these (save, perhaps, the Marriage Duty 'censuses' of the late-seventeenth century and certain listings of inhabitants) was designed to enumerate the total population, and so the questions of devising appropriate multipliers to convert the recorded numbers of persons into estimates of the total population still pertain.

Exchequer Lay Subsidies, 1524–1525 and 1543–1545

The Exchequer Lay Subsidies were discussed in some detail in Part I of this article.¹⁷ There is controversy over how to treat them, and particularly as to whether they include only taxable males aged 16 and over, or represent households. The difference in population totals that can be produced using methods of conversion based upon these respective interpretations was demonstrated in Part I, but for convenience will be repeated here.

Take a community of 100 taxpayers, assume they represent heads of households, and adopt a household multiplier of 4.75

$$100 \times 4.75 = 475$$

Take a community of 100 taxpayers, assume they represent males aged 16 and over, that 37.5 per cent of the population were aged under 16, and that there was an equal number of males and females

$$100 \times (100/62.5) \text{ to allow for those under 16} = 160$$

$$160 \times 2 \text{ to allow for the female population} = 320$$

In each case an estimate should also be made for those who evaded taxation, or who fell below the minimum threshold, and a commonly adopted estimate (which is really little more than a guess) is 30 per cent. This would give:

$$475 \times (10/7) = 679$$

or

$$320 \times (10/7) = 457$$

The lower estimate, therefore, is only about two-thirds of the higher one. There

are some grounds, however, for believing that the assumption of an exemption rate as high as 30 per cent might be excessive, for only those assessed at under £1 per annum in goods or wages were exempt, and it is unlikely that many would have earned so little in a year at a time when northern labourers were earning 4d per day.¹⁸ A comparison between the 1524–1525 lay subsidies and 1522 muster returns for a sample of rural areas in five counties indicated an exemption rate as low as 6 per cent, although the rate in towns may have been higher.¹⁹ Furthermore, the most thorough assessment of the lay subsidies of this period concludes that ‘the crown in the early Tudor period was spectacularly successful in securing the due payment of money accruing by way of parliamentary taxation’.²⁰

The issue of whether these lists represent males over 16, or heads of household, remains. In his work on early modern towns, Nigel Goose favours the former option, and hence lower population estimates. He has argued that there is no reason to believe that assessors perverted the stated intentions of the tax to assess all males aged 16 and over, that identification of some taxpayers in these lists as ‘servant’ makes it very unlikely they were all heads of household, and that comparison of an estimate made upon this basis for the town of Colchester with a further estimate from a list of ‘inhabitants swearing fealty’ to the crown in 1534 supports this interpretation.²¹ Alan Dyer, however, disagrees with this interpretation, and presents the strongest argument for treating the returns as lists of households: A. Dyer, ‘“Urban decline” in England, 1377–1525’, in T.R. Slater ed., *Towns in decline AD 100–1600* (Aldershot, 2000), 266–88. Other useful references are J. Sheail, *The regional distribution of wealth in England as indicated in the 1524/5 lay subsidy returns* (ed. R.W. Hoyle) 2 vols, List and Index Society, special series, 28 and 29 (Kew, 1998) and R. Schofield, *Taxation under the early Tudors 1485–1547* (Oxford, 2004).

Muster returns

These sources are usually lists of males eligible for military service. Once considered of considerable potential for establishing population sizes, they appear to have fallen out of favour, particularly now it has been appreciated that—like the Exchequer Lay Subsidies—only the earliest returns were carefully compiled. In theory muster returns should list all able-bodied men between the ages of 16 and 60 years. If all men within this age range were able-bodied, the reported number could be converted to a population total by making allowance for those aged under 16 and over 60 years, and doubling the total to include women. Assuming 35 per cent were aged under 16 years and 8 per cent aged over 60 years, for example, a list of 100 able-bodied men would be adjusted as follows:

100×1.75 (i.e. 100 divided by 57, assuming 43 per cent under 16 and over 60) $\times 2 = 350$.

