

WORKING PAPER 465

HOW MANY OLD PEOPLE  
WILL THERE BE IN THE UNITED KINGDOM  
AND WHERE WILL THEY LIVE?

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## Abstract

The paper examines the likely future numbers of the elderly in the United Kingdom and its parts through an analysis of the results of four sets of population projections: for the nation, for the four 'home' countries, for the nine English region and for twenty metropolitan and non-metropolitan areas.

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## 1. INTRODUCTION

### 1.1 Ageing in the demographic transition and after

It has long been recognized that the age structure of a population that has undergone the demographic transition continues to evolve until all the cohorts born under fertility and mortality regimes prior to the achievement of low stationary levels have passed out of the population. What happens is that, firstly, the proportion that the elderly make up of the population increases because more people survive into the older ages, and secondly, the elderly fraction increases and then decreases as the larger cohorts born under higher fertility regimes pass into and out of the elderly ages.

This is essentially what happened to the United Kingdom population over the period 1911 to 1981 (Figure 1). Whereas over this period the total population of the country (Great Britain figures) increased only 33%, the population aged 65 years and over grew by 290%. The share of the national population of those aged 65 and over rose from 5.1 to 15.1% over the same period. In the rest of the century some slackening or even retreat in this ageing process may be anticipated as the small, end of demographic transition cohorts of the inter-war years, 1919-39, move into and out of the elderly population. Then, in the first half of the 21st century, the numbers in the elderly population will be determined broadly by the post-transition fluctuations in fertility over the four decades after 1945 and by the degree to which improvements in survival chances at all ages, especially at the oldest, continue.

### 1.2 Spatial variation

These national trends will apply only partially to subnational population units. The affluent elderly have long had a tradition of migration at time of retirement, and this movement can have profound influence on the future geography of the elderly. Redistributive trends and current migration patterns have been extensively described (Warnes and Law, 1984, 1985; Warnes, 1983; Rees and Warnes, 1986). The consequences of those patterns need investigation.

### 1.3 Aim of the paper

The aim of this paper is to examine the likely effects of current demographic trends on the future numbers and geographical distribution of the elderly in the U.K. This aim is to be accomplished by examining the results of four sets of population projections through use of a common set of indicators of the

evolution and structure of the elderly population.

#### 1.4 The four projections

The four projection utilised are:

- (1) a projection of the national population of the U.K. from 1983 to 2053 (OPCS, 1985);
- (2) a projection for the four constituent countries of the U.K., that is, England, Wales, Scotland and Northern Ireland from 1983 to 2023 (OPCS, 1985);
- (3) a projection for the nine standard regions of England (OPCS, 1984) from 1981 to 2011; and
- (4) a projection for a set of twenty regions consisting of metropolitan counties and their equivalent, region remainders, standard regions and countries from 1981 to 2031 (Rees, 1986).

These four sets of projections are labelled national, country, region and zone projections in Figure 2, which shows the relationship of the subnational units used. The boundaries of the units are depicted on Figure 3.

The models and assumptions underlying these projections differ somewhat and are briefly outlined.

The national, country and region projections use a cohort survival model for single years of age to which net migration numbers, disaggregated by age, are added or subtracted. The national and country projections were carried out separately using the same data and assumptions, and were checked for consistency. The region projections are aggregations of projections for 108 smaller sub-national units in England (36 metropolitan districts, 33 London boroughs, 39 shire counties) in which the net internal migration flows were estimated using a new model that incorporated model schedules by age, origin-destination transition rates and mover rates trended over time (see OPCS, 1984 and Martin and Voorhees Associates, and Bates, 1981 for details), although little change in migration was projected.

The fertility assumptions of the first three projections were for a recovery in total period fertility rates in England, Wales and Scotland to replacement level (2.1 children per woman) by 2007-8, with constant fertility thereafter. Trended subnational differentials are used to convert national fertility assumptions into assumptions for the 108 areas.

Mortality rates are assumed to decrease exponentially over the

1983-2023 period, and are held constant thereafter. The improvement in life expectancy represented in the assumptions are 2.7-2.8 years over the 40 year period.

The fourth set of projections uses multiregional accounting methods (Rees, 1984) and fertility, mortality, internal and external migration data for 1976-81 together with a 1981 population base. The component rates are assumed constant until 2031 together with a constant set of immigration flows. Compared with the official forecasts, therefore, fertility rates in this projection will be lower (1.8 total fertility rate rather than 1.8 trending to 2.1), mortality rates will be higher (roughly 73 years life expectancy rather than 74 years trending to 77) and net external migration losses higher.

These differences, partly in model but mainly in assumption about trends in the component rates, mean that the U.K. population projected by Rees (1986) is 9% lower in 2031 than that of Population Projection no.13 (OPCS, 1985).

#### 1.5 Ageing indicators

To study the way in which the United Kingdom national, country, regional and zonal populations age a common set of indicators is defined. All are based on the projected populations of a unit area disaggregated into five year age groups 0-4 to 85 and over as a starting basis.

