

Population trends in Lancashire, 1548-1563

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Although the population history of Lancashire in the early modern period has been expertly treated by Dr Colin Phillips, he did not consider the first two decades of his period.¹ This was perhaps unfortunate, since the 1550s are generally agreed to constitute a period of demographic crisis beginning with the two worst harvests of the entire sixteenth century in 1554 and 1555² and continuing with an epidemic of influenza and typhus which is usually regarded as the greatest decline in population to afflict England since the Black Death of 1348-50.³ Although Wrigley and Schofield calculated the loss of population between 1556 and 1561 as 5.5 per cent of the population,⁴ F.J. Fisher had earlier estimated it at around 20 per cent and T.H. Hollingsworth at 23 per cent.⁵ The present writer, extending Fisher's analysis of a sample of seven probate series to all the available English probate series, later

¹ C.B. Phillips and J.H. Smith, *Lancashire and Cheshire from AD 1540* (London, 1994), pp. 5-12, 66-70.

² W.G. Hoskins, 'Harvest fluctuations and English economic history, 1480-1619', *Agricultural history review*, 12 (1964), pp. 28-46; C.J. Harrison, 'Grain price analysis and harvest qualities, 1465-1634', *Agricultural history review*, 19 (1971), pp. 135-55; E.A. Wrigley and R.S. Schofield, *The population history of England, 1541-1871* (London, 1981), pp. 655, 664-81.

³ T.H. Hollingsworth, *Historical demography* (London, 1969), p. 237; Wrigley and Schofield, *Population history of England*, pp. 310-11, 322, 332-35, 650-55, 660-66, 670-71.

⁴ Wrigley and Schofield, *Population history of England*, table 7.8; E.A. Wrigley *et al*, *English population history from family reconstitution, 1580-1837* (Cambridge, 1997), appendix 9.

⁵ F.J. Fisher, 'Influenza and inflation in Tudor England', *Economic history review*, 2nd series, 18 (1965), pp. 120-29; Hollingsworth, *Historical demography*, pp. 236-37.

argued for a 16.5 per cent drop in population in the late 1550s,⁶ and despite Wrigley and Schofield's lower estimate, many historians still feel that the loss of population at that time was much nearer 20 per cent.⁷

Further work is obviously still needed and one possible approach is 'comparative static analysis', a comparison of population levels at different points in time. Although this procedure cannot be utilised for all places in England before the first national census in 1801, at regional level it can be used for those places which have data on the level of population at two or more points in time. Fortunately, the period of crisis comes between two dates when it is possible to calculate approximate levels of population over much of the country, namely 1546-48, when the chantry certificates frequently give the number of 'houseling people', that is communicants, in many parishes throughout England, and 1563, when bishops were required to return the numbers of households in each parish and chapelry. For Lancashire, the chantry certificates are mostly in print in an old and not entirely reliable edition,⁸ while for England and Wales the available diocesan returns have been printed in an exemplary modern edition.⁹

We must start, however, by considering two major problems. First, are these sources reliable? Second, can we derive from them estimates of population in which we can have reasonable confidence? The two sources were created by different sets of people, the chantry certificates by royal commissioners, mostly laymen, the diocesan returns by episcopal officials and clerks, but both depended ultimately on local knowledge which must have been obtained from the clergy, churchwardens and

⁶ J.S. Moore, "'Jack Fisher's 'flu': a visitation revisited', *Economic history review*, 2nd series, 46 (1993), pp. 280-307.

⁷ D.M. Loades, *The reign of Mary Tudor: Politics, religion and government in England, 1553-1558* (2nd edn, London, 1991), p. 320; P. Thomas, *Authority and disorder in Tudor times, 1485-1603* (Cambridge, 1999), p. 45.

⁸ F.R. Baines, ed., *A history of the chantries within the county palatine of Lancaster*, Chetham society, old series, 59-60 (1862).

⁹ A. Dyer and D.M. Palliser, eds, *The diocesan population returns for 1563 and 1603* (Oxford, 2005). The Chester diocesan returns, including Lancashire, are printed on pp. 78-96.

inhabitants of each parish. Would such people have known the size of their own communities? It is difficult to see how either clergy or churchwardens could have fulfilled their respective functions without such knowledge. The clergy, if resident, must have known the number of communicants at mass (later communion), especially at Easter when all parishioners were supposed to attend, communicate and offer 'oblations';¹⁰ by the mid sixteenth century, lists of communicants were being made in many parishes,¹¹ including Whalley in Lancashire;¹² clergy were already making 'listings' of their parishioners,¹³ while churchwardens had been keeping accounts for, amongst other things, bread and wine for mass since the fourteenth century, duties which sometimes included rates levied on local occupiers.¹⁴ As Peter Heath has shown, by the fifteenth century many clergy were also keeping accounts which included lists of tithe payers and some were calculating parish populations.¹⁵ Local people, therefore, should have been able to supply the required information and often did so quite precisely; in 1548, out of 997 chantry certificates which provide numbers of 'houseing people' throughout England, 266 (28.7 per cent) provide exact enumerations and 324 (32.5 per cent) give numbers to the nearest

¹⁰ P. Heath, *The English parish clergy on the eve of the Reformation* (London, 1969), pp. 3, 7, 156-57.

¹¹ S.J. Wright, 'A guide to Easter books and related parish listings', *Local population studies*, 42 (1989), pp. 18-31; 43 (1989), pp. 13-27.

¹² F.R. Baines, ed., *The Easter rolls of Whalley in the years 1552 and 1553*, Chetham society, old series, 96 (1875), part iv.

¹³ J.S.W. Gibson and M. Medlycott, *Local census listings, 1522-1930: Holdings in the British Isles* (Birmingham, 1992).

¹⁴ J.C. Cox, *Churchwardens' accounts* (London, 1913); W.E. Tate, *The parish chest: A study of the records of parochial administration in England* (3rd edn, Cambridge, 1969), pp. 25-28, 92-107. Church rates ('leys') were regularly collected in sixteenth-century Prescott but the basis of their assessment is never revealed – see F.A. Bailey, ed., *The churchwardens' accounts of Prescott, Lancashire, 1521-1607*, Record society of Lancashire and Cheshire, 104 (1953).

¹⁵ P. Heath, 'Medieval clerical accounts', *St Anthony's Hall publications*, 26 (1964); Heath, *The English parish clergy*.

