Estimating Population Sizes and Demographic Trends in Ipswich *c.* 1570–1620: Re-Evaluations and New Approaches

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Abstract

This article explores the characteristics and experiences of the population of the town of Ipswich, Suffolk, between 1570 and 1620. It reassesses current estimates of the total number of inhabitants in the town at specific points throughout this period. This provides a basic framework for the subsequent analysis of the parish registers, which enables a better understanding of the town's demographic trends in this period. In addition, it puts forward new methods to estimate population size. These methods combine data from the town's communicant returns, parish poor rates, poor relief payments, and similar sources in order to determine the social structure of the town, the relative wealth of the town's parishes, and the approximate population sizes of the town's main socio-economic groups.

Estimating populations and analysing demographic trends

Producing reliable estimates of the size of early modern populations is a difficult task. All demographic historians who study this period face certain challenges, such as incomplete sources, which necessitate the use of broad multipliers to arrive at estimated totals, unless a census has been carried out.[2] Because of this, when it comes to calculating population estimates the quest often is not so much to determine the 'right' number, but to choose the best sources and approaches to calculate and verify the figures. What follows examines the attempts historians have made heretofore to calculate population estimates of Ipswich in the sixteenth and seventeenth centuries. It also provides some new approaches using the town's communicant returns and poor relief records to generate new estimates for the town's population between 1570 and 1620.

Unlike its northern neighbour Norwich, the population of early modern Ipswich has not been closely scrutinised. Indeed, only a few substantial attempts have been made to understand the size and demographic trends of the town's inhabitants over the course of the sixteenth and seventeenth centuries. In the late 1970s, John Patten sketched an initial demographic outline for Ipswich in his work on the changing population distribution in early modern Norfolk and Suffolk. Just a small portion of Patten's analysis deals specifically with Ipswich, but he offers the first attempt to estimate and analyse its fluctuating total population across the benchmark years of 1524–1525, 1603 and 1670.[3] Basing his analysis on a variety of sources including muster returns, poll/hearth tax lists, and diocesan communicant returns, Patten calculates that the population of Ipswich was roughly 3,100 in 1524–1525, 5,000 in 1603, and 7,900 in 1670.[4] By comparing these figures with his estimates for Norwich for the same years, which he places at 8,000, 11,000, and 20,000 respectively, Patten notes that the populations of both Ipswich and Norwich increased rapidly during this period, despite the adverse effects of frequent outbreaks of epidemic disease and harvest failure. He also suggests that Ipswich probably grew more quickly than Norwich.[5] Although the causes of this trend are unclear, it must have helped that the epidemic outbreaks generally were less severe in Ipswich than in Norwich.[6] Overall, Patten's analysis is valuable because it provides relatively accurate population figures for sixteenth and seventeenth-century Ipswich.

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[2] For an excellent overview of these issues see N. Goose and A. Hinde, 'Estimating local population sizes at fixed points in time: part I – general principles', *Local Population Studies*, 77 (2006), pp. 66–74; N. Goose and A. Hinde, 'Estimating local population sizes at fixed points in time: part II – specific sources', *Local Population Studies*, 78 (2007), pp. 74–88.

Only a few years after their publication, Patten's figures and methodology were questioned. Initially, the population estimates and methodology put forward by Michael Reed appear more robust than those provided by Patten because of his chosen source material. Focusing specifically on Ipswich in the seventeenth century, Reed judiciously evaluates the available sources and identifies the Ecclesiastical Census returns for 1603 as the earliest reliable source upon which to base calculations of the town's population.[7] Nonetheless, Reed concedes that the 1603 returns for Ipswich still have significant faults. On their own the returns are limited because they are extant for only 9 of the 12 parishes and often, especially in the larger parishes, record obviously rounded numbers. Reed attempts to compensate for these drawbacks by suggesting that the three missing parishes comprise 40 per cent of the population and that the average household held 2.7 communicants. By multiplying the available data by 2.7 and the unavailable figures (40 per cent of the population) by Peter Laslett's average household size of 4.75, Reed calculates a population of 4,300 at the time of the 1603 return, a figure somewhat lower than the 5,000 suggested by Patten for the same year.[8] To flesh out his demographic analysis, Reed turns to the Hearth Tax returns for 1664 and 1674 and the 1695 parochial listing of men and women, which was created in

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[3] J. Patten, 'Population distribution in Norfolk and Suffolk during the sixteenth and seventeenth centuries', *Transactions of the Institute of British Geographers*, 65 (1975), pp. 45–66.

[4] Patten, 'Population distribution', p. 48.

[5] Patten, 'Population distribution', p. 58.

[6] It is clear that plague epidemics had devastating effects on the population in Norwich. Paul Slack (see P. Slack, *The Impact of Plague in Tudor and Stuart England* (London, 1985), pp. 129–31) has argued that at least 30 per cent of the population in that city was 'swept away' by the plague of 1579. On the other hand, Figure 1 in this article shows only a moderate spike in burials when the plague came to Ipswich in the same year.

[7] M. Reed, 'Economic structure and change in seventeenth-century Ipswich', in P. Clark (ed.), *Country Towns in Pre-Industrial England* (Leicester, 1981), pp. 88–141, here at p. 92.

[8] Reed, 'Economic structure', p. 92; P. Laslett, 'England: the household over three centuries', in P. Laslett and R. Wall (eds), *Household and Family in Past Time* (London, 1972), pp. 125–58, here at pp. 126–32.

Table 1 **Population estimates for sixteenth and seventeenth century Ipswich**

Source	1524–1525	1603	1640	1664	1670	1674	1695
Patten	3,100	5,000			7,900		
Reed		4,300	7,400	9,100		7,400	8,000

Sources: J. Patten, 'Population distribution in Norfolk and Suffolk during the sixteenth and seventeenth centuries', *Transactions of the Institute of British Geographers*, 65 (1975), p. 48; M. Reed, 'Economic structure and change in seventeenth-century Ipswich', in P. Clark (ed.), *Country Towns in Pre-Industrial England* (Leicester, 1981), p. 92.

response to the Marriage Duty Act of the same year. Again, following Laslett's example, he uses 4.75 to represent the average number of individuals in a household and reaches population estimates of 9,100 in 1664 and 7,400 in 1674. Reed is less transparent with his method for calculating 8,000 inhabitants in 1695, as well as the 7,400 he suggests for 1640.[9]

Since household sizes could fluctuate significantly in line with wealth, occupation and locality, Reed's decision to base many of his calculations on the average household size put forward for all of early modern England implies that his findings have a potentially large margin of error. The importance of taking a more nuanced approach to this kind of challenge is apparent from Table 1 which illustrates how Patten's and Reed's methodologies could create very different impressions of population trends for sixteenth and seventeenth century Ipswich, depending upon how the figures are interpreted.