The elderly population is defined as all persons 60 years of age or over for the purposes of this paper. The British pensionable age concept (men aged 65 and over together with women aged 60 and over) is not internationally comparable and is suffering erosion as a result of earlier male retirement. The elderly population is broken down into quinquennial ages in order to study the age distribution within the elderly population. Those aged 75 and over (the older elderly) and 85 and over (the very elderly) are also distinguished.

In order to compare the changes among populations of differing sizes, a common set of time series indices is defined. Each age group population in a future year is divided by the mid-1981 population in that age group and the resulting ratio multiplied by 100. Figures below 100 indicate that a decrease with respect to the 1981 level has taken place; figures above 100 show that an increase has occurred. Although the national and country projections analyzed have a mid-1983 population base, mid-1981 populations are used as divisors to maintain comparability across all four sets of projections and because of the higher reliability

of the 1981 figure than the 1983 since the former was produced very shortly after the April 1981 Census.

Craig (1983) has argued that, because the service needs and care demanded by the elderly increase exponentially with age, it is more appropriate to produce a weighted sum of the elderly population, assigning higher weights to the more elderly.

Here, it is assumed that a person aged 80 has a weight of 4 whereas a person aged 60 has a weight of 1. Interpolating exponentially between these figures yields weights for each five year age group and the weighted elderly population is given as

$$\begin{aligned} \text{weighted population} = & 1.19 \times \text{population aged 60-64} \\ & + 1.68 \times \text{population aged 65-69} \\ & + 2.38 \times \text{population aged 70-74} \\ & + 3.36 \times \text{population aged 75-79} \\ & + 4.76 \times \text{population aged 80-84} \\ & + 6.73 \times \text{population aged 85 and over.} \end{aligned}$$

Since the weights are arbitrary, the projected weighted populations are converted into time series indices in the manner described above.

Finally, some dependency indices are computed. The size of the elderly population in relation to the non-elderly population is captured by three indices:

- (1) the ratio of the elderly population (those aged 60 and over) to the working age population (aged 20 to 59), expressed as a percentage;
- (2) the percentage of the population that is either 60 or over or under 20; and
- (3) the percentage that the elderly make up of this non-working age population.

In all these indicators the definition of elderly has been expanded, and the definition of the working ages shrunken, compared with previous practice, in order to reflect changes that have occurred in recent years in the age at retirement and age at entry to the workforce.

With these tools, the four sets of projections are analyzed to answer the questions posed in the title of this paper.

## 2. GROWTH OF THE ELDERLY IN THE UNITED KINGDOM

### 2.1 Influences

Up to the year 2046 the elderly population of the UK is made up of people who have already been born. The size of the birth cohorts from 1926 to 1986 largely determines the size of the elderly population from now until 2046 (see Craig, 1983 for a detailed discussion), although assumptions about the future mortality experience of these cohorts is important. If the first and fourth set of projections are compared, for example, the effect of assuming mortality constancy compared with mortality decline can be assessed. By 2031 (Table 1) the constant mortality projection yields projection age group numbers that are progressively smaller than those resulting from trended mortality.

### 2.2 Stasis, then growth

Table 2 sets out the projected numbers of the elderly in the U.K. from 1983 to 2051 and Table 3 expresses these figures as time series numbers. From 1986 to 2001 the elderly population (60+) decreases by about a quarter of a million, as a result of the entry into the older ages of cohorts born between 1921 and 1941, which were much smaller than those born in the preceding two decades.

From 2001 to 2031, however, the elderly population (60+) increases sharply by just over one third as cohorts born between 1941 and 1971 enter the elderly age band, these years being ones of larger birth cohorts than previously, particularly in 1947 and 1957-1971. From 2031 to 2051 the numbers of elderly decrease as the lower birth cohorts of 1971 to 1991 attain their 60th birthdays.

### 2.3 Ageing of the elderly

These figures for the 60+ population disguise, however, what is happening at older ages. The numbers aged 75 and over, and those aged 85 and over continue to grow in the rest of the 20th century. This growth continues until 2041 for those aged 75+ and until 2051 at least for those aged 85+.

The weighted elderly population (Table 3, last column) represents the potential care "burden" of this ageing population and this index continues to increase to 2001 by almost 5%, although in the period 2001-2041 it increases by 36%.



## 2.4 The elderly in relation to other ages

As a percentage of the total population, the elderly (60+) shrink slightly to the end of the century (Table 4), although the older elderly (75+) do increase by 0.6% (1986 to 2001). Renewed ageing of the population then takes place in the 21st century. Between 2021 and 2051 the elderly will make up one quarter of the population and the older elderly (75+) will reach one in ten in 2041 (Table 4).

The ratio of the elderly to the working population (Table 4) moves downwards from 40 to 37% in the rest of the 20th century, but then rapidly upwards to 55% in 2031. The profound implications of this shift have already affected government policy on the State Earnings Related Pension Scheme (SERPS). It is likely that those retiring from work in the first half of the 21st century will either be asked to retire later or that the level of pension benefits funded out of general revenue will be reduced.