10 or 20.¹⁶ Lancashire in fact was quite exceptional among English counties in that its returns of 'houseling people' were all rounded to the nearest thousand or hundred, but we can make allowances for such rounding when calculating estimated populations. Dyer and Palliser have similarly investigated the rounding of numbers of households in 1563, showing that 41.6 per cent of returns were rounded to the nearest 10, 12 or 20, at least half of the remaining returns being exact numbers.¹⁷

Were these numbers, rounded or not, accurate? This can only be determined by comparing the chantry certificates and diocesan returns with other available records. The only area where comparison with the chantry certificates is possible on a large-scale basis is Gloucester diocese, covering most of Gloucestershire apart from the extreme south around Bristol, where an episcopal visitation in 1551 included numbers of communicants.¹⁸ Investigation of this return showed that there was a close correspondence between the two sets of figures; moreover, the existence of chantry certificates in 1548, the diocesan returns for 1551, 1563 and 1603 and the commonwealth church survey of 1650 meant that the Gloucestershire figures could be compared parish-by-parish over a long period, which made it easier to spot erroneous figures.¹⁹ For Kent east of the Medway, the draft and fair copy returns for Canterbury diocese in 1563 could be compared with diocesan returns for 1557, 1565 and 1569 which also frequently provide numbers of communicants as well as numbers of households.²⁰ The comparison of different sets of data

¹⁶ Calculations from my continuing research on English chantry certificates. A study of chantry certificates as a demographic source is forthcoming in the *Local historian*.

¹⁷ Dyer and Palliser, *Diocesan population returns*, pp. xxxiv-xli.

¹⁸ J. Gairdner, 'Bishop Hooper's visitation of Gloucester diocese, 1551', *English historical review*, 19 (1904), pp. 98-121.

¹⁹ J.S. Moore, 'Episcopal visitations and the demography of Tudor Gloucestershire', *Southern history*, 22 (2000), pp. 72-130.

²⁰ 1557: Canterbury Cathedral Archives, DCb/Z.3.32, printed in L.E. Whatmore, ed., 'Archdeacon Harpsfield's visitation, 1557', *Catholic record society*, 45-46 (1950-51). 1563: Corpus Christi College, Cambridge, MS. 122, ff. 291-318 (draft); British Library Harleian MS. 594, ff. 63r.-84r. (final version). Dyer and Palliser, eds, *Diocesan population returns*, pp. 34-35, prefer to see the Cambridge document as the fair copy. 1565: Canterbury

for many parishes in Kent over a short period of time between 1548 and 1569 again demonstrated that, allowing for usually detectable copying errors, most of the data were reliable.²¹ Recent studies have reinforced the view that the chantry certificates are a reliable source. Alan Kreider, who has probably examined more chantry certificates than any other scholar since the late Professor Hamilton Thompson, praises their 'manifest quality' and considers them to be 'usually as accurate...as possible'.²²

The Kentish records are also valuable when we turn to consider 'multipliers' for converting communicants in 1546-48 and households in 1563 into estimated populations for their parishes, because, as we have just noted, they often provide data on both communicants and households in a parish at the same time. For communicants in 1546-48, Wrigley and Schofield's 'multiplier' of 1.33 has been followed, based on their belief that

in the last years of the reign of the theologically conservative Henry VIII the age of [first] communion may not have risen much above the canonical age of 7 of pre-Reformation days. A convenient compromise would be to take the age of 10 as constituting the point at which the chantry commissioners in the mid 1540s may have counted a child as one of the 'howling people'.

Since children under 10 constituted roughly a quarter of the Tudor population, multiplying the number of communicants by $100/(100-25)$, that is 1.33, will produce a reasonable population estimate.²³ The argument seems clear and convincing.

As for the household 'multiplier', Dr Alan Dyer has argued from the evidence of the grain returns for Clackclose hundred in

Cathedral Archives, DCb/Z.3.8, ff. 130r.-43r. In addition, a bishop's transcript provides the demographic information for Hythe (Canterbury Cathedral Archives, DCa/BT/214/5). 1569: Canterbury Cathedral Archives, DCb/Z.3.10, ff. 2r.-36v.

²¹ J.S. Moore, 'Canterbury visitations and the demography of mid-Tudor Kent', *Southern history*, 15 (1993), pp. 36-85.

²² A. Krieder, *English chantries: The road to dissolution* (Cambridge, Mass., 1979), pp. 12-13, 45-47.

²³ Wrigley and Schofield, *Population history of England*, pp. 565-66.

north-west Norfolk in 1557 that the average household size in the country as a whole in 1563 may have been of the same order, 5.1 people, which he explains plausibly as a consequence of the abnormally heavy mortality among the elderly, certainly noticed by contemporaries. This death toll he believed broke up mature households and redistributed children and servants to other surviving households.²⁴ These arguments, though cogent, are not entirely convincing; Norfolk was, and had been since Norman times, one of the most densely populated parts of England, so that average households there might well be larger than elsewhere. Moreover, whilst the crisis of 1556-60 undoubtedly broke up some households, that would only happen if both husband and wife had died; yet widowers and widows were only a small proportion, about 18 per cent, of all heads of household. Even after the death of husband and wife, the household might continue – 10 per cent of households were headed by unmarried individuals.²⁵ Whilst some households undoubtedly ended in the crisis period, new households were also being formed, for marriages boomed in the years 1558-62 – these new households formed by recent marriages would be small and therefore would lower the average household size.²⁶ Even the household ‘multiplier’ of 4.75 may be unduly high in a period following a demographic crisis and a ‘multiplier’ of 4.3 has been suggested as preferable outside London.²⁷ Again, lowering the size of my multiplier to Arkell’s suggested figure of 4.3 instead of Laslett’s 4.75 would obviously reduce calculated populations in 1563 and thereby raise the calculated population decrease between 1548 and 1563 quite considerably.²⁸ As Arkell rightly remarks, no single ‘multiplier’ will be appropriate at all

²⁴ A.D. Dyer, ‘The bishops’ census of 1563: Its significance and accuracy’, *Local population studies*, 49 (1992), pp. 20-22.

²⁵ P. Laslett and R. Wall, eds, *Household and family in past time* (Cambridge, 1972), p. 147 (table 4.9).

²⁶ Wrigley and Schofield, *Population history of England*, p. 496 (table A2.3).

