I

POPULATION

i Introduction

The population of England at the beginning of the sixteenth century was something, although not a very great deal, over two million. Most of these people lived in the countryside in villages and smaller settlements, and probably little more than 10 per cent of them lived in towns of any size. It is also likely that as many as three quarters lived south and east of a line drawn from the Severn to the Humber, for it was the southerly part of the country which contained the main areas of arable farming, of rural industry, and most of the important towns. The six northern counties contained some limited areas of fairly densely populated arable farming, especially in the Vales of York and Cleveland and the coastal plains of Northumberland and Durham; and there were a handful of substantial towns, notably York, Hull and Newcastle. But there were huge areas of mountain, fell and moorland, where settlement was exceedingly sparse and virtually confined to the more hospitable valleys, and where towns were very few and often hardly worth the name. Up to a point comparable conditions prevailed along the Welsh border and in parts of the West Midlands, although the environment was nowhere quite so hostile as in the far North and a larger proportion of the land was suitable for settlement.

Within the more densely populated half of the country, the Home Counties and Suffolk, and parts of Gloucestershire, Somerset and South Devon, especially those where the manufacture of woollen cloth was carried on, probably had the thickest concentration of people. Coastal areas were often more heavily populated than their hinterlands, but districts of rich and productive soil devoted to arable farming carried large populations everywhere (Sheail, 1972). However, even in the South distribution of population was very uneven and there were stretches of countryside which were very sparsely inhabited. In some cases this was because of poor soils, as in the case of the Norfolk Brecklands or the

moorlands of Devonshire. In others subjection to forest law in the interests of preserving game for medieval sovereigns had limited the extent of penetration by settlers, as in the case of the forests of Rockingham, Salcey and Whittlewood in otherwise well peopled Northamptonshire. In fact over the previous century and a half there had been little movement into these relatively empty districts. Indeed, there had been some drift away from many of them, as part of a tendency for population to concentrate in the most favoured areas, illustrated by the fact that from all parts of the country there is evidence of villages, usually small ones on marginal soils or in otherwise unpromising situations, being abandoned altogether in the later Middle Ages. (See also below p. 67.) This was a development which had taken place in the context of a heavy drop in the population since the mid fourteenth century, which had affected all areas but whose consequences, because of currents of internal migration, were very much more dramatic in some than in others.

Certainly even southern England in 1500 was lightly populated compared with the situation which had prevailed in 1300. Thus a Venetian traveller, visiting England just before the end of the fifteenth century, remarked: 'The population of this island does not appear to me to bear any proportion to her fertility and riches. I rode . . . from Dover to London and from London to Oxford . . . and it seemed to me to be very thinly inhabited', and his enquiries confirmed that things were no different in either the North or the South West. It is believed by historians of the Middle Ages that around the beginning of the fourteenth century the population reached a peak, which may have been as high as 5 or even 6 million, before a series of natural disasters, of which the famine

Table 1 *English population, 1541–1701: estimated totals at decennial intervals*

1541	2,774,000	1631	4,893,000
1551	3,011,000	1641	5,092,000
1561	2,985,000	1651	5,228,000
1571	3,271,000	1661	5,141,000
1581	3,598,000	1671	4,983,000
1591	3,899,000	1681	4,930,000
1601	4,100,000	1691	4,931,000
1611	4,416,000	1701	5,058,000
1621	4,693,000		

Source: E.A. Wrigley and R.S. Schofield, 1981, Table 7.8, pp. 208–9.