To a certain extent, however, the rise in the proportion elderly will be compensated for by a fall in the proportion aged under 20, and the percentage aged either 60 and over or under 20 in the 21st century does not differ greatly from its level in 1981 (Table 4, penultimate column).

## 3. VARIATION ACROSS THE FOUR COUNTRIES

### 3.1 History

As its name implies, the United Kingdom is an amalgam of four separate countries. England was created in the 8th century A.D. and Wales was conquered in the late 13th century by the English although a formal Act of Union was not passed until 1536. The crowns of England and Scotland were joined in 1603 but the Act of Union of the English and Scottish parliaments occurred a century later in 1707. Ireland was conquered in the 16th century and part of its northern province settled by mainlanders (from Scotland) in the early 17th century. When Irish independence was granted in 1921, the north-east was hived off as Northern Ireland and remained in the United Kingdom. These four separate histories are the reason why separate country population projections are produced.

### 3.2 Demographic regimes

The four parts of the U.K. have broadly similar mortality regimes:

life expectancies in 1983-84 were 74.3 in England, 73.5 in Wales, 73.3 in Northern Ireland and 72.4 in Scotland. Fertility levels in Northern Ireland, however, differ substantially from those of the mainland countries: total fertility rates in 1983-84 were 2.43 in Northern Ireland, 1.82 in Wales, 1.75 in England and 1.68 in Scotland (all figures from OPCS, 1985). Overall migration balances for the U.K., England, Scotland and Northern Ireland have been negative in the recent past, and that for Wales slightly positive, although the numbers involved at the elderly ages are small.

### 3.3 Evolution of the four elderly populations

Table 5 sets out the index numbers for elderly five year age groups, for the weighted elderly population, and for the population as a whole. Table 6 lists the dependency indices.

The time paths of elderly population are similar in each country to those described for the U.K. as a whole - a decrease to 2001 followed by increase to 2021 for those aged under 75, contrasting with sustained growth in numbers aged 80 and over throughout the period.

In all age groups Northern Ireland shows the greatest growth though this is sufficient by 2021 only to lift its elderly population share to that of the other countries recorded in 1981. By 2021 its weighted elderly population index will have increased 48% over its 1981 value compared with 30.5% for the English and Welsh populations, and 21.9% for the Scottish. The Scottish population shows least growth in the elderly in all ages, partly as a result of its worse mortality regime and partly because of migration losses at retirement.

In 1983 84.3% of the U.K. older elderly (75+) were located in England, 8.5% in Scotland, 5.1% in Wales and 2.1% in Northern Ireland. At the end of the projection period, it is anticipated that the Scottish percentage will have fallen by 0.8%, balanced by gains of 0.4 % in England and 0.2% each in Wales and Northern Ireland.

Although there are good historic reasons for being interested in the four country populations, that of England deserves study as a finer spatial scale, comparable in size to that of the other countries of the U.K. This is the subject of the next section.

#### 4. REGIONAL VARIATION WITHIN ENGLAND

##### 4.1 Regional migration patterns

For projection purposes England is divided into seven standard regions and two parts of a standard region (Greater London and the Rest of the South East). The time series statistics for elderly populations are gathered together in Table 7. All of these statistics are influenced by the pattern of current migration of the elderly, which has seen southern regions (apart from Greater London) gaining heavily and northern regions losing elderly migrants. However, the regional dimension of population redistribution is nothing like as important as that between metropolitan cores and their peripheries (Rees and Stillwell, 1984), and this is equally apparent in the migration behaviour of the elderly (Rees and Warnes, 1986). The elderly are leaving metropolitan cores and relocating in lower density peripheral regions. The statistics for Greater London in Table 7 reflect this.

##### 4.2 Evolution of regional populations

Each region repeats the time path of elderly population change, stasis to 2001 and renewed ageing thereafter, identified for the U.K. and for England, but at rather different levels.

Regions recording above average elderly population increases are the Rest of the South East, the South West and East Anglia, together with the West and East Midlands. Below average increases in the weighted population index are recorded in Yorkshire and Humberside, the North and North West. In Greater London in both 2001 and 2011 the weighted population index falls below 100 (or its 1981 value), and is the only index value to fall below that of the population of all ages. In all other regions the elderly show substantially greater increases than the overall population, except for East Anglia where the elderly increases are only marginally higher.

As in the national and country projections the oldest age group shows the greatest gain, even in Greater London where the projections suggest that the numbers in 85 and over age group will be 74% higher in 2011 than in 1981.

##### 4.3 Composition of regional populations

The national pattern of downward shifts to 2001 in the percentage of the population that is 60 and over, followed by rises thereafter is replicated (Table 8) in the North, Yorkshire and Humberside, the

East Midlands, East Anglia and the North West, but in the Rest of the South East, the South West and the West Midlands the percentages 60 and over are higher in 2001 than in 1981 prior to the considerable increase by 2011. In Greater London the percentage remains well below that in 1981.

The ordering of the regions changes considerably over the 30 years of the projection. Only the South West retains its position as the region with the most elderly population in both 1981 and 2011. Greater London falls from having the third most elderly population to having the least, while the Rest of the South East rises from sixth to second position.