²⁷ T. Arkell, ‘Multiplying factors for estimating population totals from the hearth tax’, *Local population studies*, 28 (1982), pp. 51-57.

²⁸ M. Zell, ‘Families and households in Staplehurst, 1563-64’, *Local population studies*, 33 (1984), pp. 54-58; P. Clark and J. Clark, ‘Social economy of the Canterbury suburbs: The evidence of the census of 1563’, in A. Detsicas and N. Yates, eds, *Studies in modern Kentish history* (Maidstone, 1983), pp. 65-86; Arkell, ‘Multiplying factors for estimating population’.

times and all places, but in the absence of more detailed information for the sixteenth century we are forced to use a single 'multiplier' *faute de mieux*.

The convergence between estimated population totals based on communicants using the conventional 'multiplier' of 1.33 and population estimates based on households using the conventional 'multiplier' of 4.75 is amply justified by the evidence from the Canterbury visitations, which show that the differences between population estimates based on communicants and those based on households in the same places were -3.9 per cent in 1557, -6.9 per cent in 1563, -6.3 per cent in 1565 and -6.5 per cent in 1569.²⁹ The same convergence can also be verified on rare occasions even in 1546-48. In 1546, the Suffolk chantry commissioners generally omitted to give the number of 'houseling people' but in Botesdale, which was being absorbed into Redgrave, they noted '46 householders in the street, by estimation 160 houseling people'. Using the same pre-Elizabethan 'multipliers' for communicants of 1.33, and for households of 4.75, the resulting population estimates are 213 from the houseling people and 219 from the households, a close match which confirms the reliability of both the original data and the 'multipliers' used to produce population estimates. A similar conclusion follows from a reference in 1548 to Dogdyke hamlet in Billingham (Lincolnshire) as containing 'certain houtholds to the noubre of 18...ther being 70 houseling people'; the resulting population estimates are 93 from the 'houseling people' and 86 from the households, again a close correspondence.³⁰ Obviously, calculations of population change are highly sensitive to changes in the 'multipliers' employed, hence the choice of those that would artificially increase the population decline which occurred between 1548 and 1563, probably mostly in the crisis years between 1556 and 1560.

Having satisfied ourselves that our chosen 'multipliers' for converting communicants and households to population estimates

²⁹ Moore, 'Canterbury visitations', tables 1-3.

³⁰ V.B. Redstone, ed., 'Chapels, chantries and gilds in Suffolk', *Proceedings of the Suffolk institute of archaeology and natural history*, 12 (1906), pp. 31-34, 36, 40; C.W. Foster and A. Hamilton Thompson, eds, 'The chantry certificates for Lincoln and Lincolnshire', *Reports and proceedings of the associated architectural societies*, 37 (1925), p. 89.

are reasonable, we can now proceed to compare the population estimates for those parishes in Lancashire where data exist both in the chantry certificates (mostly from 1548 though two certificates from 1546, for Harwood in Blackburn and for Manchester, also have numbers of 'houceling people') and in the 1563 Chester diocesan return. Although all the Lancashire parishes and chapelries had a household number entered in 1563, only some Lancashire parishes and chapelries had one or more chantries established in their church or chapel and in some cases the 1548 chantry certificates did not give the number of 'houceling people',³¹ usually, if there was more than one chantry in a church or chapel, only the first certificate stated the number of 'houceling people'.³² It is sometimes uncertain whether the original data in the chantry certificates referred to the entire parish, including any chapelries, or only to the mother parish, but any cases of doubt have been resolved by experimenting with the alternatives. In 1563, the diocesan return lists chapelries separately from the mother parishes, but on occasion it is clear that the 'parish' of the 1540s included both the central settlement and the subordinate chapelries. Finally, the result of multiplying data (whether original or amended) by the appropriate 'multiplier' necessarily results in figures that, even when rounded to the nearest digit, have an entirely spurious appearance of statistical precision. Such estimates it is hoped are of the right order of magnitude but should only be taken as approximations – even the seemingly exact figures of modern censuses are known to have a margin of error of 1-2 per cent. Since the percentage 'rate of change' is also the result of

³¹ Baines, *History of the chantries*, 59, pp. 57-61 (Warrington), pp. 61-65 (Hollinferry), pp. 80-82 (Warrington), pp. 106-09 (Lathom in Ormskirk), pp. 115-19 (Halsall), pp. 139-41 (Clitheroe in Whalley), pp. 147-52 (Burnley in Whalley), pp. 158-59 (Douglas in Eccleston), pp. 160-65 (Rufford in Croston); 60, pp. 170-72 (Becconsall in Croston), pp. 173-75 (Tarlton in Croston), pp. 202-11 (Preston), pp. 216-17 (Singleton in Kirkham), p. 235 (Melling), pp. 236-39 (Edisforth in Whalley), p. 239 (Burnley in Whalley), pp. 241-42 (Holme in Whalley), p. 250 (Ulverston), pp. 251-52 (Warrington), pp. 252-53 (Ashton under Lyne). Only two places, Harwood in Blackburn and Manchester, have numbers of 'houceling people' recorded in 1546 (*ibid.*, 59, pp. 10, 146).

³² For an exception, see *ibid.*, 59, pp. 83, 85 (Liverpool).

comparing these inexact figures, it too should be regarded only as a rough indication of order of magnitude. The 'preferred value' column indicates which data from 1546 or 1548 have been used for calculating estimated population or, occasionally, when 'houseing people' are assumed to be total population.