While Patten's estimates could suggest that Ipswich was growing at quite a steady pace for most of this period, Reed's numbers point to only limited growth in the sixteenth century, followed by an upsurge of growth in the first half of the seventeenth century. Reed's data also suggest this development was suddenly halted by a plummeting population in the late 1660s which, if Patten and Reed's figures are taken together, only began to recover at the very end of the century.

So where do these data leave us? Since Patten's and Reed's methods are based on some debatable assumptions, and this article concerns the period 1570–1620, the critical task is to scrutinise further the population figures that Patten and Reed have calculated for 1603. Certainly, at first glance, much of Reed's approach has greater credibility than Patten's. For instance, Reed analyses sources that yield not only static population estimates (such as the 1603 communicant returns), but also data from the town's surviving parish registers, which reflect broader demographic trends. In contrast, Patten relies solely on sources that provide static population estimates and therefore lacks some critical context to verify his findings. Whatever his reasons for this, it remains the case that parish registers are notoriously difficult sources, which are often limited by incompleteness.[10] The registers for Ipswich are no exception to that rule; just 8 of the 12 town parishes have extant registers covering the period 1570–1620, and one of them records only christenings until 1615.[11] Despite these drawbacks, analysis of the data that exist for Ipswich suggest their overall reliability. Generally, each parish register reflects internal consistency in the script over long periods of time. For the period before the seventeenth century, this probably indicates that the data was copied into the vellum register from paper originals. In contrast, consistency after 1600 suggests that one person systematically recorded the parish's vital events, most likely the sexton (who sometimes doubled as the parish clerk) or the minister. Across the period, the registers also usually provide full dates for recorded events as well as the full names of the relevant individuals. By the early seventeenth century many of the registers also include descriptive information in the entries, such as the names of both fathers and mothers and status before marriage and marital status at death. In addition, as will be discussed later in more detail, the results of calculating the total annual vital statistics for the eight parishes parallel the established demographic trends found in other areas during this period, notably Norwich.[12]

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[9] Reed, 'Economic structure', p. 92. Although Reed's method is not mentioned specifically, it can be assumed that he is rounding the figure of 7,943, noted as the population in the 1695 account, and it appears his calculations for 1640 are based on parish register data. Suffolk Record Office, Ipswich (hereafter SROI) C/3/10/1/1/1/4r (An Account of the Men, Women, and Children Wthin the Towne of Ipswch). Broadly speaking, Reed's approaches align with much of the guidance offered in Goose and Hinde, 'Estimating local population sizes at fixed points in time: part II'.

Where sources are available which enable the calculation of static population figures, it seems self-evident that historians should compare these with other local records that can reveal broader demographic characteristics and trends. The resulting analysis generates a more complete demographic representation and provides a necessary basis upon which to check the validity of any assumptions. Therefore, the most promising means of revising Reed's and Patten's population figures appears to be through the combined analysis of the town's 1603 Ecclesiastical Census returns, a poor rate levied in Ipswich in 1590, and the demographic trends found in my own analysis of the data from the parish registers. Since only 9 of the 12 parishes in the town are represented in the 1603 returns, comparison of this source with the 1590 Poor Rate, which lists rate payers for 11 of the 12 parishes (excluding only St Mary at Stoke, but including all parishes not listed in the 1603 returns), provides a reliable way to estimate the percentage of the population missing from each source. As the description of this methodology implies, the 1603 Ecclesiastical Census and the 1590 Poor Rate each suffer from distinct drawbacks. Both are incomplete sources for the town as a whole, but they do consistently represent specific parishes well. This internal consistency becomes even more apparent when the sources are compared with each other. As has been mentioned, many of the 1603 figures reflect rounded numbers, though a few of the smaller parishes appear to have provided actual counts. Any population total calculated, even partially, on the basis of this source must therefore be viewed (like Reed's and Patten's) as a rounded estimate. Also, because the 1603 Ecclesiastical Census is incomplete and potentially unreliable, another source is required in order to calculate accurate figures for the missing parishes and to provide a basis to test the validity of any results.

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[10] Wrigley and Schofield's work on the use and treatment of English parish registers as sources for demographic exploration fully explores the drawbacks and benefits of such material, see E.A. Wrigley and R.S. Schofield, *The Population History of England, 1541–1871: a Reconstruction* (London, 1981), pp. 1–152.

[11] Reliable registers for this period exist for the parishes of St Margaret: SROI, FB93/D2/1–2 (1537–1717); St Clement: SROI, FB98/D1/1 (1563–1667); St Nicholas: SROI, FB94/D1/1 (1539–1710); St Lawrence: SROI, FB106/D2/1 (1539–1663); St Matthew: SROI, FB95/D1/1 (1559–1701); and St Mary Elms: SROI, FB104/D1/1 (1554–1652). The register for St Stephen covers the majority of the period: SROI, FB107/D2/1 (1584–1679). Only christenings exist for St Mary-le-Tower until 1615 when burials and marriages are recorded: SROI, FB91/D1/1 (1538–1684).

[12] Slack, *Impact of Plague*, p. 131.

The 1590 Poor Rate was chosen for that purpose because of its near completeness and its proximity to the date of the 1603 Census. This Poor Rate is found among the town's administrative records in a book containing town rate assessments and apprenticeship bonds. The fact that the 1590 Poor Rate was one among many raised between 1574 and 1590 suggests that by this date the administrative aspects of the town's poor rate would have been well established and reliably recorded. The scribe's clear and systematic entries of both poor rate payers and receivers of relief in 1590 (which were conscientiously revised when the circumstances of people in either group changed) add further support to this suggestion.[13] The rate's potential drawback is that it is a copy which would have been based on a working document created at the time rate payment amounts were set for that year. Even so, the diligence of the scribe is revealed through his consistent circumstantial updates, which suggests that any errors in transcription would have been minimal. For these reasons the 1590 Poor Rate can be considered a trustworthy source to use in comparison with, and to check the reliability of, the 1603 Ecclesiastical Census.

A distinct method was created in order to generate a revised population figure from the combination of these sources. This method has at its core the calculation of the proportion of rate payers (typically heads of households) to communicants for each parish. For example, the parish of St Stephen had 17 listed rate payers in the 1590 Poor Rate and 74 listed communicants in the 1603 Ecclesiastical Census which suggests that roughly 23 per cent of St Stephen's communicants paid the poor rate during this period.[14] Numbers for both rate payers and communicants are available for 8 of the 12 parishes in Ipswich, and by repeating the above process it is possible to determine the percentages of rate payers to communicants for the majority of the town (Table 2).