Unfortunately, we do not know how many men between these ages were deemed *not* to be able-bodied, and some extant lists produce suspiciously low population totals when converted in this way. The most useful Muster Rolls are probably those for the 1520s, which can be used in combination with the

Exchequer Lay Subsidy to provide estimates of the population at a point on the boundary between the Middle Ages and the early modern period.²²

The chantry certificates, 1546–1548

Chantry certificates can sometimes be found in local record offices, but the commissioners' surveys, which date from 1546 and 1548, are held in The National Archives, class E301. The chantry certificates were supposed to provide details of the number of 'houseling people' in those parishes which had one or more chantries at the time of the Dissolution, and this term is generally taken to mean communicants of the Church of England (the verb 'to house' meaning 'to partake of communion'). The conversion of the numbers in these lists to population totals, therefore, depends upon establishing the age of first communion, and it is here that uncertainty arises. It was once assumed that the age of first communion was 14, as it was to become later, but the medieval tradition was that participation in spiritual life could begin as young as seven years, and only later—once the Reformation has taken fuller hold—was the age formally raised to 12. It is likely, therefore, that in the conservative religious climate of Henry VIII's reign the age was closer to seven than to 14.²³ If, for the sake of argument, we assume that it was ten, and further assume (on the basis of the age structure estimates produced by Wrigley and Schofield) that 25 per cent of the population was under 10, then conversion of these lists to population totals is straightforward. In the case of a list of 100 'houseling people',

$$100 \times (100/75) = 133$$

However, many of the lists are suspiciously rounded, suggesting that they were little more than rough estimates: Hoskins, for example, uses the example of Plymouth, where a figure of precisely 2,000 is given.²⁴ Coverage is also extremely patchy, and for some counties at particular dates the figures are simply not recorded, such as the county of Kent in 1546.²⁵ Some of these lists have been printed by local record societies, for example: J.E. Brown ed., *Chantry certificates for Hertfordshire* (Hertford, 1909); E. Green ed., *The survey and rental of the chantries, colleges, free chapels, guilds, fraternities, lamps, lights and obits in the County of Somerset*, Somerset Record Society, 2 (1888); C.W. Foster and A. Hamilton-Thompson, 'The chantry certificates for Lincoln and Lincolnshire', *Reports and Proceedings of the Associated Architectural Societies*, 36 (1922), 183–294, 37 (1925), 18–106, 247–75.

The Ecclesiastical Censuses of 1563 and 1603

The first of these surveys is sometimes described as the 'Bishops' Census', the latter as the 'communicant returns', and both are diocesan population returns, the former listing households, the latter communicants (often divided between communicants, recusants and nonconformists). They have long been used by historians attempting to estimate local, regional and national populations.²⁶ As noted in Part I of this article, coverage is limited to 12 of the 26 dioceses in 1563, and 16 in 1603, while many local returns suffer from rounding in a similar fashion to the chantry certificates, and hence each must be taken on its own merits.²⁷ As they contain different categories of people (householders in 1563,

communicants in 1603) they are not strictly comparable, and hence different methods must be used to convert each return to population totals. The 1563 return should be the most straightforward, as it would appear that all we need is a suitable household size multiplier. But, as Dyer and Palliser have recently noted, 'no scholarly consensus has yet been achieved on this aspect of the returns'.²⁸ As we note below in our discussion of the Hearth Taxes, not all historians accepts that the 'conventional' figure for mean household size of 4.75, suggested long ago by Peter Laslett, is acceptable, while economic depression or the local impact of poverty and plague could easily reduce this average.²⁹ But the problem goes deeper than this, for comparison made for the town of Cambridge and county of Hertfordshire between population totals calculated from the 1563 census and baptism totals counted from parish registers suggests that, even if a high mean household multiplier is adopted, the baptism rates that can be established for many parishes are implausible, leading to the conclusion that the 1563 return must undercount the population. In response to this, Dyer and Palliser have suggested that the apparent discrepancy between parish register data and population totals which can be established from the 1563 returns *may* be the product of exceptional demographic circumstances prevailing in the early 1560s, themselves a product of the well-known mortality crisis of 1556-60, a hypothesis that can only be validated once ongoing research is completed.³⁰ Wisely they warn against the use of 'too prescriptive a formula' to convert the figures provided by the 1563 return to population totals, and we too would advise caution.³¹ At the very least, the adoption of a range of possible household multipliers makes sense, perhaps 4.5, 4.75 and 5.0 to give plausible (but not definitive) parameters. But the possibility that these lists under-enumerate the population remains, and a correction factor of the order of 25 per cent has been suggested by Goose. Taking the mid-range household multiplier, therefore, two calculations are possible for a community of 100 households:

$$100 \times 4.75 = 475$$

and

$$100 \times 4.75 \times 100/75 = 633$$

Comparison between the population totals that can be established from these returns using a range of multipliers, and average baptism figures from extant contemporary parish registers, remains a good means of testing their accuracy.

The 1603 return of communicants poses the same problem as the chantry certificates in terms of the need to establish age of first communion, but by this date suggested ages range more narrowly between 14 and 16.³² This would lead us to assume that approximately 35 per cent of the population were omitted on grounds of age.³³ Conversion of local returns to population totals, therefore, should again involve just a simple sum. Unfortunately, however, there is much clearer evidence of undercounting in the 1603 return, which has been highlighted by comparing the national population estimate made by Wrigley and Schofield with the total that can be established from the ecclesiastical census: the shortfall is as high as 23 per cent.³⁴ As Dyer and Palliser argue, the 'assumption that the established church was ever able to secure regular

church attendance from every parishioner is a very naïve one', while the exigencies of travel, illness and error may also have taken their toll on the figures. Hence they tentatively suggest that the total number of communicants given for any parish should be increased by at least 35 per cent, and possibly as much as 45–50 per cent, before conversion to produce a population size.³⁵ For a community of 100 communicants, therefore, taking the range for omission of 35–50 per cent, we have two possible calculations:

$100 + (100 \times 35/100) \times 100/65 = 208$ (undercount 35 per cent and 35 per cent underage)

and

$100 + (100 \times 50/100) \times 100/65 = 231$ (undercount 50 per cent and 35 per cent underage)

The following articles provide an introduction to the Bishops' Census of 1563 and its use for local demographic work: N. Goose, 'The ecclesiastical returns of 1563: a cautionary note', *Local Population Studies*, 34 (1985), 46-7; A. Dyer, 'The Bishops' Census of 1563: its significance and accuracy', *Local Population Studies*, 49 (1992), 19-37; N. Goose, 'The Bishops' Census of 1563: a re-examination of its reliability', *Local Population Studies*, 56 (1996), 43-53; A. Dyer and D.M. Palliser eds, *The diocesan population returns for 1563 and 1603*, BARSEH, new series, 31 (Oxford, 2005).

The Protestation Returns 1641–1642

The Protestation returns were intended to record a full list of all male inhabitants aged 18 years and over in each parish. As such, it is easy to use them to estimate a population total by allowing for the estimated proportion of the population under the age of 18 years, and doubling to allow for women. So, for example, if 100 persons were recorded, the calculation is as follows:

100×1.66 (i.e. 100 divided by 60, assuming 40 per cent under 18) $\times 2 = 332$.

This procedure corresponds closely to that suggested by Whiteman and Russell of adopting a multiplier between 3.0 and 3.5.³⁶ Whiteman's examination of over 400 parishes in 14 counties leads her to conclude that the returns should be taken seriously as, in effect, a census of men aged 18 years and over, although she also notes that individual returns can vary considerably in quality, and not all local officials were assiduous in chasing 'refusers' or other absentees, while in some parishes women are included, and in others temporary residents or visitors too.

The returns are held in the House of Lords Record Office, and survive for parishes in the dioceses of Canterbury, London, Winchester, Salisbury, Chichester, Worcester, Hereford, Exeter, Lincoln, Rochester, Oxford, Lichfield, Bath and Wells and St Asaph in the Province of Canterbury, and for some parts of the Province of York too. A complete list of the areas for which they survive can be found in the appendix to: *Fifth Report of The Royal Commission on Historical Manuscripts. Part I. Report and Appendix* (London, 1876).