Table 1 (overleaf) presents the 'raw data' and consequent calculations for those Lancashire parishes for which data exist both in 1546-48 and 1563. Rates of change greater than about +10.0 per cent or -50.0 per cent have been regarded as dubious; since the period from 1548 to 1563 includes the 'sweat' in the years around 1551 as well as the major outbreak of what contemporaries called the 'new ague' or 'new disease' between 1556 and 1560, high levels of natural growth are unlikely unless, exceptionally, immigration is likely. Table 2 (on page 43) displays the quinquennial population estimates from 'back projection' and from 'generalised inverse projection' for the three 'normal' quinquennia between 1541 and 1556 and the three quinquennial growth rates derived from these estimates, one of which is somewhat larger than the other two. (Both 'back projection' and its later refinement as 'generalised inverse projection' are computerised applications of population forecasting in reverse, so that earlier populations can be calculated from later known starting points, working backwards with the aid of historical data on population trends. In England the starting point was 1871 and the programmes worked backwards in five-year stages to 1541.) Minimum and maximum growth rates have been calculated by applying the two lower quinquennial rates to the quinquennium 1556-60; these suggest that in exceptional conditions (the absence of epidemic disease in 1556-60), population could have grown by between 13.6 per cent and 15.6 per cent between 1546 and 1560. (The exact figures for population in Table 2 simply result from the application of the computer programme, another example of spurious precision!) Without the assistance of immigration, it is very unlikely that the population of any English parish in the 15 years 1546-61 grew by more than at most 15.0 per cent even if the place entirely escaped crisis mortality caused by epidemic disease. 'About +10.0 per cent' therefore seems a safe cut-off point to distinguish between the possible, albeit exceptional, population rise and the quite impossible. In fact, the only borderline parish in

Lancashire is Middleton with an estimated population-rise of +13.1 per cent; all the remaining dubious cases in Table 1 are well above that level. At the other end of the scale, despite the presence of epidemic disease, rates of decrease much over -50 per cent are in practice unlikely anywhere in England where evidence is available unless non-medical circumstances are present (see Norham below). Places with questionable data have been italicised in Table 1.

Table 1. Lancashire parochial populations, 1546/48-1563 (raw data).

Deanery	1546	1546	1548	1548	1546-	1563	1563	%
Parish	H.p.	Est.	H.p.	Est.	48	H-	Est.	change
Chapelry		pop.		pop.	Prefer-	holds	Pop.	1546-48
					red			to 1563
					value			
Blackburn:								
<i>Blackburn</i>	<i>N/A</i>	<i>N/A</i>	2000	2667	2667	727	3454	+29.5
Harwood	400	533	<i>N/A</i>	<i>N/A</i>	533	104	494	-7.3
<i>Whalley</i>								
<i>Padiham</i>	<i>N/A</i>	<i>N/A</i>	300	400	400	106	504	+26.0
Leyland:								
Croston	<i>N/A</i>	<i>N/A</i>	1200	1600	1600	364	1729	+8.1
<i>Eccleston</i>	<i>N/A</i>	<i>N/A</i>	500	667	667	180	855	+28.2
<i>Leyland</i>	<i>N/A</i>	<i>N/A</i>	800	1067	1067	370	1758	+64.8
Standish	<i>N/A</i>	<i>N/A</i>	1400	1867	1867	351	1668	-10.7
Manchester:								
<i>Bolton le</i>								
<i>Moors</i>	<i>N/A</i>	<i>N/A</i>	700	933	933	240	1140	+22.2
<i>Blackrod</i>	<i>N/A</i>	<i>N/A</i>	400	533	533	45	214	-59.8
Eccles	<i>N/A</i>	<i>N/A</i>	2000	2667	2667	356	1691	-36.6
<i>Manchester</i>	6000	8000	6000	8000	8000	753	3577	-55.3
Middleton	<i>N/A</i>	<i>N/A</i>	800	1067	1067	254	1207	+13.1
<i>Prestwich</i>	<i>N/A</i>	<i>N/A</i>	600	800	800	320	1520	+90.0
Warrington:								
<i>Childwall</i>	<i>N/A</i>	<i>N/A</i>	600	800	800	208	988	+23.5
<i>Huyton</i>	<i>N/A</i>	<i>N/A</i>	500	667	667	187	888	+33.1
Ormskirk	<i>N/A</i>	<i>N/A</i>	3600	4800	4800	500	2375	-50.5
<i>Prescot</i>	<i>N/A</i>	<i>N/A</i>	1000	1333	1333	497	2361	+77.1
Sefton	<i>N/A</i>	<i>N/A</i>	900	1200	1200	140	665	-44.6
Walton								
<i>Liverpool</i>	<i>N/A</i>	<i>N/A</i>	4000	5333	5333	138	656	-87.7
Wigan	<i>N/A</i>	<i>N/A</i>	2600	3467	3467	808	3838	+10.7
<i>Winwick</i>	<i>N/A</i>	<i>N/A</i>	1000	1333	1333	60	285	-78.6
Amounderness:								
<i>Garstang</i>	<i>N/A</i>	<i>N/A</i>	1000	1333	1333	348	1653	+24.0
Kirkham	<i>N/A</i>	<i>N/A</i>	1200	1600	1600	268	1273	-20.4
Goosnargh	<i>N/A</i>	<i>N/A</i>	500	667	667	100	475	-28.8

<i>Lancaster</i>	<i>N/A</i>	<i>N/A</i>	<i>4000</i>	<i>5333</i>	<i>5333</i>	<i>240</i>	<i>1140</i>	<i>-78.6</i>
<i>Ribchester</i>	<i>N/A</i>	<i>N/A</i>	<i>500</i>	<i>667</i>	<i>667</i>	<i>126</i>	<i>599</i>	<i>-10.2</i>
<i>St Michael on Wyre</i>	<i>N/A</i>	<i>N/A</i>	<i>800</i>	<i>1067</i>	<i>1067</i>	<i>210</i>	<i>998</i>	<i>-6.5</i>
Furness:								
<i>Kirkby Ireleth</i>	<i>N/A</i>	<i>N/A</i>	<i>500</i>	<i>667</i>	<i>667</i>	<i>155</i>	<i>737</i>	<i>+10.5</i>
Kendal:								
<i>Warton</i>	<i>N/A</i>	<i>N/A</i>	<i>2000</i>	<i>2667</i>	<i>2667</i>	<i>284</i>	<i>1349</i>	<i>-49.4</i>
Lonsdale:								
<i>Tunstall</i>	<i>N/A</i>	<i>N/A</i>	<i>600</i>	<i>800</i>	<i>800</i>	<i>110</i>	<i>523</i>	<i>-34.6</i>

Totals: The total 1546-48 estimated population preferred value = 56,535; the total 1563 estimated population = 40,614. This represents an overall change of -28.2%.

Sources: for 1546-48 = F.R. Baines, ed., *A history of the chantries within the county palatine of Lancaster*, Chetham society, old series, 59-60 (1862); for 1563 = A. Dyer and D.M. Palliser, eds, *The diocesan population returns for 1563 and 1603* (Oxford, 2005).

Abbreviations: H.p. = houseling people; est. pop. = estimated population; H-holds = households; N/A = not available.