The latter climb illustrates the problem of interpreting trends using the standard regionalization. The Rest of the South East contains two contrasting areas in terms of elderly population: the suburban and satellite town areas around Greater London which house a relatively youthful population, and the South coast with its resort towns which house the highest concentration of elderly in the United Kingdom.

In the next section, the fourth set of projected elderly populations is examined, that for a set of 20 subnational units which can be classified into metropolitan zones (the metropolitan counties, Greater London, the Outer Metropolitan Area and Central Clydeside) and non-metropolitan zones (region remainders, standard regions without a metropolitan area, Wales and Northern Ireland).

## 5. THE ELDERLY LEAVE BRITAIN'S LARGEST CITIES

### 5.1 Metropolitan areas: nobody's residential choice

On the basis of migration patterns in the late 1970's, it is clear that the U.K. population prefers not to live in the nation's largest cities (Rees and Warnes, 1986), and as a result projections based on these patterns show the following population changes by 2031 compared with 1981:

- (1) gains in overall and elderly population (weighted index) in the Outer South East, South West, East Anglia, East Midlands, West Midlands Remainder and Northern Ireland;
- (2) losses in overall population but gains in elderly population (weighted index) in the Outer Metropolitan Area, the North Remainder, Scotland Remainder, North West Remainder, Wales, Yorkshire and Humberside Remainder and South

Yorkshire;and

(3) losses in overall population and elderly population (weighted index) in Greater London, Tyne and Wear, Central Clydeside, West Midlands metropolitan county, Greater Manchester and West Yorkshire.

The first group of areas is entirely "non-metropolitan" in character, the third group is entirely "metropolitan". The second group contains northern non-metropolitan regions and two metropolitan - South Yorkshire, the smallest, and the Outer Metro Area, really a suburban ring around London.

The details of projected elderly population change are given in Table 9 for non-metropolitan regions, and in Table 10 for metropolitan. The latter table shows somewhat of a contrast between the projected losses in the youngest elderly ages and gains in most years in the very oldest age group, those aged 85 and over (an age group probably underestimated in this constant rates projection).

## 5.2 The geographical variation in elderly population in 2031

For the United Kingdom as a whole and the whole elderly population (60+), the year 2031 saw a peak (Table 2). About this national average of 35% growth (on projection set one's scenario) is a substantial variance in outcomes in individual areas. Figure 4 tries to capture this variance in a set of 20 graphs which plot the index ratio of 2031 population in each elderly age group to its 1981 value. Non-metropolitan areas are arranged on the left of the diagram and metropolitan on the right. The unshaded bars above the 100 line indicate gains in the ages; the shaded bars below the 100 line show losses in the age groups concerned. Also recorded on the graphs are the weighted population index for each area, and the index value for the whole population.

The juxtaposition of the graphs attempts to link metropolitan zones with the neighbouring non-metropolitan zones to which the largest number of elderly migrants is lost (Rees and Warnes, 1986). The losses in all but the last age group of Greater London's elderly is matched by gains in the Outer Metropolitan Area, the Outer South East, the South West and East Anglia. Tyne and Wear's losses are matched by gains in the North Remainder region. Central Clydeside's losses are reflected as gains in the Remainder of Scotland area. The West Midlands metropolitan county's losses are paired with the substantial gains of the Remainder of the West Midlands region. Greater Manchester's and Merseyside's losses can be paired with the gains of the North West Remainder and (north) Wales. The losses of West Yorkshire find their counterpart in the

gains of the Remainder of Yorkshire and Humberside.

### 5.3 A redistribution of the elderly "burden"?

Tables 11 and 12 set out the age composition and dependency indices for the 20 areas. Most areas follow the same pattern of ageing:

- (1) a slight increase in the 60+ percentages to 1991;
- (2) a decrease from 1991 to 2001; and
- (3) a sustained increase from 2001 to 2031.

Whereas in 1981 there is not a substantial difference in the proportion elderly between metropolitan areas and their neighbouring non-metropolitan, by 2031 a gap has opened up. Greater London's population is 3 to 6% less elderly in 2031 than the three principal receiving regions for its retirement migrants (Outer South East, South West and East Anglia), whereas in 1981 the difference ranged from -0.4% (East Anglia) to 1.8% (South West).

Whether this shift in the distribution of the elderly away from metropolitan areas towards non-metropolitan will ease the burden on the social and health services in the former areas, and increase the burden in the latter is not entirely clear. The reason for this is that knowledge of the numbers alone is insufficient in itself to assess needs for social and health care. We need also to know about the health status, socioeconomic position and family ties of the elderly. There is some evidence that the elderly who migrate are both healthier and wealthier than those who remain behind in the cities, but that they have fewer family links and stretch those as a consequence of migration (Grundy, 1986).

## 6. CONCLUSIONS

The one thing that you can be sure of is that most of the projected population figures quoted in this paper will turn out to be wrong. Most population projections are in error as soon as they are produced because the trend assumptions that they embody have already been invalidated by events.