After determining the spread of percentages for the majority of the parishes in the town, one might be tempted simply to average the percentages and use that figure as a multiplier to calculate the probable population of communicants for the missing areas. However, further comparison of the number of poor relief recipients to the number of rate payers listed in each parish in 1590 allows compensation for economic differences between the parishes. This is crucial because it provides a more accurate basis to calculate the average percentage multipliers for each of the missing parishes. By differentiating the parishes according to their levels of poverty, this step enables the establishment of three average percentages of rate payers to communicants based on whether the parish was

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[13] SROI, C/3/2/2/2.

[14] SROI, C/3/2/2/2; A. Dyer and D.M. Palliser (eds), *The Diocesan Population Returns for 1563 and 1603,* Records of Social and Economic History, new series, XXXI (Oxford, 2005), p. 471.

Table 2 Ratios of Poor Rate payers (1590) to communicants (1603) by parish

Parish	1590 Poor Rate payers	1603 communicants	Ratio of Poor Rate payers to communicants
St Margaret	44	440	0.10
St Peter	35	na	na
St Clement	56	na	na
St Nicholas	31	na	na
St Lawrence	40	250	0.16
St Matthew	29	250	0.12
St Mary-le-Tower	41	202	0.20
St Helen	11	120	0.09
St Mary Elms	11	100	0.11
St Mary Quay	28	82	0.34
St Stephen	17	74	0.23
St Mary at Stoke	na	72	na
All parishes combined	343	1,590	na

Note: na – not available.

Sources: Suffolk Record Office, Ipswich, C/3/2/2/2; A. Dyer and D.M. Palliser (eds), T*he Diocesan Population Returns for 1563 and 1603*, Records of Social and Economic History, new series, XXXI (Oxford, 2005).

economically ‘prosperous’, ‘average’, or ‘poor’.[15] Table 3 shows how the previous table is revised by that process.

In all relevant parishes the appropriate category seems clear when the numbers of paupers are considered alongside poor rate payers and communicants, and a ratio of 0.33 was used as the threshold for poverty since the parish of St Matthew in Ipswich was considered to be poor by many contemporaries in the period, whereas the parish of St Margaret did not have such a strong reputation.[16] For the most part, these figures appear to represent the general economic situation in each parish accurately. However, the numbers for St Clement parish pose an interesting problem because its small proportions of relief-dependent poor would seem to indicate it was a ‘prosperous’ parish. That conclusion is not consistent with the knowledge that St Clement comprised predominantly seafaring men and their families, many of whom were ‘poor’, or at least among the ‘poorer sort’. Other sources from Ipswich show that the seafaring culture of this parish probably caused those listed as receiving relief to be so few. At least one of the town’s residential poor relief foundations gave priority placement of funds and care to seamen, their widows and their families.[17] Given that the benefactor of this foundation was a merchant-mariner, and many in the seafaring community chose to cluster together in one parish, it seems probable that seafarers in Ipswich provided a network of unofficial support to their own poor. Further evidence suggests that the authorities in the town also approached the provision of seafarers' official relief in a different way to the relief of other inhabitants. Indeed, funding for such relief of poor sailors and mariners appears to have been raised through a special rate on ships which passed through the town's admiralty jurisdiction, and that relief was administered to poor seafarers by way of the town's municipal hospital (presumably as 'outdoor' relief payments).[18] Because of this, the economic category for the parish of St Clement has been bracketed and designated as 'average' instead of 'prosperous' in Table 3, which better reflects the parish's probable condition overall. The spread of parishes across the categories include 3 'poor', 4 'average', and 4 'prosperous'.

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[15] A ratio can be determined by dividing relief recipients by rate payers in each parish. Economic levels were assigned on the basis that parishes where the ratio of relief recipients to rate payers was 0.1 or below were ‘prosperous’, parishes where the ratio was 0.11–0.33 were ‘average’, and parishes where the ratio was above 0.33 were ‘poor’.

[16] See, for example, the census of the poor carried out in Ipswich in 1597, which shows St Matthew had the largest proportion of poor households of all those noted in the source. J. Webb (ed.) *Poor Relief in Elizabethan Ipswich*, Suffolk Records Society, IX, (Ipswich, 1966), pp. 122–40.

With the data in Table 3 it is possible to calculate an average ratio of rate payers to communicants for the parishes in each economic category. The resulting average ratios are 0.20, 0.16 and 0.10 for 'prosperous', 'average', and 'poor' parishes, respectively. Having

Table 3 Economic classification of parishes in Ipswich

Parish	1590 Poor Rate payers	1590 relief recipients	Ratio of relief recipients to Poor Rate payers	1603 communicants	Ratio of 1590 Poor Rate Payers to 1603 communicants	Economic class
St Margaret	44	14	0.32	440	0.10	Average
St Peter	35	17	0.49	na	na	Poor
St Clement	56	4	0.07	na	na	[Average]
St Nicholas	31	8	0.26	na	na	Average
St Lawrence	40	2	0.05	250	0.16	rosperous
St Matthew	29	10	0.34	250	0.12	Poor
St Mary-le-Tower	41	3	0.07	202	0.20	Prosperous
St Helen	11	9	0.82	120	0.09	Poor
St Mary Elms	11	1	0.09	100	0.11	Prosperous
St Mary Quay	28	0	0.00	82	0.34	Prosperous
St Stephen	17	2	0.12	74	0.23	Average
St Mary at Stoke	na	na	na	72	na	na
All parishes combined	343	70	na	1,590	na	na

Note: na – not available. The parish of St Clement had specific circumstances which have led to us classify it as 'average': see the text for an explanation.

Sources: Suffolk Record Office, Ipswich, C/3/2/2/2; A. Dyer and D.M. Palliser (eds), *The Diocesan Population Returns for 1563 and 1603*, Records of Social and Economic History, new series, XXXI (Oxford, 2005).

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[17] In 1551 Henry Tooley bequeathed money to establish a foundation to relieve the deserving poor of the town. As many 'deserving' poor as possible were to be admitted, however Tooley also stipulated that priority should be given to seamen and their widows living in penury. See Webb, *Poor Relief*, p. 11.

[18] See N. Bacon, *The Annalls of Ipswche (1654)*, edited by W. H. Richardson (Ipswich, 1884), p. 292.