Note: Places with high rates of change (over +15% and -50%) have been italicised.

Table 2. Growth rates in England, 1541-55.

Period	Back projection population estimate	% increase	Generalised inverse projection population estimate	% increase
1541	2,773,851	-	2,800,459	-
1541-45	2,853,711	2.9	2,908,465	3.9
1546-51	3,011,030	5.5	3,065,168	5.3
1551-55	3,158,644	4.9	3,212,504	4.8
1541-55	-	10.7	-	10.5

Minimum population growth 1546-60 = 13.6% from back projection population estimates and 14.4% from generalised inverse projection population estimates.

Maximum population growth 1546-60 = 15.6% from back projection population estimates and 15.3% from generalised inverse projection population estimates.

Sources: for back projection estimates = E.A. Wrigley and R.S. Schofield, *The population history of England, 1541-1871* (London, 1981), table A3.1; for generalised inverse population estimates = E.A. Wrigley *et al*, *English population history from family reconstitution, 1580-1837* (Cambridge, 1997), table A9.1.

We have already seen that the original data are generally reliable and this can in one instance be partly confirmed for Lancashire. The 'Easter rolls' for Whalley and Padiham in 1552 and 1553 recorded 252 households in 1552 and 246 households in 1553,³³ as opposed to the totals of 155 for Whalley and 106 for Padiham in 1563.³⁴ But there are problems with this comparison; the 'Easter rolls' included 'Pendleton' (Newchurch in Pendle) with 26-32 households which was assigned 64 households in 1563, but exclude important chapelries like Burnley, Colne, Clitheroe and Newchurch in Rossendale with 278, 315, 203 and 124 households respectively in 1563; *per contra*, several named hamlets in 1552-53 are not mentioned in 1563. All one can really deduce is that the household numbers for Whalley and Padiham in 1563 are of the same rough order of magnitude as those in 1552-53. Unfortunately, their ambiguity means that they cannot be used as a check on the 'housing people' of Padiham reported in 1548.

Therefore we need to explain how the exceptional rates of change arose from corrupted data. It has already been noted that Lancashire was exceptional among English counties in the high degree of rounding in the chantry certificate figures for 'housing people', none of which is lower than the nearest hundred or thousand. Raw data have only been amended where the rate of change between 1546 or 1548 and 1563 is improbably high (as defined above) and where an emendation can be justified allowing for the form in which numerals were presented (Roman in the chantry certificates and Arabic in the 1563 ecclesiastical census),

³³ Baines, *The Easter rolls of Whalley*.

³⁴ Dyer and Palliser, *Diocesan population returns*, p. 87.

though Dyer and Palliser note that drafts behind the final fair copy probably employed Roman numerals.³⁵ There is no detailed return for Chester diocese in 1603, which makes correction of the figures in 1548 and 1563 more difficult. The 1563 figures for households are assumed to be correct unless Dyer and Palliser have indicated they are open to question or unless there seems compelling reason to query them. Rounding of numbers in 1548 is very evident; allowing for this helps to resolve some problems. Using raw values, there was a decline in estimated populations of 27.8 per cent, but this included some places with impossibly wide variations (+90.0 per cent to -87.7 per cent).

We may begin by considering those places where rounding of the numerical data in the chantry certificates of 1546-48 for Lancashire may explain unduly high rates of change. A figure of 1,000 'houseling people' could theoretically represent a number between 950 and 1,500; a figure of 200 a number between 150 and 250. At Blackburn, for example, the reported 2,000 'houseling people' could represent a population between 3,200 and 3,333 if 2,000 were raised to 2,400 or 2,500; either estimate would be acceptable as only a little below 3,454 estimated from 727 households. The 1664 total of 234 households and estimated population of 1,112 is clearly too low unless there has been a drastic decline in population since 1563.³⁶ At Kirkby Ireleth, given rounding, 500 'houseling people' could well represent 540 or 550, indicating an estimated population of 720-730, very little below the estimated population of 737 for the central settlement in 1563 (the larger number of households (322) in 1563 includes the chapelries of Broughton and Seathwaite, leading to an estimated population higher than those in 1664 or 1811).³⁷ Rounding of the number of 'houseling people' at Middleton raises the estimated population in 1548 from 1,067 to 1,120, producing a small rise in population of 7.8 per cent. We have already seen that the 'Easter rolls' of Whalley in 1552-53 do not throw much light on the population of Padiham, one of its chapelries. Rounding again means that 300

³⁵ *Ibid.*, p. xxxv.

³⁶ P. Clark and J. Hosking, *Population estimates of English small towns, 1550-1851* (2nd edn, Leicester, 1993), p. 85. It may be noted that this work, despite its starting date, utterly ignores the evidence of chantry certificates.

³⁷ *Ibid.*, pp. 87-88.

'houseling people' could represent 340-350, yielding an estimated population of 453-467, only a little below the estimated population of 504 in 1563. Rounding at Wigan probably means that 2,600 'houseling people' may represent 3,520 inhabitants in 1548, rising by 9 per cent in 1563. It is difficult to fault the precisely reported number of households (808), though by 1664 the population had apparently shrunk by over 50 per cent.³⁸

A second cause of unduly high rates of change may be the inclusion or exclusion of chapelries from parochial totals. As they stand, the figures for Bolton indicate a very high growth rate for Bolton and a very high decrease for its chapelry of Blackrod. The explanation for this situation may be migration between the two places; combining the figures for both places and comparing these totals yields an acceptable rate of decline. The apparently high rate of population decline at Lancaster, -78.6 per cent, can be reduced to -52.2 per cent if we include its chapelries, raising the number of households to 536 and the estimated population in 1563 to 2,547. The decline of 78.6 per cent at Winwick calculated from the raw data is obviously impossible. The most likely amendment is to include the two chapelries of Ashton and Newton in Makerfield in the 1563 total of households (180), resulting in an estimated population of 855 and a decline of 35.9 per cent since 1548. Indeed, even if we include the largest chapelry, Culcheth, there would still be a 5.0 per cent decline in population.

Finally, problems can arise as a result of scribal error, especially likely with Roman numerals but also possible with Arabic numerals, which were only coming into common use in the later sixteenth and seventeenth centuries and did not totally supersede Roman numerals until after 1660. Thus the first volume of the Prescott churchwardens, 1523-1607, used Roman numerals throughout and their use continued into the second volume, 1635-63.³⁹ Local probate inventories⁴⁰ and household and farming

³⁸ *Ibid.*, p. 91.