The late seventeenth century

The Hearth Taxes

Hearth Tax returns survive for the periods 1662–66 and 1669–1674. They were described in Part I of this article, and so will not be described again in detail here.³⁷

The tax applied to households and not to houses, so in theory it should be relatively easy to establish a population total by applying a suitable household size multiplier. But, as always with such sources, this should not be done uncritically.³⁸ The extant lists vary in terms of their coverage, with those for the same locality in different years often being of different levels of completeness. It is particularly important to use a return that includes those exempt from taxation as well as those taxable: urban evidence suggests the proportion of the population exempt could be as high as two-thirds, so a list of the taxable population might give little clue to actual population size.³⁹ As paupers did not generally feature even among the exempt in these returns, an allowance might be made for these too. And, of course, the problem of selecting a suitable household multiplier still remains. The figure of 4.75 has often been used, based upon the average for 100 pre-industrial communities calculated long ago by Peter Laslett, but Tom Arkell has more recently suggested a lower figure.⁴⁰

A great deal of work has been based on the Hearth Tax returns, quite a lot of which concerns their use to estimate local population totals. For a description of the tax see T. Arkell, 'Printed instructions for administering the Hearth Tax', in K. Schürer 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, 1992), 38–64. Recent studies which discuss the use of the returns to analyse local population sizes include N. Evans, 'The Hearth Tax returns as a source for population size and the incidence of poverty in Suffolk during the reign of Charles II', *Proceedings of the Suffolk Institute of Archaeology (& History)*, 40 (2004), 455–9; and T. Arkell, 'Identifying regional variations from the Hearth Tax', *Local Historian*, 33 (2003), 148–74. Evans is rather sceptical of the reliability of estimates of population size made using the Hearth Tax on the grounds that the poor were generally excluded (because they were exempt), which reinforces the point made earlier that returns which do not list those exempt from taxation should not be used to make inferences about the total population size. Even when lists of those exempt are available, a further adjustment (of perhaps 5 per cent) might be made to allow for paupers, who did not require a formal certificate of exemption.

The Hearth Tax returns for some counties have been transcribed and published.⁴¹ This makes using them for research much easier but, of course, does not make them any more accurate!

The Compton Census 1676

The Compton census records communicants of the Church of England, 'papists' (or Roman Catholics) and nonconformists on a parish by parish basis. Most commonly it lists males aged 16 or over (the age of first communion in the seventeenth century), but the lists occasionally include females, and sometimes

children too. The three religious categories can be added to produce a total upon which to base an estimate of population size, but the multiplier adopted will depend upon which age and sex groups are included. Anne Whiteman's definitive edition of the census (A. Whiteman ed., *Compton Census of 1676: a critical edition*, BARSEH, new series, 10 (Oxford, 1986)) provides what she calls 'conjectural interpretation' of the probable coverage of the Compton Census for the various parishes for which it survives, by comparing the totals given in particular ecclesiastical administrative areas with the Protestation Returns of 1641–1642 and the Hearth Taxes (both discussed above). She suggests that where men and women are included, a multiplier of 1.5 is appropriate (that is, assuming children under 16 to constitute 33 per cent of the population). If only men are included, then the multiplier should be 3.0 (that is, double to allow for women, plus 33 per cent for children under 16). Before attempting to calculate local population totals, therefore, it is essential to consult Anne Whiteman's book.

A further guide to estimating population totals from the Compton Census is given in T. Arkell, 'A method for estimating population totals from the Compton Census returns', in K. Schürer 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, 1992), 97–116.

Marriage Duty lists

The Marriage Duty Act of 1695 imposed a tax on vital events (births, marriages and burials), and also required annual payments by bachelors aged over 25 years and childless widowers. To assist with the administration of the tax, it was expedient for parishes to compile lists of their inhabitants and the resulting documents are, perhaps, the nearest attempts at a complete census of population that we possess for the period before 1801. The Act proved complex and difficult to administer, and was abandoned in 1706. Nevertheless, for the 11-year period for which it was in force, some parts of the country are blessed with extremely useful census-type lists. Unfortunately, however, their survival is very patchy. A particularly good set survives for London, and another excellent example comes from the parish of St John in Southampton. A recent comparative study in Wiltshire concluded that the Marriage Duty 'census' may be more complete than the Compton Census.⁴² On the other hand, doubts have been raised as to the accuracy of the base population figures derivable from the 'censuses' and the haphazard and confused state of some extant returns noted.⁴³