Table 4 **Revised numbers of communicants in 1603 including estimates for parishes of St Peter, St Clement and St Nicholas**

Parish	1590 Poor Rate payers	1603 communicants	Ratio of Poor Rate payers to communicants
St Margaret	44	440	0.10
St Peter	35	[350]	[0.10]
St Clement	56	[350]	[0.16]
St Nicholas	31	[200]	[0.16]
St Lawrence	40	250	0.16
St Matthew	29	250	0.12
St Mary-le-Tower	41	202	0.20
St Helen	11	120	0.09
St Mary Elms	11	100	0.11
St Mary Quay	28	82	0.34
St Stephen	17	74	0.23
St Mary at Stoke	na	72	na
All parishes combined	343	2,490	na

Note: na – not available.

Sources: Tables 2 and 3.

determined these average multipliers it is now possible to estimate the numbers of communicants in the three parishes that have missing data in the 1603 communicant returns (Table 4). Adding the new estimates for the parishes of St Peter, St Clement and St Nicholas brings the revised total of communicants in 1603 to 2,490. Using this figure, it would appear that 36 per cent of the town's communicants, close to the 40 per cent suggested by Reed, lived within the three parishes missing from the original returns.[19]

A wealth of scholarship focuses on the best method to convert numbers of early modern communicants into total population estimates. Dyer and Palliser have discussed at length how the 1603 Ecclesiastical Census represents merely a portion of inhabitants. Most notably, the figures often only reflect inhabitants who were routinely present in church, of age to receive communion, or well-established recusants. As a result, calculating an area's total population from this source requires yet another multiplier to compensate for the parishes' non-communicant children and circumstantial absentees. Dyer and Palliser highlight that most historians have followed Wrigley and Schofield's example of considering communicants to represent 65 per cent of the population, with children comprising a further 35 per cent. However, Dyer and Palliser argue persuasively that an additional 10 to 15 per cent should be added in many areas to represent those who were circumstantially unable to attend communion.[20] Since Ipswich was a busy coastal and international port town with many of its inhabitants in the seafaring trades, it was unavoidable that a sizeable portion of parishioners often could not attend communion in their home parish. These absentees would have been in addition to those caused by normal circumstances, such as illness or personal travel. In addition, it should be noted that by July 1603 a plague epidemic had arrived in Ipswich. This suggests that church attendance probably was lower than normal when the returns were tabulated.[21] For these reasons, to be most accurate the communicant multiplier for Ipswich at this particular time should take into account the usual 35 per cent representing non-communicant children, as well as at least an additional 15 per cent for circumstantial absentees. By using these multipliers, the final revised estimated population can be calculated to be a rounded 5,000. From this we can see that Patten's population estimate, despite the constraints of his sources, is more plausible than Reed's.

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[19] Reed, 'Economic structure', p. 92.

[20] Dyer and Palliser, *Diocesan Population Returns*, pp. lxix–lxxii.

Estimating population size without communicant returns

To have only one population estimate for a town during such a dynamic period of study would be hardly adequate. In the light of this, one of the most exciting aspects of the method presented here is that it allows an area's population to be estimated *without having communicant returns* for the same period as a series of poor rates and relief payments. Although having the communicant returns helps to strengthen the validity of the method's estimates, particularly for specific parishes, it must be emphasised that the returns themselves often are rounded numbers. As a result, once the communicant lists for a location have been used to establish the average ratios of rate payers to communicants in 'poor', 'average', and 'prosperous' parishes, using those ratios to estimate the numbers of communicants for earlier or later periods (within reasonable limits) should provide broadly accurate results for the town overall, although they inevitably may overestimate or underestimate communicants in each parish. Therefore, by using this method and applying it to an additional nearly-complete set of poor rates and relief payments from 1574, a new population estimate for Ipswich can be calculated for that year.

As sources go, the reliability of the poor rate and relief payment lists from 1574 mirrors that of the 1590 series. As noted above, both the rate and relief payments listings (among others from the 1580s and 1590s) are included in the same bound book of administrative records; they also both exhibit consistent script and corrective notations, and can be considered generally reliable.[22] The set of rate and relief lists from 1574 has complete information for 11 of the 12 parishes in Ipswich. The only parish for which information is missing is the outlying suburban parish of St Mary at Stoke; however rate and relief payments were recorded there in 1581. Because the source for Stoke is close to the date of the more complete lists from 1574, those figures will be used here for this missing parish and distinguished by brackets. As before, the economic category of each parish has been

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[21] Slack, *Impact of Plague*, p. 287 has argued that while some among the population may have been fervently moved to attend services during plague outbreaks, it is probable that many more would have tried to stay away from the contagion.

[22] SROI, C/3/2/2/2.

Table 5 **Estimated numbers of communicants in 1574 using averaged multipliers**

Parish	1574 Poor Rate payers	1574 relief recipients	Averaged multiplier (ratio of Poor Rate payers to communicants)	Estimated number of 1574 communicants	Economic class
St Margaret	37	27	0.10	370	Poor
St Peter	31	12	0.10	310	Poor
St Clement	49	10	0.16	306	Average
St Nicholas	27	6	0.16	169	Average
St Lawrence	33	0	0.20	165	Prosperous
St Matthew	39	14	0.10	390	Poor
St Mary-le-Tower	43	1	0.20	215	Prosperous
St Helen	6	3	0.10	60	Poor
St Mary Elms	8	4	0.10	80	Poor
St Mary Quay	29	2	0.20	145	Prosperous
St Stephen	9	1	0.16	56	Average
St Mary at Stoke	[19]	[0]	0.20	95	Prosperous
All parishes combined	330	70		2,361	

Sources: 1574 data from Suffolk Record Office, Ipswich, C/3/2/2/2.

determined by dividing relief recipients by poor rate payers. Then the previously established average ratios of poor rate payers to communicants have been applied. Table 5 shows how these steps have been used to calculate the estimated communicants in Ipswich in 1574.[23] Taking the estimated figure for communicants in 1574 (2,361) and adding the additional 35 per cent for children and 15 per cent for circumstantial absentees provides a rounded population estimate of 4,700 for that year. This estimate is significant because, when compared with Patten's figures of 3,100 for 1524–1525 and 5,000 for 1603, it suggests that the town's population increased rapidly between 1525 and 1575; in contrast, it also indicates this growth had stalled by the turn of the seventeenth century.