of 1315–17 and the Black Death of 1348–9 were the worst, precipitated a prolonged period of decline. By 1377, when the returns to the Poll Tax provide a reasonably sound basis for an estimate, the people of England seem to have numbered no more than 2.5 or 3 million. By the mid fifteenth century there had been yet further decline and the population may have dropped as low as a mere 2 million, but at this level it seems to have stabilized until some point in the second half of the century when recovery at last began (Hatcher, 1977, pp. 13–14, 63–6, 68–9). At first growth was extremely slow, may have been discontinuous and confined to some areas only, and not until after the turn of the sixteenth century, perhaps 1510, did the upward movement become pronounced. Even in the early 1520s the population seems to have no more than 2.3 million (Cornwall, 1970). However, as is indicated by Table 1 and Figure 1, by the early 1550s it had probably reached 3 million, and soon after, if not before, the end of the century had passed 4 million. By the early seventeenth century the rate of increase was slowing down, and although 5 million was probably reached in the 1630s, there seems to have been little or no overall growth between the 1640s and the 1680s, and indeed at times some slight decline. Renewed upward movement in the last decade or so of the century brought the population of England in 1701 back to just over 5 million. It must be said that estimates of the total size of the population at particular moments in time are fraught with difficulty especially for the fourteenth, fifteenth and early sixteenth centuries, and the results are necessarily subject to a considerable margin of error. However, the recent publication of a monumental work of demographic reconstruction by the Cambridge Group for the History of Population and Social Structure has provided a credible series of figures for the later sixteenth and seventeenth centuries (Wrigley and Schofield, 1981, pp. 208–9). At any rate it is safe to say that during the sixteenth century the population increased by at least 75 per cent and may have practically doubled, whereas during the seventeenth century, although the additions were quite large in absolute terms, they amounted to no more than 25 per cent in proportionate terms. Every part of Europe, it should be said, experienced a similar upward movement in population, although its extent and timing differed somewhat from one country to another.

Why the population moved as it did, when it did, is, however, difficult to establish. Reliable conclusions require a great deal of detailed information about birth rates and death rates, not only for the population in general but for each age group within it, about age at marriage, how large a proportion of the population did in fact get married, and so on. They also require knowledge about many aspects of the economy at large, and the social structure, in order to provide a context within which such

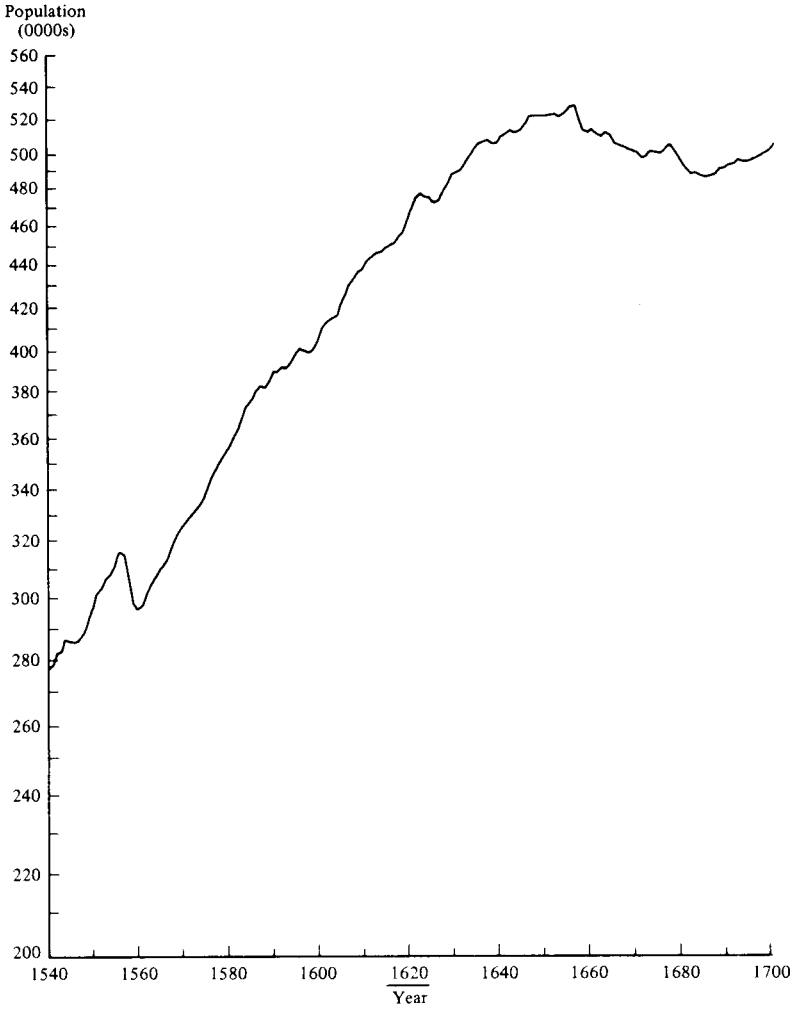

Figure 1 English population, 1541–1701. (Source: Wrigley and Schofield, 1981, Appendix 3 Table 3.)

changes can be interpreted. Until very recently virtually none of the necessary demographic information was available, and historians were only able to speculate in the most general way about what they thought must have occurred. A growing interest in population history has, however, led to an intensive assault upon those contemporary sources which can be made to yield appropriate data. For the late Middle Ages and the earlier part of the sixteenth century the most promising source is wills. These

were made only by those who owned at least some property, but they were left by a numerous enough group to provide a substantial, if socially biased, sample of the population, and their analysis is beginning to throw light on some previously extremely obscure problems.