For example, the constant mortality assumption of the fourth set of projections is clearly unreasonable. But are the mortality trends of projection sets one to three reasonable? The thirteenth decennial study of occupational mortality, to be published this month (Population Trends, 44, p.1 and 7; Veitch, 1986) reports that death rates among the lower socioeconomic classes are rising, as a

result of increasing unemployment and deprivation. Mortality at younger ages threatens to rise through the slow but inexorable spread of drug abuse, infectious hepatitis and AIDS. The assumptions of the 1983 based projections may well turn out to have been optimistic, and future numbers surviving into the elderly ages may fall between those of OPCS (1985) and Rees (1986).

Similarly, the migration patterns incorporated in the 1981-based subnational projections and the 1976-81 based multiregional projections, both based on late 1970's evidence, have changed somewhat in level if not in direction in the 1980's (Britton, 1986). The third set of projections by OPCS have been replaced by a 1983 based set, and the multiregional projections need similarly to be updated.

Despite these sources of uncertainty certain broad conclusions can be derived from the analysis, which are unlikely to become obsolescent.

- (1) In the short run (to 2001) the ageing of the U.K. population will cease, but the ageing of the elderly population will continue.
- (2) In the medium term (to 2031) there will be renewed ageing of the U.K. population which will raise the proportion of the population that is elderly to unprecedented levels as the birth bulge cohorts move through the elderly ages, although after 2031 there will be a moderate decrease in numbers aged 60 and over.
- (3) The ageing of the populations of the constituent countries of the U.K. will proceed along the national path, but that for Northern Ireland will be much faster (because of past fertility history) and that of Scotland somewhat slower (because of continuing migration losses and higher mortality).
- (4) Because the pattern of elderly migration will be one of losses from the nation's largest metropolitan areas and gains in non-metropolitan peripheries, the former will not experience the increases in the elderly population projected for the nation (except in the oldest age group) and latter areas will experience accelerated ageing. In 2031 the nation's non-metropolitan areas will have populations that are between 25 and 28% elderly (60+), whereas the elderly share of metropolitan area populations will be between 22 and 25. Northern Ireland will still only have 18% of its population in the 60 and over age band, although this percentage will have grown by 2.5% since 1981. The exodus of retirement migrants from Greater London will be such that virtually no ageing will be observed in the capital's population despite the major jump predicted for the nation between 2001 and 2031.

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OPCS = Office of Population Censuses and Surveys

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TABLE 1. A comparison of the United Kingdom populations in 1931 from the OPCS projection and a multiregional projection

| Age group | OPCS projection<br>(trended mortality)<br>Population in 2031 | Rees projection<br>(constant rates)<br>Population in 2031 | (2) as<br>% of (1) |
|-----------|--|---|--------------------|
| 60-64     | 3,712  | 3,506   | 94                 |
| 65-69     | 3,670  | 3,278   | 89                 |
| 70-74     | 2,869  | 2,496   | 87                 |
| 75-79     | 2,109  | 1,741   | 83                 |
| 80-84     | 1,668  | 1,225   | 73                 |
| 85+       | 1,433  | 691   | 48                 |
| 60+       | 15,461   | 12,937  | 84                 |
| 75+       | 5,210  | 3,657   | 70                 |
| 0-60      | 43,570   | 40,856  | 94                 |
| All ages  | 59,031   | 53,793  | 91                 |

Notes: all population figures are in 1000's.

Sources:

1. OPCS 2031: OPCS (1985), Appendix I, Table 1.
2. Rees 2031: described in Rees (1986).

TABLE 2. Projected elderly population, United Kingdom, 1983-2051

| Mid-year | All ages | 60+    | 75+   | 85+   |
|----------|----------|--------|-------|-------|
| 1981     | 56,252   | 11,462 | 3,266 | 595   |
| 1983     | 56,337   | 11,605 | 3,447 | 637   |
| 1986     | 56,460   | 11,744 | 3,666 | 713   |
| 1991     | 56,818   | 11,705 | 3,892 | 854   |
| 1996     | 57,348   | 11,584 | 3,959 | 974   |
| 2001     | 57,746   | 11,491 | 4,093 | 1,074 |
| 2011     | 58,050   | 12,597 | 4,080 | 1,174 |
| 2021     | 58,572   | 13,823 | 4,458 | 1,226 |
| 2031     | 59,031   | 15,466 | 5,211 | 1,433 |
| 2041     | 58,663   | 14,548 | 5,953 | 1,633 |
| 2051     | 58,286   | 13,872 | 5,643 | 1,904 |

Notes: the population figures are in 1000's.

Sources: 1981 - OPCS (1983); 1983-2051 - OPCS (1985).