Other early modern sources

In addition to the sources listed above, there are some other possible sources which local population historians might consider. The sources described in this section, overall, are less useful than the ones identified so far either because they are more difficult to work with, or because they only survive for a limited number of places. Examples of the first category are the Poll Taxes of the seventeenth century, which can be complex to use and interpret.⁴⁴ The Bishops' Visitations of the eighteenth century consist of a series of questions asked of parish priests within each diocese, which often included requests for estimates

of parish population totals, as well as the number of nonconformists and 'papists'. Clearly some of the numbers provided by incumbents may be little more than informed guesses, but they do provide estimates for a period (the eighteenth century) during which few alternative sources are available, and they can be cross-checked against the figures from the later seventeenth century sources and the 1801 census.⁴⁵

In the second category are the listings of inhabitants, or informal 'censuses', of particular places which were conducted for a variety of purposes at different times, normally by interested residents, incumbent clergymen or local officials such as the overseers of the poor. These, of course, were the sources used by Peter Laslett and his colleagues in their analysis of the structure of the English household in the past.⁴⁶ A collection of these lists has been created at the Cambridge Group for the History of Population and Social Structure, but there are many others, which have recently been listed and catalogued by Jeremy Gibson and Mervyn Medlycott.⁴⁷ The level of detail given in these lists varies, but the vast majority will be able to furnish an estimated total population. When carrying out research on a particular place, therefore, it is therefore always worth checking to see if any of the surviving lists relates to that locality.

Sources from the early census era

From 1801, the decennial censuses provide population totals for each parish in the country, and the situation of the population historian is thereby made considerably easier. For the first four censuses of 1801, 1811, 1821 and 1831 the original census returns do not survive systematically, and for most places reliance must be placed on the census reports. The latter have recently been made available in electronic format through the Online Historical Population Reports Project. This provides online access to all the census reports for England and Wales and Scotland from 1801 to 1931, and renders them searchable by place name. A particularly useful set of reports relates to the census of 1851, which list the population of each place in the five previous censuses.⁴⁸

For some places, the original returns from the early censuses do survive, and they can sometimes provide details of the age and sex composition of the population, as well as occupational information. Details of these can be found in R. Wall and M. Woollard, 'Pre-1841 population census schedules and lists', *Local Population Studies*, 74 (2005), 84–93. From 1841 until 1901, the census enumerators' books are available for every parish in the country and provide base populations for whatever sub-section of the population of a locality interests the historian.

NOTES

1. N. Goose and A. Hinde, 'Estimating local population sizes at fixed points in time: part I—general principles', *Local Population Studies*, 77 (2006), 66–74.
2. See, for example, E. Higgs, *A clearer sense of the census* (London, 1996); D. Mills and K. Schürer eds, *Local communities in the Victorian census enumerators' books* (Oxford, 1996); R. Lawton, *The census and social structure: an interpretative guide to nineteenth-century censuses for England and Wales*