Demographic trends

The town's net growth of merely 300 people between 1574 and 1603 seems rather small, particularly when considered next to Reed's assertion that the population of Ipswich grew markedly throughout the sixteenth century. Since the population of Ipswich probably was larger than Reed believed when he developed his outline for the demographic trends of the town, it is necessary to re-evaluate his findings in the light of new evidence and techniques. By comparing the total number of events registered in five-year periods, Reed echoes Patten when he concludes that between 1560 and 1640 Ipswich experienced rapid popula-

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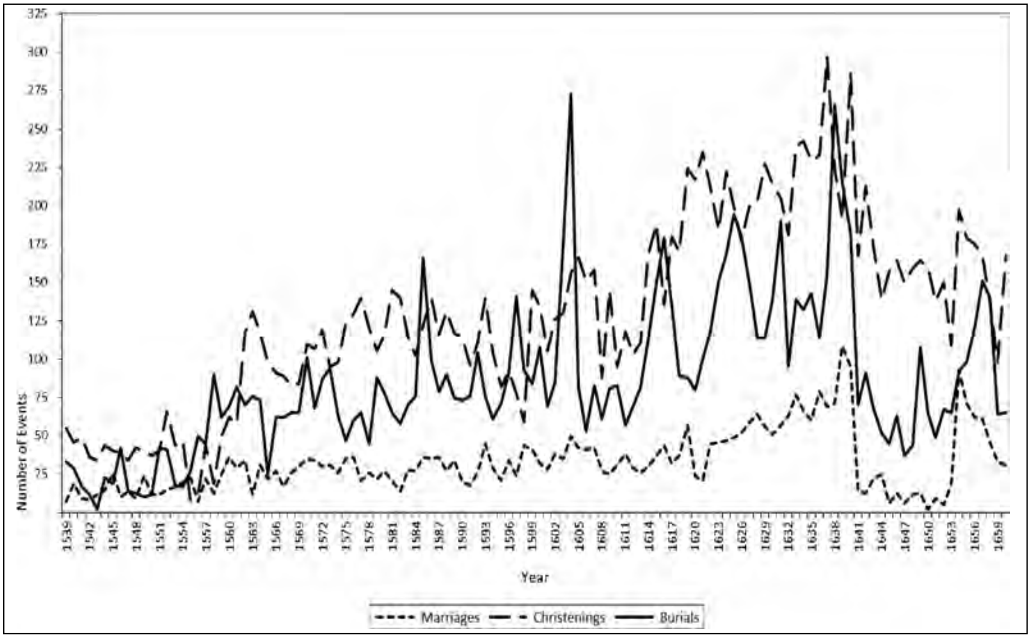
[23] Using broad multipliers to arrive at estimated communicants necessarily means that some parish figures may be higher or lower than the actual count of communicants in the period. Nevertheless, the figures should average out to be broadly accurate for the town overall.

Figure 1 Annual totals of marriages, christenings and burials in Ipswich, 1538–1661



Sources: Suffolk Record Office, Ipswich (SROI), St Margaret: FB93/D2/1–2 (1537–1717); St Clement: SROI, FB98/D1/1 (1563–1667); St Nicholas: SROI, FB94/D1/1 (1539–1710); St Lawrence: SROI, FB106/D2/1 (1539–1663); St Matthew: SROI, FB95/D1/1 (1559–1701); and St Mary Elms: SROI, FB104/D1/1 (1554–1652). The register for St Stephen covers the majority of the period: SROI, FB107/D2/1 (1584–1679). Only christenings exist for St Mary-le-Tower until 1615 when burials and marriages are recorded SROI, FB91/D1/1 (1538–1684), this figure excludes this parish before 1615.

tion growth despite the negative effects of frequent demographic crises. It is significant that Reed offers no explanation for the population growth seen in the latter part of the sixteenth century, however he suggests that high fertility and an increase in urban immigration sustained and increased this trend from 1601. For Reed, this growth spurred the population to jump from 4,300 in 1603 to 7,400 in 1640.[24]

Figure 1 represents the annual totals of events calculated from the parish registers and generally supports the idea that the population was naturally increasing over much of this period.[25] It shows that throughout the sixteenth and seventeenth centuries christenings normally surpassed burials in Ipswich in non-crisis years. High natural growth periods such as 1574–1584, 1586–1594, 1605–1615 and 1617–1621 would have supported the town's ability to rebound from the interspersed demographic crises of 1585–1586, 1597, 1603–1604, and 1616. This supports arguments by Chris Galley, Nigel Goose, and others against the widespread existence of the 'urban graveyard' effect.[26] Still, the town's ability to withstand demographic stagnation and potential decline in the latter part of the sixteenth century should not be overstated. Figure 1 does not support Reed's suggestion that the population continued to increase rapidly in the decade leading up to the plague epidemic of 1603–1604. Indeed, after 1594, the gap between the number of christenings and burials began to contract swiftly, moving from a total of 244 christenings and 137 burials over 1593–1594 to only 174 christenings and 162 burials over 1595–1596. Furthermore, between 1597 and 1600 the total of 426 burials actually exceeded the 416 christenings. To put that into a wider context, before this four-year period the number of burials had not exceeded the number of christenings since the plague epidemic of 1585–1586.[27] This suggests that the population at least stagnated and probably even decreased, if only slightly, in the years leading up to the 1603 communicant returns. This stagnation appears to have been at least partly the result of widespread harvest failure, which began to affect living conditions in 1594 and culminated in dearth and sickness-related deaths during 1597–1600.[28]

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[24] Reed, 'Economic structure', p. 94.

[25] Excepting only some problematic breaks in entries during the Commonwealth period, reliable registers for this period include St Margaret: SROI, FB93/D2/1–2 (1537–1717); St Clement: SROI, FB98/D1/1 (1563–1667); St Nicholas: SROI, FB94/D1/1 (1539–1710); St Lawrence: SROI, FB106/D2/1 (1539–1663); St Matthew: SROI, FB95/D1/1 (1559–1701); and St Mary Elms: SROI, FB104/D1/1 (1554–1652). The register for St Stephen covers the majority of the period: SROI, FB107/D2/1 (1584–1679). Only christenings exist for St Mary-le-Tower until 1615 when burials and marriages are recorded SROI, FB91/D1/1 (1538–1684), Figure 1 excludes this parish before 1615.