TABLE 3. Projected populations, United Kingdom,  
index numbers, 1983-2051 (1981=100)

| Mid-year | All ages | 60+   | 75+   | 85+   | Weighted<br>elderly<br>population |
|----------|----------|-------|-------|-------|-----------------------------------|
| 1981     | 100.0    | 100.0 | 100.0 | 100.0 | 100.0                             |
| 1983     | 100.2    | 101.2 | 105.5 | 107.1 | 102.4                             |
| 1986     | 100.4    | 102.5 | 112.2 | 119.8 | 105.9                             |
| 1991     | 101.0    | 102.1 | 119.2 | 143.5 | 109.5                             |
| 1996     | 101.9    | 101.1 | 121.2 | 163.7 | 110.9                             |
| 2001     | 102.7    | 100.3 | 125.3 | 176.0 | 111.6                             |
| 2011     | 103.2    | 109.9 | 124.9 | 197.3 | 118.2                             |
| 2021     | 104.1    | 120.6 | 136.5 | 206.1 | 129.9                             |
| 2031     | 104.9    | 134.9 | 159.6 | 216.3 | 148.6                             |
| 2041     | 104.3    | 126.9 | 182.3 | 274.5 | 152.0                             |
| 2051     | 103.6    | 121.0 | 172.8 | 320.0 | 147.3                             |

Source: computed from Table 1.

TABLE 4. Dependency and weighted population indices  
for the projected United Kingdom population, 1983-2051

| Mid-year | Elderly<br>broad narrow |      | Ratio of elderly<br>to 60+ as | Dependent<br>%60+ or | Elderly<br>as % of<br>dependent |
|----------|-------------------------|------|-------------------------------|----------------------|---------------------------------|
|          | %60+                    | %75+ | % of 20-59                    | 0-19                 |                                 |
| 1981     | 20.4                    | 5.8  | 40.1                          | 49.2                 | 41.4                            |
| 1983     | 20.6                    | 6.1  | 40.1                          | 48.8                 | 42.2                            |
| 1986     | 20.8                    | 6.5  | 39.6                          | 47.6                 | 43.6                            |
| 1991     | 20.6                    | 6.9  | 38.4                          | 46.3                 | 44.6                            |
| 1996     | 20.2                    | 6.9  | 37.6                          | 46.3                 | 43.6                            |
| 2001     | 19.9                    | 7.1  | 37.3                          | 46.7                 | 42.7                            |
| 2011     | 21.7                    | 7.0  | 41.8                          | 48.0                 | 45.2                            |
| 2021     | 23.6                    | 7.6  | 46.1                          | 48.9                 | 48.2                            |
| 2031     | 26.2                    | 8.8  | 54.5                          | 52.0                 | 50.4                            |
| 2041     | 24.8                    | 10.1 | 50.2                          | 50.5                 | 49.2                            |
| 2051     | 23.8                    | 9.7  | 47.2                          | 49.5                 | 48.2                            |

Source: computed from OPCS (1983, 1985)

TABLE 5 Projected elderly populations, UK constituent countries, index numbers  
(1981 = 100)

| Mid-year                    | Countries |       |          |            | Countries  |       |          |            |
|-----------------------------|-----------|-------|----------|------------|------------|-------|----------|------------|
|                             | England   | Wales | Scotland | N. Ireland | England    | Wales | Scotland | N. Ireland |
| AGED 60-64                  |           |       |          |            | AGED 65-69 |       |          |            |
| 1981                        | 100.0     | 100.0 | 100.0    | 100.0      | 100.0      | 100.0 | 100.0    | 100.0      |
| 1986                        | 102.0     | 101.9 | 105.4    | 105.9      | 93.7       | 96.0  | 93.5     | 100.0      |
| 1991                        | 95.1      | 91.9  | 99.6     | 101.5      | 97.5       | 100.7 | 97.6     | 101.6      |
| 1996                        | 90.2      | 87.6  | 95.3     | 98.5       | 91.2       | 92.6  | 92.7     | 98.4       |
| 2001                        | 91.9      | 88.8  | 94.6     | 102.9      | 86.7       | 87.9  | 89.0     | 95.2       |
| 2011                        | 120.4     | 112.4 | 114.4    | 123.5      | 100.4      | 99.3  | 92.3     | 115.9      |
| 2021                        | 119.2     | 106.8 | 116.3    | 147.1      | 105.2      | 100.0 | 100.0    | 123.8      |
| AGED 70-74                  |           |       |          |            | AGED 75-79 |       |          |            |
| 1981                        | 100.0     | 100.0 | 100.0    | 100.0      | 100.0      | 100.0 | 100.0    | 100.0      |
| 1986                        | 97.9      | 99.2  | 98.6     | 105.8      | 107.1      | 105.6 | 106.8    | 111.1      |
| 1991                        | 93.0      | 98.4  | 91.8     | 101.9      | 106.6      | 106.7 | 105.5    | 116.7      |
| 1996                        | 96.9      | 102.4 | 96.2     | 105.8      | 102.6      | 107.9 | 99.3     | 113.9      |
| 2001                        | 91.1      | 95.2  | 92.3     | 101.9      | 107.2      | 112.4 | 104.1    | 116.7      |
| 2011                        | 89.5      | 93.6  | 88.5     | 103.8      | 98.1       | 102.2 | 98.6     | 113.9      |
| 2021                        | 119.0     | 119.2 | 109.1    | 126.9      | 116.8      | 118.0 | 103.5    | 138.9      |
| AGED 80-84                  |           |       |          |            | AGED 85 +  |       |          |            |
| 1981                        | 100.0     | 100.0 | 100.0    | 100.0      | 100.0      | 100.0 | 100.0    | 100.0      |
| 1986                        | 116.6     | 116.0 | 118.8    | 104.8      | 120.7      | 124.1 | 117.0    | 140.0      |
| 1991                        | 126.3     | 124.0 | 126.2    | 119.0      | 144.9      | 151.7 | 140.4    | 150.0      |
| 1996                        | 127.2     | 128.0 | 125.0    | 128.6      | 166.0      | 172.4 | 157.4    | 160.0      |
| 2001                        | 125.2     | 132.0 | 120.0    | 128.6      | 178.3      | 189.7 | 166.0    | 190.0      |
| 2011                        | 126.3     | 130.0 | 126.2    | 128.6      | 199.4      | 220.7 | 183.0    | 220.0      |
| 2021                        | 128.7     | 132.0 | 126.2    | 142.9      | 207.8      | 227.6 | 195.7    | 230.0      |
| Weighted Elderly Population |           |       |          |            | ALL AGES   |       |          |            |
| 1981                        | 100.0     | 100.0 | 100.0    | 100.0      | 100.0      | 100.0 | 100.0    | 100.0      |
| 1986                        | 105.9     | 106.3 | 105.9    | 109.5      | 100.4      | 100.1 | 99.1     | 102.3      |
| 1991                        | 109.6     | 110.9 | 108.5    | 113.0      | 101.1      | 100.5 | 98.3     | 105.4      |
| 1996                        | 111.0     | 113.3 | 108.7    | 115.0      | 102.2      | 101.1 | 97.6     | 107.7      |
| 2001                        | 111.7     | 115.1 | 108.5    | 118.2      | 103.1      | 101.4 | 96.8     | 109.5      |
| 2011                        | 118.5     | 121.5 | 112.9    | 127.8      | 104.0      | 100.9 | 93.9     | 111.4      |
| 2021                        | 130.5     | 130.5 | 121.9    | 148.0      | 105.4      | 100.8 | 91.0     | 112.9      |