- (London, 1978); and D. Mills and M. Drake, 'The census, 1801–1991', in M. Drake and R. Finnegan eds, *Sources and methods for family and community historians: a handbook* (Cambridge, 1994), 25–56. On the census reports, see M. Drake, 'The census, 1801–1891', in E.A. Wrigley ed., *Nineteenth-century society: essays in the use of quantitative methods for the study of social data* (Cambridge, 1972), 7–46.
3. For a discussion of the reasons for the Domesday inquest, see M. Wood, *Domesday: a search for the roots of England* (London, 1986), 22–4.
 4. See, for example, J.P. Steel ed., *Cumberland Lay Subsidy: being the account of a fifteenth and tenth collected 6th Edward III* (Kendal, 1912) (available online at <http://www.british-history.ac.uk/source.asp?pubid=385>, accessed 12 March 2007).
 5. Two examples are A.D. Mills ed., *The Dorset Lay Subsidy roll of 1332*, Dorset Record Society, 4 (Dorchester, 1332); and A.M. Erskine ed., *The Devonshire Lay Subsidy of 1332*, Devon and Cornwall Record Society publications, new series, 14 (Exeter, 1969).
 6. Hampshire Record Office, *A guide to sources for archaeology and population studies* (Winchester, n. d.), 21.
 7. See L.R. Poos and R.M. Smith, 'Legal windows onto historical populations: recent research on demography and the Manor Court in medieval England', *Law and History Review*, 2 (1984), 128–52, here at 134–6; Z. Razi, 'Use of Manor Court Rolls in demographic analysis: a reconsideration', *Law and History Review*, 3 (1985), 191–200; L.R. Poos and R.M. Smith, "'Shades still on the window": a reply to Zvi Razi', *Law and History Review*, 3 (1985), 407–29; Z. Razi, 'Manorial Court Rolls and local population: an East Anglian Case Study', *Economic History Review*, 49 (1996), 758–63.
 8. Hampshire Record Office, 'A guide to sources', 18.
 9. Hampshire Record Office, 'A guide to sources', 17–8.
 10. M.W. Beresford, 'The Poll Taxes of 1377, 1379 and 1381', *Amateur Historian*, 3 (1958), 271–8, here at 271.
 11. J.C. Russell, *British medieval population* (Albuquerque, 1948), 122–3, 131.
 12. R.M. Smith, 'Plagues and peoples: the long demographic cycle.1250–1670', in P. Slack and R. Ward eds, *The peopling of Britain: the shaping of a human landscape* (Oxford, 2002), 178–9. It might be pointed out that the models Smith uses assume that fertility and mortality are constant, and for the England in 1377 the assumption of constant mortality is potentially problematic. For Postan's estimate, see M.M. Postan, *The medieval economy and society: an economic history of Britain in the Middle Ages* (Harmondsworth, 1972), 33.
 13. The lower figure is Russell's, the higher is Postan's (see Russell, *British medieval population*, 124–30; Postan, *Medieval economy and society*, 32–3).
 14. A. Hinde, *England's population: a history since the Domesday survey* (London, 2003), 70–1.
 15. Russell, *British medieval population*, 132–3.
 16. See, for example, that surviving for the village of Brockley-cum-Rede in Suffolk, transcribed and printed in E. Powell, *The rising in East Anglia in 1381* (Cambridge, 1896), 69–70.
 17. Goose and Hinde, 'Estimating local population sizes', 69.
 18. D. Woodward, *Men at work: labourers and building craftsmen in the towns of northern England* (Cambridge, 1995), 214.
 19. E.A. Wrigley and R.S. Schofield, *The population history of England, 1541–1871: a reconstruction* (London, 1981), 567.
 20. R. Schofield, *Taxation under the early Tudors 1485–1547* (Oxford, 2004), 176.
 21. N. Goose, 'In search of the urban variable: towns and the English economy, 1500–1650', *Economic History Review*, 39 (1986), 183; N. Goose and J. Cooper, *Tudor and Stuart Colchester* (Chelmsford, 1998), 67.
 22. See, for example, Wrigley and Schofield, *Population history*, 568.
 23. J. Cornwall, 'English population in the early sixteenth century', *Economic History Review*, 23 (1970), 32; Wrigley and Schofield, *Population history*, 565.
 24. W.G. Hoskins, *Local history in England*, 2nd edn (London, 1972), 171. Hoskins also assumes an age of first communion of 15.
 25. J.S. Moore, 'Canterbury visitations and the demography of mid-Tudor Kent', *Southern History*, 15 (1993), 37.