³⁹ Bailey, *Churchwardens' accounts of Prescott*; T. Steel, ed., *Prescott churchwardens' accounts, 1635-1663*, Record society of Lancashire and Cheshire, 137 (2002). The continuing use of Roman numerals can be inferred (*ibid.*, p. xli) but Mr Steel does not inform readers which numerals are used.

⁴⁰ The continuing use of Roman numerals into the second quarter of the seventeenth century in probate inventories can be inferred from C.B. Phillips

accounts still utilised Roman numerals well into the seventeenth century.⁴¹ No objection can be raised to the number of households at Childwall in 1563, so the number of 'houseling people' may have been miscopied. Perhaps *vjC* (600) was a mistake for *vijC* (700); the estimated population of 933 compared to 988 in 1563 yields a possible change of +5.9 per cent. Rounding of the number of 'houseling people' at Ecclestone by itself will not explain the apparent rise in population between 1548 and 1563. Assuming that the household figure in 1563 is correct (no query is raised by Dyer and Palliser), the only obvious correction to the number of 'houseling people' is if an original *vjC* (600) in 1548 was miscopied as *vC* (500); 600 communicants would suggest 800 people – if rounding also occurred, even more – near or above the 855 estimated for 1563. No rounding of the 'houseling people' at Garstang will explain the discrepancy with the 1563 estimated population of 1,653; if, however, 1,000 (*m*) results from a miscopying of 2,000 (*mm*), the resulting rate of change is acceptable, -38.0 per cent. The households (39) and estimated population (170) in 1664 are clearly too low unless there has been a drastic decline since 1563.⁴²

At Huyton the precise number of households in 1563 is unlikely to be mistaken; *vC* (500) 'houseling people' could be in error for *vjC* (600) which, given the widespread rounding in 1548,

and J.H. Smith, eds, *Stockport probate records, 1620-1650*, Record society of Lancashire and Cheshire, 131 (1992), p. xxi, but again the editors fail to specify the type of numerals used in each document. In the inventories printed by the Chetham society, Arabic numerals first appear in 1594 and Roman numerals last appear in 1642 (J.P. Earwaker, ed., *Lancashire and Cheshire wills and inventories, 1572-1696*, Chetham society, new series, 28 (1897), pp. 11, 223-25).

⁴¹ F.R. Raines, ed., *The Stanley papers, part 2: The Derby household books*, Chetham society, old series, 31 (1853) [1561-90], J. Harland, ed., *The house and farm accounts of the Shuttleworths*, Chetham society, old series, 35, 41, 43, 46 (1856-58) [1582-1621] and F.R. Raines, ed., *The journal of Nicholas Asheton*, Chetham society, old series, 14 (1848) [for 1617-18] all use Roman numerals; the accounts in J.J. Bagley, ed., *The great diurnall of Nicholas Blundell*, Record society of Lancashire and Cheshire, 110, 112, 114 (1968-72) [1702-28] and A. Sparke, ed., *The township booke of Halliwell*, Chetham society, new series, 69 (1910) [1645-1762] use Arabic numerals throughout.

⁴² Clark and Hosking, *Population estimates*, p. 87.

could represent 640 or 650; this would raise the estimated population to 853-867, a maximum rise of +4.1 per cent. At Leyland, again, rounding of the number of 'houceling people' will not resolve the impossibly high population growth of 64.8 per cent. Dyer and Palliser do not query the 370 households of 1563, but if 800 'houceling people' is a mistake for 1,800, with an initial *m* omitted, leading to an estimated population of 2,400, the rate of change is then a much more reasonable -26.8 per cent. As Dyer and Palliser point out,⁴³ the reported 100 households at Liverpool in 1563 is probably a rounding of a higher figure, perhaps 120, below the 138 reported in 1565, yielding an estimated population of 570. Given Liverpool's rapid growth, this compares well with estimated populations of around 800 in 1565,⁴⁴ nearly 1,000 in 1589,⁴⁵ and between 1,200 and 1,600 in the 1620s.⁴⁶ Clearly, the 1548 population is far too high, although the figure of 4,000 'houceling people' is reported twice then,⁴⁷ and the resulting rate of change, from around 5,000 to around 600, would be extraordinarily high. 4,000 (*iiiiM*) must have been a misrendering of *iiiiC* (400) which would yield a more likely estimated population of 533, with rounding possibly 587, but it is difficult to see why the same mistake occurred in two distinct chantry certificates. Nevertheless, the only earlier full list of Liverpool burgesses and tenants, numbering 262 in 1346, suggests a population of around 1,250, which could well have halved by 1548, given later medieval population decline.⁴⁸

Manchester is the one place in Lancashire for which numbers of 'houceling people' were recorded both in 1546 and 1548; since these are identical, they are unlikely to be wrong. But do this and later mentions refer to the manor, parish or township

⁴³ Dyer and Palliser, *Diocesan population returns*, p. 84, n. 31.

⁴⁴ J.A. Twemlow, ed., *Liverpool town books, 1551-1862* (2 vols, Liverpool, 1918-35), 1, pp. 436-40, 446-53.

⁴⁵ *Ibid.*, 2, pp. 820-22, 826-29.

⁴⁶ R. Stewart-Brown, *The inhabitants of Liverpool from the 13th to the 18th century* (Liverpool, 1930), pp. 9-10.

⁴⁷ Baines, *History of the chantries*, 59, pp. 83, 85.

⁴⁸ Stewart-Brown, *The inhabitants of Liverpool*, pp. 2-3.

of Manchester?⁴⁹ Fairly clearly, the chantry certificates of 1546 and 1548 refer to the whole parish, whereas the 1524 lay subsidy recorded 163 taxpayers, probably in the township, which Hoskins and Willan thought indicated a total population of about 1,500.⁵⁰ Other historians, however, doubt the demographic utility of the lay subsidy records of 1524-25 for northern England, and no other Manchester townships are recorded in 1524-25.⁵¹ Willan calculates that in 1543, when 256 taxpayers were recorded, the township of Manchester may have contained over 1,150 inhabitants (I think nearer 1,200),⁵² whilst the other townships together contained 578 taxpayers, equivalent to between 2,600 and 2,750 inhabitants.⁵³ This would suggest that the total population of Manchester parish in 1543 could have been around 4,000. However, this is uncertain; in southern England, where the lay subsidies of Henry VIII's reign were better administered, only the 1524-25 subsidy included the numerous class of wage earners, whose later omission must mean that any calculations based on the subsidies of the 1540s will underestimate the population and so will not act as a check on the chantry certificate data.⁵⁴ Thus the Lancashire subsidies would lead us to suppose that Manchester township contained more people in 1524-25, c.1,500, than in 1543-45, c.1,200, a most unlikely result.