After the mid sixteenth century, however, a much better source, in the form of the registers of baptisms, marriages and burials, which a government order of 1538 directed should be maintained in every parish church, becomes available. Now it can never be assumed that registers record all the 'vital events' which took place in a parish. Some of them were carelessly kept, and even if the incumbent was conscientious some members of his flock may have been very irregular in their attendance in church, so that they did not bother to have their children baptized, whilst the rise of Non-Conformity in the seventeenth century meant that others kept away for a different reason. Nevertheless, in the hands of researchers who are aware of their shortcomings as historical evidence, parish registers can provide a substitute for the civil registration of births, marriages and deaths, which did not begin until the nineteenth century. Subjected to the laborious process of 'family reconstitution' they can provide the basis for exceedingly detailed and informative studies of population in particular communities, whilst even less intensive methods can yield interesting results if several or many parishes are studied together as a group.[1] In the last twenty years or so the population history of a growing number of localities has been at least partially unravelled in this way, and with the completion of the Cambridge Group's study of several hundred parishes widely distributed throughout the country, there is at last a set of findings which can claim to reveal something about the mechanics of national population movements. However, before we turn to the conclusions suggested by all this work, some parts of which are, alas, intimidatingly technical, let us consider in a general way some of the factors that will be involved.

ii Influences affecting population movements

Throughout the period we are discussing English society experienced what were, by the standards of recent times, relatively high birth rates and death rates.[2] These rates certainly varied over time, from place to place, and between different groups in the community, but averaged out over the period and the population as a whole fell within the range of

[1] For family reconstitution, and other methods of recovering historical evidence about population, see Hollingsworth, 1969

[2] They were *not*, however, as high as those of many under-developed countries in the twentieth century.

30–40 and 22–32 per 1000 of the population per year, respectively, compared to a birth rate of 13.7 per 1000 and a death rate of 11.9 per 1000 for England and Wales in 1973. The high death rate meant an expectation of life at birth which rarely exceeded forty years but which equally rarely dropped below thirty-two, compared to sixty-nine for men and seventy-five for women in 1973. However, since infant mortality was so very heavy, with anything up to a fifth of all children born dying before their first birthday, and many more in the few years following, those who survived the dangerous early years and reached a fifth or tenth birthday had good prospects of surviving into their fifties or even beyond (Schofield and Wrigley, 1979. Wrigley and Schofield, 1981, pp. 230, 311, 528).

The main reason for the high death rate was the prevalence of infectious disease. From the demographic point of view this appeared in two forms: diseases that were endemic, that is always present and claiming a substantial number of victims every year, such as tuberculosis or pneumonia, and those which occurred as epidemics and caused heavy mortalities only at irregular intervals, such as plague, typhus, smallpox or influenza.[3] It was the former which ensured that even in a normal year the death rate was well above the modern level, but on their own they would have been unable to maintain it at the high average which characterized the sixteenth and seventeenth centuries. It was the occasional epidemics, which every now and then drove the death rate far above normal, which ensured that the average rate over a period of time was considerably higher than the rate prevailing in the typical year. In any one place there might be no serious outbreak of epidemic disease for ten years, for a generation, or even a longer period, during which time there would probably be a continuous increase in population, but eventually plague or some other killer would strike and drive numbers abruptly downwards. Thus the movement of population in any given town or rural area tended to be somewhat irregular, whether the underlying trend was upwards, downwards or stable. However, because epidemics tended to appear somewhere every year, whilst hardly ever in this period affecting the whole country simultaneously,[4] the course of national population change was a very much smoother one.

There was clearly a connection between the high death rate and prevailing economic conditions, although the relationship certainly

[3] Strictly speaking this distinction is a great over-simplification. Disease such as plague were endemic over long periods so that they too caused a steady trickle of deaths every year, but this mortality paled into insignificance compared with that in an epidemic outbreak.

