

Appendix 2

Population estimates

The population of England has been estimated by E.A. Wrigley and R.S. Schofield in a very rigorous manner for every year before from the first census in 1801 back to 1541, on the basis of the entries in a selected sample of parish registers.¹ The period 1541 to 1556 shows a steady growth in the population, after which it declined briefly. Population figures needed for calculations for the purposes of this thesis before 1541 have been estimated on the assumption that the population grew exponentially at the same rate as in 1541-56. This produces an estimate of 2.32 million for 1520, which is similar to Mark Bailey's estimate of 2.3 million for the 1520s.² Before that I have been assumed that the population was stable at 2.3 million.

It is most unfortunate that the exercise carried out on the English population was not extended to Wales for which precisely the same sources are available, though the survival of early parish registers in some areas is poor. It is therefore necessary to fall back on the older estimates of D. Williams and L. Owen.³ Their estimates are not the same: Williams' work covered more dates than Owen, but Owen's methodology is to be preferred. Owen's figures concern only three dates, the mid 16th century, 1670, and the first national census of 1801. At these two earlier dates the ratio has been worked out between Owen's and Williams' figures. An interpolated ratio has then been calculated (by straight line interpolation) for each of the other dates for which Williams had provided population figures. This calculated ratio has then been applied to Williams' figures to deflate them to conform to Owen's series. The same ratio was also applied to the population of Monmouthshire, which was omitted both from Owen's estimates (because it was an English county) and also from Wrigley and Schofield's (because it is now in Wales).⁴ For the 18th century figures derived from Rickman (Williams' source) were presented county by county by Deane & Cole. For 1781 and 1751 their results for England are not markedly different from Wrigley and Schofield's, but for 1701 Wrigley and Schofield's result is 6.5% less than Rickman's. Deane & Cole's estimates (from Rickman) for Monmouthshire and Wales for these dates have therefore been reduced or increased by the proportion between their estimates for England. The estimates made for Wales and Monmouthshire at various dates have been added together,

¹. Wrigley & Schofield 1981.

². Bailey 1996, 1.

³. Williams 1937; Owen 1959.

⁴. Presumably the scope of Wrigley and Schofield's study was limited by their having obtained funding from an English governmental source, rather than a British one. If so, this consequence of the creation of the Welsh Office in the 1960s is to be deplored, since the boundary between England and Wales has little or no significance when historical problems of the early modern period are concerned. However the limitation of the study to England may partly have been the result of the difficulties of family reconstruction in Wales, where patronymics rather than surnames were still in use as late as the 18th century (see for example Gross 2001).

and a linear interpolation made between them so as to provide an estimate of the population of Wales for each year. This provides estimates back to 1536. For the preceding two decades, the extrapolation has been based on the period 1536-1554, because these years have published estimates.

At the other end of the period, there are census figures for every tenth year from 1801. The population in the intervening years has been estimated by linear interpolation. The use of these straight line interpolations throughout is by nature a somewhat crude method, but a relatively straightforward one. The alternative might have been to assume that the Welsh population grew at a similar rate as the English one, but this probably have involved more complex calculations, and this thesis is primarily concerned with the iron industry, rather than with the population.

The ratio of the Welsh population (according to my estimate) to that of England and Wales has been placed in the final column of Table A2.1, where the results of this exercise are presented. From this it will be seen that the Welsh population appears to have fluctuated between about six and eight percent of that of the two nations combined. At this level an error of even 15% in the Welsh population would affect the combined total by a mere 1%. Since it is the combined population that is required for the purposes of this thesis, any error in the estimation of the Welsh population is unlikely to have a significant effect on the overall results, particularly as the margin of error are likely to be greater in the estimates of production and overseas trade (used to estimate consumption), the quantity that will be divided by population to estimate consumption per head of population.

Appendix 2. Population estimates

Table A2.1 Population of Wales and Monmouthshire

File: population/Wales

Appendix 2. Population estimates

Table A2.2 Population of England and Wales

File: population/Sheet1