⁴⁹ T.S. Willan, *Elizabethan Manchester*, Chetham society, 3rd series, 27 (1980), pp. x, 1-3, 38-39.

⁵⁰ W.G. Hoskins, *Provincial England* (London, 1963), pp. 72, 81-82; Willan, *Elizabethan Manchester*, p. 38.

⁵¹ J. Tait, ed., *Taxation in Salford hundred, 1524-1802*, Chetham society, new series, 83 (1924), pp. 1-6; R. Hoyle, *Tudor taxation records: A guide for users* (London, 1994), p. 26; J. Sheail and R.W. Hoyle, 'The regional distribution of wealth in England as indicated in the 1524/5 lay subsidy returns', *List and index society*, special series, 28-29 (1998), 28, pp. viii, xii, 11-12, 35-36, 50, 57, 109-14, 184-95; 29, pp. 397-434.

⁵² Tait, *Taxation in Salford hundred*, pp. 21-26; Willan, *Elizabethan Manchester*, p. 38.

⁵³ Tait, *Taxation in Salford hundred*, pp. 27-40.

⁵⁴ Hoyle, *Tudor taxation records*, pp. 3, 12-14, 22-25; Sheail and Hoyle, 'Regional distribution of wealth', 28, pp. vii, 13-19; 29, pp. 21-35, 149-54, 173-79, 213-34, 322-36. By contrast, in parts of some counties there were more taxpayers recorded in 1543-44 than in 1524-44 (*ibid.*, 29, pp. 37-41 (Cornwall), pp. 49-65 (Devon), pp. 67-82 (Dorset), pp. 184-202 (Lincolnshire), pp. 256-66 (Oxfordshire), pp. 271-88 (Shropshire), pp. 312-18 (Staffordshire)).

Such estimates, as well as the apparent exceptional high rate of population decline between 1548 and 1563, -55.3 per cent, higher than any other Lancashire place (Lancaster had a decline of 52.2 per cent), do suggest that the chantry certificate estimates of 6,000 'houseling people' in 1546-48 were in fact estimates of total population for Manchester parish. The estimated population of Manchester parish in 1563 of 3,577, if compared to 6,000 rather than 8,000 in 1548, implies an overall drop since 1548 of 40.4 per cent, still high but not unduly so; in the same time Garstang's population fell by 38.0 per cent and Sefton's by 44.6 per cent. The population of Manchester parish was clearly rising thereafter. It was estimated at 10,000 in 1578 and rose above 30,000 by 1635;⁵⁵ the population of south Lancashire (Manchester and Warrington deaneries) rose from 42,000 in 1563 to 77,000 in 1664 as industrial growth encouraged immigration.⁵⁶

The 1563 population of Ormskirk can hardly be increased, given the reported 108 householders in 1664 and consequent estimated population of 460.⁵⁷ If the reported 3,600 in 1548 was an estimated total of inhabitants (a mistake which is sometimes found elsewhere in 1548, such as Manchester discussed above), the resulting decline is plausible. Both the 1548 and 1563 figures seem high for Prescott, if the reported 69 householders in 1664 is correct, and the calculated rise of 77 per cent is impossible.⁵⁸ But the 1664 householders probably refer to Prescott township and the parish population in 1664 has been calculated as 5,490.⁵⁹ This suggests that the 1563 household figure, 497, and the estimated population, 2,361, are correct. Consequently, 1,000 (*m*) 'houseling people' may be a mistake for 2,000 (*mm*), with an estimated population of 2,667, yielding a population fall of -11.7 per cent. A population increase of 90 per cent for Prestwich is impossible; there seems to be no obvious objection to the number of households in 1563, in a deanery where quite precise numbers were being returned. If an initial *m* was omitted from the number

⁵⁵ Baines, *A history of the chantries*, 49, p. 10; *Calendar of state papers, domestic series, Charles I, 1635* (London, 1865), p. 405.

⁵⁶ Phillips and Smith, *Lancashire and Cheshire from AD 1540*, pp. 5-10.

⁵⁷ Clark and Hosking, *Population estimates*, p. 89.

⁵⁸ *Ibid.*

⁵⁹ Steel, *Prescot churchwardens' accounts*, p. xii.

of 'houseling people', this would raise the estimated population in 1548 to 2,133 and change the resulting difference by 1563 to -28.7 per cent. The raw data for Warton may be correct, though the resulting rate of change is at the top end of acceptability. Baines believed that 2,000 was an error for 200;⁶⁰ in any case, 284 households in 1563 appear very high, far larger than any other Lancashire parish in Kendal deanery except Kendal itself; it seems that this figure may be an estimate of total population, as at Flixton and Lymm.⁶¹ Rounding may mean that 200 'houseling people', if 200 is correct, may stand for 240-250, representing an estimated population of 320-330. Substituting 284 as the population in 1563 leads to a more acceptable population decline of -11.3 per cent.

Having progressed thus far with emendation of data may to some smack of 'special pleading', even, perish the thought, 'massaging the statistics'. How can such damaging accusations be combated? If we repeat the 'raw data' but exclude all data where the calculated rate of change is too high, whether positive or negative, we can compare the final outcome with those from all the raw data (in Table 1 above) and those where the data has been emended to eliminate high rates of change. The results are given in Table 3.

Table 3. Lancashire parochial populations, 1546/48-1563 (raw data, excluding high rates of change).

Deanery	1546	1546	1548	1548	1546-	1563	1563	%
Parish	H.p.	Est.	H.p.	Est.	48	H-	Est.	change
Chapelry		pop.		pop.	Prefer-	holds	Pop.	1546-48
					red			to 1563
					value			
Blackburn:								
Blackburn								
Harwood	400	533	N/A	N/A	533	104	494	-7.3
Leyland:								
Croston	N/A	N/A	1200	1600	1600	364	1729	+8.1
Standish	N/A	N/A	1400	1867	1867	351	1668	-10.7
Manchester:								
Eccles	N/A	N/A	2000	2667	2667	356	1691	-36.6

⁶⁰ Baines, *A history of the chantries*, 60, p. 251, n. 54.