[4] The influenza of 1556–8 was the major exception to this generalization, and the epidemics of 1679–86 perhaps another. Before about 1480, by contrast, nationwide epidemics of plague occurred on several occasions. See below pp. 12–13.

cannot explain everything. Poverty, with its concomitants of an inadequate diet, insufficient warmth in winter and poor housing conditions, was certainly the main reason for the ravages of endemic disease. When living standards improved there is every reason to think that mortality from them abated somewhat, and that when they deteriorated, as in years when food was unusually dear, it increased. It has been discovered that the poorest classes in the community had smaller families than the well-to-do and the rich, and there is little doubt that the higher infant mortality they suffered was one of the main reasons for this (Chambers, 1972, pp. 67–9). Yet the low living standard of the mass of the people was not the only reason for the high death rate. Even the richest and most powerful group of all, the aristocracy, had a relatively low expectation of life and one which was falling in the second half of our period (Hollingsworth, 1964), although they lived in dry and solidly built houses, could afford all the food and fuel they wanted, and could escape epidemics by prompt flight. They, together with everyone else, paid the penalty of ignorance; ignorance of the importance of well balanced diets, of personal cleanliness, of maintaing hygienic conditions during childbirth and in the nursery, and so on. Medical skills, such as they were, could do nothing to reduce the number of deaths from disease in this period, whilst lack of knowledge of the mechanisms of infection meant that such public health measures as the authorities took to try to check the spread of epidemics were usually ineffective[5] and sometimes positively harmful. The shutting up of houses in which a case of plague had occurred, for instance, frequently condemned the other inmates to catch the disease, but did nothing to protect the rest of the community, thus increasing rather than reducing the number of deaths.[6]

Epidemics themselves, and the mortality they caused, were thus uncontrolled and uncontrollable, which is well illustrated by the fact that on a number of occasions in the sixteenth and seventeenth centuries certain English towns, including London in 1563, Norwich in 1579 and York in 1604, lost approaching a third of their inhabitants from plague in a few months. The outbreak of plague in London in 1665 was not the worst in terms of the proportion of the population killed, but it left more than 70,000 people dead before the onset of winter weather brought about a spontaneous end to the epidemic (Shrewsbury, 1970. Sutherland,

[5] At the national level, however, quarantine regulations at the ports were eventually successful in preventing epidemics of plague from being imported from abroad, and thus in eliminating the disease from England altogether (Flinn, 1979. Slack, 1981). See also below p. 22.

[6] This was because bubonic plague is not infectious between humans, but is transmitted by fleas, usually those parasitic upon rats rather than upon humans themselves. Rats were thus, usually, if not invariably, the carriers of the disease.

1972. Palliser, 1973 (1). Slack, 1979, pp. 40–3). Poverty and squalor had much to do with the havoc wrought on such occasions; and, especially in the case of plague, whose destructive power no other disease could equal, the largest number of deaths tended to be in the poorest slum districts. Some other diseases, however, were less class conscious. Smallpox appeared in the households of the rich as frequently as in those of the poor, whilst the sweating-sickness of the first half of the sixteenth century seems also to have been extremely common amongst the well-to-do.

Nor is it clear how far, if at all, changes in the frequency and severity of epidemics in general can be related to improvement and deterioration in standards of living. Epidemics were sometimes associated with years of unusually high food prices, but not all years of scarcity saw epidemics, and many broke out when there was no particular shortage of food. Contemporaries believed that widespread hunger was likely to be followed by pestilence, and especially in the early part of the period there is some evidence that it frequently was. Certainly the consequences of harvest failure could be very serious, especially for those who relied in whole or in part upon wages to feed their families. Even at the best of times there were many whose earnings left little margin above the costs of subsistence, and employers did not normally increase wage rates to take account of short term increases in the price of essentials. Indeed many workers, especially perhaps those in the countryside who were partly engaged in small scale pastoral farming and partly in the manufacture of consumer goods such as cloth, would find that their wage earnings decreased or even dried up altogether in times of unusually high food prices. This was because dearer food cut purchasing power for non-essentials in the country at large, and the reaction of employers thus faced with a decline in demand for their products was to reduce production, or even stop it altogether for a while, by the simple expedient of ceasing to put out raw materials to some or all of those who worked for them, beginning with those who lived furthest from their base of operations. As for small peasant farmers who relied upon the grain they raised on their own holdings to feed their families, seriously deficient yields might mean that they simply did not have enough to last them throughout the year. They would have to realize any savings they had to buy food, and if all their resources were exhausted before the next harvest, then they too would be in a parlous way.