Further evidence that Ipswich was rapidly losing settled families at the turn of the seventeenth century can be seen by close examination of the parish registers from one of the more populous parishes in the town. Detailed reconstitution of the parish of St Nicholas reveals that between 1595 and 1605 the parish 'lost' a sizeable portion of its long-term settled households. By completing a basic reconstitution of the 2,027 entries for the parish of St Nicholas which were registered between 1560 and 1620, and comparing the resulting surname groupings with the parish's rate payers and poor relief receivers between 1574 and 1609, 253 distinct households can be identified.[29] For 224 of these 253 households enough evidence exists to determine an approximate length of settlement in the parish and the years when the household arrived, left, or was swept away by disease. The data for these 224 families shows that 54 of them dropped off the register between 1595 and 1605; 2 in 1595–1597, 16 in 1598–1602, 33 in 1603–1604, and 3 in 1605. The loss of these 54 households represents more than double the 26 households that were lost between 1578 and 1586—a period that included two outbreaks of plague. Furthermore, even the loss of those 26 families between 1578 and 1586 represented double the normal attrition figures found in non-crisis periods, namely 11 households in 1571–1577 and 14 households in 1587–1594. As a result, the loss of 54 households between 1595 and 1605 marked an intensely negative and rather new demographic trend for the town.[30] These data suggests that the natural growth of the population in Ipswich was greatly affected by the crises of the later sixteenth century and also, quite possibly, local authorities' attempts to address the causes of those crises, as they saw them, for example through increased oversight and regulation of the poor's activities as a means to counteract a perceived rise in poverty. Such activity may have driven poor families to leave the town of their own volition at this time.

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[26] By subtracting recorded burials from christenings and dividing that figure by the number of inhabitants who lived in the seven parishes for which reliable parish registers exist: St Margaret, St Clement, St Nicholas, St Lawrence, St Matthew, St Mary Elms and St Stephen (by my calculations a rounded 3,400 people, or roughly 69 per cent of the total population) it is possible to calculate the mean combined natural growth of these seven parishes. This has been done for the sample growth periods 1580–1583 ((516–269)/3,400 = 0.073), 1592–1594 ((355–241)/3,400 = 0.034), 1605–1607 ((475–218)/3,400 = 0.076), and 1618–1620 ((611–257)/3,400 = 0.104), with the resulting natural growth percentages of 7 per cent, 3 per cent, 8 per cent and 10 per cent respectively. See C. Galley, 'A model of early modern urban demography', *Economic History Review*, 48 (1995), pp. 448–69; C. Galley, *The Demography of Early Modern Towns: York in the Sixteenth and Seventeenth Centuries* (Liverpool, 1998), pp. 171–4; and a summary of a paper presented by Nigel Goose on this subject in L. Boothman, N. Goose and T. Heritage, 'LPSS spring conference report, 2013', *Local Population Studies*, 91 (2013), pp. 5–9.

[27] According to the registers for the seven parishes in 1585–1586 there were 265 burials and only 262 christenings in that year.

[28] Slack, *Impact of Plague*, p. 73; evidence for widespread sickness in the town can be found in the accounts for the Overseers of the Poor in Ipswich, see SROI, C/5/3/2/2/1 and SROI, C/5/3/2/7/1.

[29] The rough family reconstitution of St Nicholas used for this exercise was very basic and captured some 'incomplete' families. Families were considered to have 'arrived' when baptisms, marriage entries, rate or relief payments were recorded. When entries stopped being recorded for a family, or the family all

The effects of migration

But did new migrants help to offset those natural losses? Certainly, whilst St Nicholas lost a significant number of its settled inhabitants at the turn of the seventeenth century, it also received an equal share of urban immigrants. Indeed, after 1599, 'new' households, which continued to endure through the remaining crisis years of 1603–1604 comprised 56 of the reconstituted households. The remaining 63 households (i.e. not 'lost' and not 'new') often were the economically more prosperous, but also the brave or simply lucky souls who had managed their families through a protracted period of adversity. Since 119 households can be traced in St Nicholas between 1605 and 1620, and only 63 households (or 53 per cent) were resident before that period, we can conclude that even though the population did not experience a significant decline in numbers it certainly experienced a distinct change in its composition. This supports Reed's assertion that urban immigration helped to stem the effects of crises during this period. Moreover, that the 56 'new' households evenly replaced the 54 'lost' ones between 1595 and 1605 further underscores the importance of immigration to the growth and demographic trends of the town. Nevertheless, it is clear from the previous figures that concurrent high natural growth would have been essential for the population to attain the explosive increase that Reed argues began in 1601. Calculating the growth percentages for 1595–1599 and 1600–1604 reveals that such an increase in population would have been nearly impossible. Both periods were marked by more burials than

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perished, they were considered to have dropped off the register. For the purposes of this article it was necessary to capture as many families as possible in order to have a data set that would accurately represent when families suddenly appeared and disappeared from the historical record. See T. Shumaker, 'Social and economic lives of the ordinary poor in Ipswich, 1570–1620' (unpublished Ph.D. thesis, University of Oxford, forthcoming).

[30] For some discussion of similar turnover percentages in York in the sixteenth and seventeenth century, see Galley, *Demography of Early Modern Towns*, pp. 136–9.

christenings, with 1,191 burials and 1,107 christenings registered over the ten-year span. This suggests that the town had an annual growth rate of –0.025 per cent over that period, which would mean the natural population was in decline. It was not until 1605 that high growth levels returned with nearly 8 per cent growth for 1605–1607 and 10 per cent growth by 1618–1620. Given this evidence, it would seem that the population of Ipswich in the early 1590s was roughly the same size as it was at the start of 1605. As a result, the greatest population growth must have come before and after this period.

Prior to 1595, two periods stand out as times of surging demographic growth. One period occurred between 1574 and 1578 when 610 christenings were recorded in contrast to only 280 burials. It would have been difficult to calculate the percentage of natural growth for this period previously, since no related population figure existed; however, this can now be done using the estimated population figure of 4,700 for 1574. Roughly 69 per cent of the population lived in the seven parishes with parish registers that are complete enough to be studied for this purpose. Using the rounded proportionate population figure of 3,200 for the seven parishes in 1574 suggests growth of more than 10 per cent. Likewise, between 1580 and 1584 the town experienced a wave of population growth. Registered christenings for this period reached 618 with burials totalling only 347. Although the growth was not as pronounced as in the previous period, the figures suggest that the population in the early 1580s grew by 8 per cent. These periods of overall demographic growth before 1595 were marred by only one period of mortality crisis. Indeed, a plague epidemic which hit the town in 1585–1586 took an acute toll on the inhabitants.[31] For those two years the total deaths in the seven parishes rose to 166 and the 122 registered christenings did not compensate naturally for that loss. Even so, the crisis seems to have had little effect on the town's overall demographic growth, since the decline brought on by the plague probably amounted to less than 1 per cent. The 15 years of substantial population growth between 1570 and 1585 were followed then by a period of slowed growth and stagnation leading up to 1603. Such trends remain consistent with Patten's population estimates, which suggest a 60 per cent increase in population between 1524 and 1603; however, the additional population estimate of 4,700 for 1574 highlights that the most enduring population growth must have occurred before that year. To sum up, in light of this contextual data, Patten's figure of 3,100 in 1524–1525, my estimate of 4,700 in 1574 and Patten's and my figures of 5,000 for 1603 appear the most reliable population estimates for Ipswich in the sixteenth and early seventeenth centuries.