Source: computed from OPCS (1983, 1985)

TABLE 6 Age composition and dependency indices, UK constituent countries,  
1981-2021

| Mid-year | England          | Wales | Scotland | N.Ireland | England                             | Wales | Scotland | N.Ireland |
|----------|------------------|-------|----------|-----------|-------------------------------------|-------|----------|-----------|
|          | % AGED 60+       |       |          |           | % AGED 75+                          |       |          |           |
| 1981     | 20.6             | 21.5  | 19.1     | 16.2      | 5.9                                 | 6.0   | 5.3      | 4.3       |
| 1986     | 20.9             | 22.0  | 19.8     | 16.8      | 6.6                                 | 6.7   | 6.0      | 4.8       |
| 1991     | 20.8             | 22.0  | 19.9     | 16.4      | 7.0                                 | 7.1   | 6.3      | 5.0       |
| 1996     | 20.3             | 21.7  | 19.7     | 16.1      | 7.0                                 | 7.4   | 6.3      | 5.0       |
| 2001     | 20.0             | 21.6  | 20.0     | 16.0      | 7.2                                 | 7.8   | 6.5      | 5.2       |
| 2011     | 21.8             | 23.5  | 21.4     | 17.5      | 7.1                                 | 7.8   | 6.8      | 5.2       |
| 2021     | 23.6             | 25.0  | 23.9     | 20.0      | 7.6                                 | 8.4   | 7.4      | 6.0       |
|          | % AGED 85 +      |       |          |           | Rate of elderly to working ages (%) |       |          |           |
| 1981     | 1.1              | 1.0   | 0.9      | 0.6       | 40.4                                | 42.9  | 37.7     | 33.8      |
| 1986     | 1.3              | 1.3   | 1.1      | 0.9       | 39.8                                | 43.2  | 37.7     | 33.8      |
| 1991     | 1.5              | 1.6   | 1.3      | 0.9       | 38.6                                | 42.3  | 36.9     | 32.4      |
| 1996     | 1.7              | 1.8   | 1.5      | 1.0       | 37.7                                | 41.7  | 36.6     | 31.2      |
| 2001     | 1.9              | 1.9   | 1.6      | 1.1       | 37.3                                | 41.7  | 37.0     | 30.7      |
| 2011     | 2.1              | 2.3   | 1.8      | 1.3       | 41.9                                | 46.6  | 41.3     | 32.9      |
| 2021     | 2.1              | 2.3   | 2.0      | 1.4       | 46.1                                | 50.1  | 47.1     | 37.9      |
|          | % dependent ages |       |          |           | Elderly as % of dependent ages      |       |          |           |
| 1981     | 49.1             | 50.2  | 49.3     | 52.5      | 41.9                                | 42.8  | 38.7     | 30.8      |
| 1986     | 47.4             | 48.9  | 47.5     | 51.0      | 44.1                                | 45.1  | 41.8     | 33.0      |
| 1991     | 46.1             | 47.8  | 46.0     | 49.1      | 45.1                                | 46.1  | 43.3     | 33.5      |
| 1996     | 46.1             | 47.9  | 46.1     | 48.3      | 44.0                                | 45.3  | 42.8     | 33.3      |
| 2001     | 46.5             | 48.2  | 46.8     | 47.9      | 42.9                                | 44.8  | 42.0     | 33.4      |
| 2011     | 48.0             | 49.4  | 48.1     | 46.9      | 45.5                                | 47.6  | 44.6     | 37.3      |
| 2021     | 48.8             | 50.0  | 49.3     | 47.1      | 48.3                                | 50.0  | 48.5     | 42.4      |