⁶¹ Phillips and Smith, *Lancashire and Cheshire from AD 1540*, p. 6.

Middleton	N/A	N/A	800	1067	1067	254	1207	+13.1
Warrington:								
Ormskirk	N/A	N/A	3600	4800	4800	500	2375	-50.5
Sefton	N/A	N/A	900	1200	1200	140	665	-44.6
Wigan	N/A	N/A	2600	3467	3467	808	3838	+10.7
Amounderness:								
Kirkham	N/A	N/A	1200	1600	1600	268	1273	-20.4
Goosnargh	N/A	N/A	500	667	667	100	475	-28.8
Ribchester	N/A	N/A	500	667	667	126	599	-10.2
St Michael on Wyre	N/A	N/A	800	1067	1067	210	998	-6.5
Furness:								
Kirkby Ireleth	N/A	N/A	500	667	667	155	737	+10.5
Kendal:								
Warton	N/A	N/A	2000	2667	2667	284	1349	-49.4
Lonsdale:								
Tunstall	N/A	N/A	600	800	800	110	523	-34.6

Totals: The total 1546-48 estimated population preferred value = 25,336; the total 1563 estimated population = 19,621. This represents an overall change of -22.6%.

Sources: for 1546-48 = F.R. Baines, ed., *A history of the chantries within the county palatine of Lancaster*, Chetham society, old series, 59-60 (1862); for 1563 = A. Dyer and D.M. Palliser, eds, *The diocesan population returns for 1563 and 1603* (Oxford, 2005).

Abbreviations: H.p. = houseling people; est. pop. = estimated population; H-holds = households; N/A = not available.

This table demonstrates that emending the obviously faulty data of Table 1 does not radically alter the overall rate of change; this is reduced from -28.2 per cent to -22.6 per cent, which is in fact marginally above that calculated from raw data with necessary emendations in Table 4, at -21.5 per cent. The suggested emendations do not contribute to raising the rate of change. Consequently we can now give the results of our revised calculations in Table 4.

Tunstall	N/A	N/A	600	800	800	110	523	-34.6
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Totals: The total 1546-48 estimated population preferred value = 52,800; the total 1563 estimated population = 41,440. This represents an overall change of -21.5%.

Sources: for 1546-48 = F.R. Baines, ed., *A history of the chantries within the county palatine of Lancaster*, Chetham society, old series, 59-60 (1862)); for 1563 = A. Dyer and D.M. Palliser, eds, *The diocesan population returns for 1563 and 1603* (Oxford, 2005).

Abbreviations: H.p. = houseling people; est. pop. = estimated population; H-holds = households; N/A = not available.

Having eliminated errors in the original sources, especially the chantry certificates, as far as we can, we are still left with a conclusion that is paralleled by many other English counties. Apparently, around one fifth of the population of Lancashire died between 1548 and 1563, a period which therefore did indeed witness a major demographic crisis. This is, of course, approximately four times the decline in population between 1556 and 1561 calculated by Wrigley and Schofield, but it has become clear in the quarter-century since they wrote that there are problems both with their methodology and with their sources. 'Back projection' in particular was open to criticism as a methodology,⁶² and the underlying assumptions behind their methodology have been subjected to devastating criticism by John Hatcher,⁶³ especially for the period before 1560; most of the parish registers used by Wrigley and Schofield started in or after 1558, so that the sparse data available for the period before had to be adjusted by applying very high 'multipliers'.⁶⁴ Finally, their methodology required the 'invention' (their word) of 'hypothetical'

⁶² R.D. Lee, 'Inverse projection and demographic fluctuations: A critical assessment of new methods', in D.S. Reher and R.E. Schofield, *Old and new methods in historical demography* (Oxford, 1993), chapter 1.

⁶³ J. Hatcher, 'Understanding the population history of England, 1450-1750', *Past & Present*, 180 (2003), pp. 83-130.

⁶⁴ Wrigley and Schofield, *Population history of England*, table 2.19.

birth and death estimates from 1446 to 1540 which are hardly discussed, let alone justified.⁶⁵

How do our results for Lancashire compare with those for neighbouring counties? There are only three places in Cheshire for which numbers of 'housing people' were given in chantry certificates, of which Pott Shrigley, a chapelry of Presbury, apparently, and impossibly, lost seven eighths of its people and must be discarded. Chester St John declined from 1,600 in 1548 to 1,150 in 1563, a loss of 28.1 per cent, and Bunbury from 1,333 to 974, a loss of 26.9 per cent. So far as we can tell from these two parishes, Cheshire also suffered from this crisis even more than Lancashire, the overall totals falling by 27.6 per cent, but the sample size is too small for any firm conclusion to be drawn.⁶⁶ There are usable records for eleven parishes in Derbyshire in which overall population fell by 18.7 per cent. Finally, parts of the North and West Ridings of Yorkshire adjoining Lancashire were in the archdeaconry of Richmond within Chester diocese; there population fell by 12.3 per cent. The decrease in Durham, excluding possibly atypical Durham city parishes, was -13.1 per cent, and in Northumberland, excluding Norham where, exceptionally, border warfare may have magnified the effects of disease, population fell by 12.3 per cent.⁶⁷ England east of the Pennines and north of the Humber, therefore, seems to have been significantly less affected by the population crisis of 1556-60 than the counties west of the Pennines. Why that is so remains to be discovered. But of the existence of a crisis there can be no doubt.

⁶⁵ *Ibid.*, pp. 198, 715, 736-38.

⁶⁶ The Cheshire data are drawn from the Cheshire chantry certificate for 1548 (The National Archives, E 301/8) and the Chester diocesan census of 1563 (Dyer and Palliser, *The diocesan population returns for 1563 and 1603*, pp. 78-96).

⁶⁷ The Derbyshire figures are studied in J.S. Moore, 'The mid-Tudor population crisis in Midland England, 1548-1563', *Midland history*, forthcoming (2009); the Durham, Northumberland and Yorkshire figures are available in J.S. Moore, 'Population trends in north-east England, 1548-1563', *Northern history*, 45 (2008), pp. 239-58.