From 1605 to 1620 further trends in population growth can be identified. Between 1605 and 1614, 1,303 christenings and 764 burials are recorded. This suggests a natural growth in this period of nearly 16 per cent. Such significant growth would have done much to help re-launch the town's population after the volatile 1590s and early 1600s. The short period of demographic strain and acute mortality crisis between 1615 and 1617 was not severe enough to halt, let alone reverse, this renewed growth as burials amounted to only 464 and christenings remained greater at 503. Growth continued at record levels in Ipswich between 1618 and 1620 with 611 registered christenings in contrast to a mere 257 burials. Thus, at the close of the period considered here, the natural population of Ipswich was once again surging upwards. Indeed, for the period 1603 to 1640 the cumulated excess of baptisms over burials was 2,113.[32] It is that evidence which supports Reed's findings that the population was quickly expanding in the first half of the seventeenth century. Still, it seems unlikely that the population could have grown at the rate suggested by his original population estimates (4,300 in 1603 and 7,400 in 1640). Since the town experienced similar periods of substantial growth in the sixteenth century and probably only increased 61 per cent over 71 years, an increase of 72 per cent in 37 years (as Reed's figures suggest) seems doubtful. It is more believable that the population had already reached 5,000 by 1603 and only grew 48 per cent in the 37 years between that date and 1640.

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[31] For evidence of plague in the town at this time see Webb, *Poor Relief*, pp. 114–8.

Poverty, population, and demography

Having discussed the overall population and demographic situation of Ipswich between 1570 and 1620, we can now turn our focus to the population sizes of the main socio-economic groups which were extant in Ipswich at this time. For example, what proportion of the town's population were generally considered to be wealthy, or at least 'non-poor', and what proportion were among the 'poorer sort', including those I term here the 'ordinary poor' in addition to the 'relief-dependent'?[33] Furthermore, how did the town's demographic trends appear to have affected those living in poverty, broadly defined? The remainder of this article will begin to address these questions in turn.

Two methods have been used to analyse the social structure of Ipswich according to economic wealth, both relying on the use of various rate assessments raised in the town throughout the period studied. These rates include the parish poor rates as well as the parish rates collected to fund the salary of parish clergy and maintain parochial property (that is, the church rates). Both types of rates were raised across the period and often at similar times, and comparison of the sources shows that many households which were not expected to pay towards the poor rate were expected to pay towards the church rate. As a result, the church rates represent a broader economic cross-section of the population of Ipswich over this period and present a challenge to determine where the line between the wealthy 'middling sort' and 'the poor' should be drawn. Evidence such as the census taken in Strood, Kent in 1598 suggests that contemporaries often considered the ability to pay the poor rate as the general dividing line between these two broad social groups.[34] But to test the reliability of this assertion, the first method used here analyses the poor rates and church rates in conjunction with the parish registers to determine the population sizes of all of the town's main socio-economic groups.

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[32] For this period there were 7,104 christenings and 4,991 burials.

[33] It is true that the 'ordinary poor', or those living in relative poverty, were often more financially solvent than those who were the 'relief-dependent' (i.e. those living in absolute poverty). Nevertheless, as I have shown in other work, their social and economic lives remained rather similar and distinctly different from those of wealthier groups. Contemporaries also frequently noted the existence of these two groups of poor people. Because of this, they can be considered to comprise 'the poor' or the 'poorer sort', broadly defined, in this period. See Shumaker, 'Social and economic lives'.

The first method employed to ascertain the population of the poor rests on comparing the total of 253 households apparent from the basic family reconstitution of St Nicholas to the poor rates and church rates raised by the parish between 1570 and 1609.[35] Using evidence from the poor rates as a baseline, economic thresholds were determined for the parish church rates in this period. This was done primarily in order to check the validity of the basic economic categorisation provided by analysis of the poor rates. Additionally, it is hoped that this process will be useful for other historians studying areas where poor rates do not exist. Four church rates from 1572, 1599, 1604 and 1609 were chosen for this process because they include rates raised in periods of both general socio-economic stability and strain. By comparing the household payments of those who were listed as payers of the poor rate and those who were not in 1574, 1578, 1581, 1584, 1590, 1601 and 1605, with the household payments listed for the four church rates, the resultant broad economic thresholds of 'poor', 'middling sort' and 'urban elite' are distinctly recognisable. For the 1572 and 1599 church rates, overwhelmingly those households rated as paying under 2s. a year (or, nothing at all) were not listed among the parish's poor rate. In contrast, those who paid 2s. and over each year were almost always listed as poor rate payers. This suggests that, broadly speaking, the contemporary poverty threshold was a payment of under 2s. a year towards the parish church rate in this period. Similar thresholds can be found for middling sort and urban elite households. The majority of those listed as paying both the poor rates and church rates made payments of between 2s. and 6s. a year. This suggests that that group comprised the 'middling sort' of the parish. A much smaller number of parishioners paid above 6s. a year and on this evidence can be categorised as members of the 'urban elite'. These initial thresholds increase overall for the 1604 and 1609 church rates, probably as the result of parochial officials' attempts to compensate for rising inflation during that time. As a result, the thresholds for the rates in those two years rose to under 3s. a year for the 'poor', 3–8s. a year for the 'middling sort', and over 8s. a year for the 'urban elite'. Once those thresholds were established, the 253 households from St Nicholas parish then were analysed against the poor rate, poor relief, and church rate lists; after which the families were categorised as 'poor', 'middling sort', or 'urban elite'. The outcome of that analysis shows that 139 households were 'poor', 85 were 'middling', and 29 were from the 'urban elite'. Therefore, the corresponding percentages which may be taken to reflect the *general* economic distribution of households between 1570 and 1620 are 55 per cent 'poor', 33.5 per cent 'middling' and 11.5 per cent 'urban elite'.

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[34] The Strood census is held in the Sutherland collection at the Staffordshire Record Office, D/593/5/4/55/1. For similar evidence in other accounts from neighbouring Kentish parishes, including some rural locales, see P. Clark, *English Provincial Society from the Reformation to the Revolution: Religion, Politics and Society in Kent, 1500–1640* (Hassocks, 1977), p. 240.