26. J. Thirsk, 'Sources of information on population 1500–1760', *Amateur Historian*, 4 (1959); J. Patten, *English towns 1500–1700* (Folkestone, 1978), 95–145; Russell, *British medieval population*, 22, 270–2.
27. Goose and Hinde, 'Estimating local population sizes', 69.
28. A. Dyer and D.M. Palliser eds, *The diocesan population returns for 1563 and 1603*, BARSEH, new series, 31 (Oxford, 2005), xli.
29. C. Phythian-Adams, *Desolation of a city. Coventry and the urban crisis of the later Middle Ages* (Cambridge, 1979), 238–48; N. Goose, 'Household size and structure in early-Stuart Cambridge', *Social History*, 5 (1980), 353–8, 363–5.
30. Dyer and Palliser, *Diocesan population returns*, xli–xlix.
31. Dyer and Palliser, *Diocesan population returns*, xli.
32. Wrigley and Schofield, *Population history*, 569; Dyer and Palliser, *Diocesan population returns*, lxx–lxx.
33. This is to prefer the age structure calculations of Wrigley and Schofield for this quinquennium to those suggested by Gregory King for the later seventeenth century, and hence we differ from the conclusion reached in Dyer and Palliser, *Diocesan population returns*, lxx, where 35–40 per cent is suggested.
34. Wrigley and Schofield, *Population history*, 569.
35. Dyer and Palliser, *Diocesan population returns*, lxxi–lxxii.
36. See A. Whiteman, 'The Protestation Returns of 1641–1642: part I, the general organisation', *Local Population Studies*, 55 (1995), 14–27; A. Whiteman and V. Russell, 'The Protestation Returns, 1641–1642: part II, partial census or snapshot? Some evidence from Penwith Hundred, Cornwall', *Local Population Studies*, 56 (1996), 17–29.
37. Goose and Hinde, 'Estimating local population sizes', 70.
38. See T. Arkell, 'Assessing the reliability of the Warwickshire Hearth Tax returns of 1662–74', *Warwickshire History*, 6 (1986–1987), 183–97.
39. See, for example, Goose and Cooper, *Tudor and Stuart Colchester*, 97–8; N. Goose, 'Decay and regeneration in seventeenth-century Reading: a study in a changing economy', *Southern History*, 6 (1984), 66–7.
40. See, for example, P. Laslett, 'Mean household size in England since the sixteenth century', in P. Laslett and R. Wall eds, *Household and family in past time* (Cambridge, 1972), 125–58, here at 138; T. Arkell, 'Multiplying factors for estimating population totals from the Hearth Tax', *Local Population Studies*, 28 (1982), 51–7.
41. Two examples are E. Hughes and P. White eds, *The Hampshire Hearth Tax Assessment 1665, with the Southampton Assessments for 1662 and 1670*, Hampshire Record Series, 11 (Winchester, 1992); and N. Evans and S. Rose eds, *Cambridgeshire Hearth Tax returns, Michaelmas 1664*, Cambridgeshire Records Society, 15 (London, 2000).
42. I.L. Williams, 'North Wiltshire demography, 1676–1700', *Wiltshire Archaeological and Natural History Magazine*, 90 (1997), 110–4.
43. J. Ford, 'The Marriage Duty Act censuses for Lyme Regis, 1695–1703', *Proceedings of the Dorset Natural History and Archaeological Society*, 125 (2003), 1–11.
44. See T. Arkell, 'An examination of the Poll Taxes of the later seventeenth century, the Marriage Duty Act and Gregory King', in Schürer and Arkell, *Surveying the people*, 142–63.
45. The Bishop's Visitation returns for Hampshire in 1725, 1764–1765 and 1788 have been published in W.R. Ward ed., *Parson and parish in eighteenth-century Hampshire: replies to Bishop's visitations*, Hampshire Record Series, 13 (Winchester, 1995).
46. Laslett and Wall, *Household and family in past time*. A list of the ones used for the analyses reported in this volume is given in Laslett, 'Mean household size', 130–1.
47. M. Medlycott, 'A survey and guide of listings of inhabitants', *Local Population Studies*, 46 (1991), 50–3; and J.S.W. Gibson and M. Medlycott, *Local census listings, 1522–1930*, 2nd edn (Birmingham, 1994).
48. Census of Great Britain, 1851, *Population tables I: number of inhabitants in the years 1801, 1811, 1821, 1831, 1841 and 1851*, 2 vols. (London, 1852). Available online at <http://www.histpop.org> (accessed on 23 March 2007).