Some deaths from starvation probably occurred almost everywhere in the years of the worst harvests, although the majority of victims are likely to have been economically marginal individuals, such as wandering paupers, elderly widows and orphaned children; and many more are likely to have succumbed to famine related diseases, such as dysentery and

typhus. In some districts, even over considerable regions, the direct and indirect effects of hunger forced death rates very high indeed in crisis years. But the findings of the Cambridge Group indicate that even in the mid and later sixteenth century, whatever their *local* effects, neither famine itself, nor epidemics precipitated by famine, were a major influence upon the *national* death rate. In particular there is little evidence by this stage of any connection between harvest failure and plague. Certainly the great London plague of 1563 came immediately after a very bad harvest, but the other major outbreaks (1603, 1625, 1636, 1665, for instance) were at times when food was relatively abundant, whilst the appalling harvests of the mid and later 1590s saw little plague anywhere in England. Indeed in the case of London a detailed comparison between bread prices and fluctuations in mortality from all the main killing diseases, in so far as these are recorded in the contemporary 'Bills of Mortality', indicates that there was little correlation between them (Wrigley and Schofield, 1981, pp. 320–32. Slack 1979, pp. 53–5. Appleby, 1975).

Whatever happened in particular places at particular times, short term variations in overall death rates thus appear to have been largely unrelated to economic conditions: disease, especially epidemic disease, was the key factor in determining national mortality levels, and it seems to have been for the most part a random or 'autonomous' one. Nor does it seem at all probable that periods when epidemics were more than usually active can be safely explained by medium or long term alterations in the material prosperity of the population. A new disease, or fresh strains of an old disease, introduced to the country from abroad will often have been the cause of a new wave of epidemics: the sweating-sickness definitely had a foreign origin, and each of the major series of plague outbreaks probably derived from the importation of a new and virulent form of the virus through the port of London (Shrewsbury, 1970). Furthermore it is a well established fact of medical science, although one which historians have only recently come to accept, that the infectivity and virulence of the micro-organisms which cause disease alter over time, sometimes to a striking degree, so that illnesses which are often fatal at one period may turn into relatively mild complaints at another, or vice versa. Factors such as these are thus of very great importance in determining changes in levels of mortality.

If we turn to fertility and the birth rate, however, we shall find that economic conditions exerted a greater influence. In the short run, periods of heightened mortality were often accompanied by a drop both in the number of conceptions and of marriages, which was reflected by a smaller crop of births than usual in the months following. However, after a

slightly longer interval a sudden upsurge in the number of births is frequently found to have occurred. This was partly because of a revival in fertility amongst couples already married, partly because there was an unusually large crop of marriages as those which had been postponed were carried through, and partly because improved economic conditions for the survivors meant large numbers of marriages between people who had previously not been in a position to afford setting up house on their own. This well attested phenomenon of a compensatory upsurge in births meant that much of the loss of population caused by an epidemic or a serious dearth was repaired within a remarkably short period, and the demographic effect of epidemics tended to be much less devastating than might have been supposed.[7] In the longer run important factors in determining the birth rate included the proportion of adults who never married at all, since if this was high it would, unless off-set by a rise in illegitimate births, clearly bring down the rate for the population as a whole; and the age at which they got married. Changes in the female age at marriage had much more effect than changes in the male age, because of the shorter period during which a women is fertile. The longer she delayed marriage the fewer children she was likely to have, an effect which was the more marked because of the tendency of female fertility to decline with advancing age.

The average age at marriage was certainly affected by economic conditions, since people tended to delay matrimony until they felt that they would be able to maintain a family at the standard of living they, or their parents, regarded as acceptable. They would therefore be influenced by such things as the availability of agricultural holdings, employment and housing. If land was abundant and men did not have to wait for a parent to die before they could get a farm of their own, or if wages were high and cottages at low rents easy to come by, then people were likely to marry younger than if the opposite conditions prevailed. However, in practice the age at marriage was not sufficiently sensitive to changes in these respects to ensure that population and resources remained in balance, and thus that living standards remained more or less stable. Once a particular pattern had become established it tended to persist for a considerable time. No doubt this was in part because of the strength of convention in determining such matters in a traditional society, and in part because it might be several decades before the permanence of some forms of changes in economic conditions, the level of real wages for instance, could be clearly perceived by contemporaries and distinguished

[7] The rapidity of the recovery was also aided by the fact that after a period unusually heavy morality the death rate would drop markedly for a few years, since many of the deaths which would have taken place in the normal course of events had been anticipated.