[35] SROI, C/3/2/2/2.

Whereas the first method outlines the general economic distribution of households in one parish across the entire period covered by this article, the second method calculates the economic distribution of the entire town's population in 1590. This process is valuable because it provides benchmark population percentages for the poor and non-poor using data from all of the parishes. This in turn allows us to determine an estimated population size for each category as well as to check the validity of the results from method one. The second method analyses the 1590 poor rate and poor relief lists extant for 11 of the town's 12 parishes. As mentioned previously, the small suburban parish of St Mary at Stoke remains the only parish not included in that source, however this has been compensated for here by using an average of the figures given for the parish in the poor rates of 1581 and 1584. By tallying the numbers of poor rate payers and poor relief recipients for each of the parishes, it is possible to arrive at total 'poor' and 'non-poor' household figures for the town. These figures can be further broken down into estimates of the total number of 'ordinary poor' (i.e. those not dependent upon relief) and 'relief-dependent' households.

Much debate has surrounded the process of converting early modern households into 'real' population figures. This is mainly the result of the significant variations that have been found for mean household sizes across socio-economic groups and geographic areas.[36] The best approach to conversion here is to use two multipliers: (1) a mean 'poor' household size calculated for each parish based on a poor census taken in Ipswich in 1597 and (2) a multiplier of 5.2 which is an established mean household size figure for urban poor rate payers.[37] The result of converting the related households in 1590 is shown below in Table 6. The percentages for the socio-economic distribution of households in Ipswich in 1590 are 41.1 per cent for rate payers (all the 'non-poor'), 53.5 per cent for the 'ordinary poor' (i.e. solvent non-rate payers) and 5.4 per cent for the 'relief-dependent' poor (i.e. those who received regular poor relief). This suggests that overall, 58.9 per cent of the town's population was broadly considered 'poor' at this time. Although that is a slightly higher poor population than the 55 per cent suggested by the first method, these figures fit well with the general outline of economic distribution across the period 1570–1620. Additionally, a similar percentage of poor rate payers between 1581 and 1590 has been calculated for Colchester by Richard Dean Smith. According to Smith the rate payers there constituted 40.4 per cent, which implies a poor population of 59.6 per cent.[38] The consistent results provided by both methods, as well as the similarities found with other urban areas in the period suggests the validity of the findings as well as the utility of both the sources and methodologies.

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[36] For a useful overview of established mean household sizes across the sixteenth century, see K. Wrightson, *Earthly Necessities: Economic Lives in Early Modern Britain, 1470–1750* (London, 2000), p. 31. Jeremy Boulton also discusses fluctuations of mean household size, especially in relation to London and other urban areas in J. Boulton, ° (Cambridge, 1987), pp. 122–4.

[37] For the poor census taken in Ipswich in 1597 and some discussion of it, see Webb, *Poor Relief*, pp. 119–40. Also, for the household multiplier for urban poor rate payers see Boulton, *Neighbourhood and Society*, p. 124.

[38] R.D. Smith, *The Middling Sort and the Politics of Social Reformation: Colchester, 1570–1640* (New York, 2004) pp. 23–4.

Table 6 Socio-economic distribution of households in Ipswich in August 1590

Parish	Rated (non-poor) households	Relief-dependent households	Total number of households	Rated (non-poor) population	Relief-dependent population	Total population
St Margaret	44	14	58	229	49	278
St Peter	35	17	52	182	59	241
St Clement	56	4	60	291	12	303
St Nicholas	31	8	39	161	26	187
St Lawrence	40	2	42	208	3	211
St Matthew	29	10	39	151	38	189
St Mary-le-Tower	41	3	44	213	6	219
St Helen	11	9	20	57	31	89
St Mary Elms	11	1	12	57	4	61
St Mary Quay	28	0	28	146	0	146
St Stephen	18	2	20	94	7	101
St Mary at Stoke	20	3	23	104	11	115
All parishes combined	364	73	437	1,893	247	2,140
Estimated percentage of total population				41.1	5.4	46.5
Estimated population of ‘ordinary poor’ (not rated and not on relief)						2,460
Estimated percentage of ‘ordinary poor’						53.5

Note: ‘All parishes combined’ populations may not be equal to sum of populations of individual parishes because of rounding errors.

Source: Suffolk Record Office, Ipswich, C/3/2/2/2.

Having ascertained that roughly 60 per cent of the population of Ipswich at any given time in this period was broadly considered to be ‘poor’ according to these criteria, and that the vast majority of the relatively poor were not in receipt of relief, it is important to understand how demographic change affected the poor in a general sense between 1570 and 1620. The data from the parish registers and the basic family reconstitution from St Nicholas provide much insight into this topic. It is clear from the family reconstitution that at all points during this period the poor population was more changeable than the ‘middling’ and ‘urban elite’ elements. During both crisis and growth periods, the number of poor households which were ‘lost’ exceeded their relative population percentage. For example, out of the 11 households that dropped off the parish register in 1571, 7 (or 64 per cent) were broadly poor. Similar figures can be calculated for the growth period 1587–94 when the parish lost 14 households, 12 of which were poor (86 per cent). Periods of demographic strain and crisis witnessed a dramatic rise in the total number of households lost across socio-economic divides. Between 1595 and 1605, 42 out of the total of 54 households which fell off the parish register were poor, and the remainder comprised ten middling and two elite households. All of these figures suggest that poor households disproportionately disappeared from parish registers. It may be that this was the result of mobility by choice during growth periods or, perhaps, periods of intense social regulation, and susceptibility to epidemics and hardship migration during crises.

Conclusion

It was noted earlier that, at the turn of the seventeenth century, Ipswich experienced substantial population turnover, with new households comprising a large portion of the total population. In conclusion, it is worth discussing further how this phenomenon changed the economic distribution of the population. It is significant that in St Nicholas parish 40 poor households were lost between 1598 and 1605 and only 29 new poor households arrived. In contrast, merely 10 middling sort and 2 elite households disappeared, while 21 new middling sort and 6 new elite households arrived. To put it simply, many of those who replaced the lost poor population at this point were in fact of middling wealth or above. This suggests that by 1605 a higher proportion of the town's population was financially stable than had been the case before. It seems possible that this population turnover could have been one of the main causes of the dramatic demographic growth directly following the plague of 1603–1604. For, as is well known, those with discretionary income often had more children. Nevertheless, the loss of so many poor families serves to underscore one point above all: it was the poor in a broad sense who were most susceptible to the effects of social, economic, and demographic change. While a town could easily rebound from periods of crisis, often the poor faced the very real threat that they could not.