Source: computed from OPCS (1983, 1985)

Notes: 1. Working ages = 20 59  
2. Elderly = 60 +  
3. Dependent = 0-19 plus 60 +

**Table 7. Projected elderly populations, English regions, index numbers  
(1981 = 100), 1981-2011**

| Mid-year                    | North | Yorks.<br>&<br>Humb. | East<br>Mid-<br>lands | East<br>Anglia | Greater<br>London | Rest of<br>South<br>East | South<br>West | West<br>Midlands | North<br>West | England |
|-----------------------------|-------|----------------------|-----------------------|----------------|-------------------|--------------------------|---------------|------------------|---------------|---------|
| AGED 60-64                  |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 103   | 103                  | 105                   | 103            | 99                | 107                      | 104           | 104              | 103           | 102     |
| 1991                        | 94    | 94                   | 98                    | 98             | 87                | 104                      | 98            | 98               | 93            | 95      |
| 2001                        | 83    | 90                   | 96                    | 101            | 76                | 105                      | 99            | 94               | 87            | 92      |
| 2011                        | 100   | 113                  | 126                   | 134            | 99                | 137                      | 130           | 113              | 105           | 120     |
| AGED 65-69                  |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 99    | 94                   | 98                    | 94             | 89                | 99                       | 97            | 100              | 92            | 94      |
| 1991                        | 102   | 97                   | 103                   | 96             | 88                | 106                      | 101           | 104              | 94            | 98      |
| 2001                        | 85    | 84                   | 91                    | 90             | 70                | 101                      | 92            | 91               | 79            | 87      |
| 2011                        | 87    | 94                   | 111                   | 112            | 74                | 121                      | 114           | 106              | 87            | 100     |
| AGED 70-74                  |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 97    | 97                   | 99                    | 100            | 94                | 101                      | 101           | 103              | 94            | 98      |
| 1991                        | 97    | 93                   | 98                    | 95             | 85                | 101                      | 99            | 104              | 87            | 93      |
| 2001                        | 92    | 88                   | 97                    | 93             | 74                | 105                      | 97            | 102              | 82            | 91      |
| 2011                        | 83    | 86                   | 96                    | 96             | 66                | 108                      | 100           | 100              | 78            | 90      |
| AGED 75-79                  |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 105   | 106                  | 109                   | 112            | 106               | 111                      | 113           | 109              | 105           | 107     |
| 1991                        | 102   | 104                  | 109                   | 113            | 100               | 113                      | 115           | 113              | 100           | 107     |
| 2001                        | 108   | 104                  | 115                   | 111            | 91                | 121                      | 118           | 121              | 97            | 107     |
| 2011                        | 93    | 92                   | 105                   | 104            | 73                | 118                      | 110           | 109              | 84            | 98      |
| AGED 80-84                  |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 115   | 115                  | 116                   | 121            | 114               | 119                      | 122           | 120              | 113           | 117     |
| 1991                        | 122   | 124                  | 127                   | 138            | 122               | 133                      | 140           | 132              | 119           | 126     |
| 2001                        | 126   | 121                  | 132                   | 137            | 109               | 140                      | 145           | 144              | 111           | 125     |
| 2011                        | 124   | 119                  | 134                   | 137            | 98                | 150                      | 146           | 146              | 107           | 126     |
| AGED 85+                    |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 123   | 125                  | 120                   | 119            | 120               | 117                      | 122           | 122              | 121           | 121     |
| 1991                        | 149   | 151                  | 143                   | 146            | 143               | 141                      | 152           | 150              | 143           | 145     |
| 2001                        | 181   | 186                  | 181                   | 193            | 169               | 184                      | 207           | 197              | 169           | 178     |
| 2011                        | 214   | 211                  | 214                   | 217            | 174               | 221                      | 244           | 239              | 184           | 199     |
| WEIGHTED ELDERLY POPULATION |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 106   | 106                  | 107                   | 108            | 103               | 109                      | 110           | 109              | 104           | 106     |
| 1991                        | 109   | 109                  | 112                   | 114            | 103               | 116                      | 118           | 115              | 104           | 110     |
| 2001                        | 110   | 110                  | 117                   | 119            | 97                | 126                      | 126           | 121              | 101           | 112     |
| 2011                        | 111   | 114                  | 126                   | 129            | 94                | 140                      | 138           | 130              | 103           | 119     |
| ALL AGES                    |       |                      |                       |                |                   |                          |               |                  |               |         |
| 1986                        | 98    | 100                  | 101                   | 103            | 99                | 102                      | 102           | 100              | 98            | 100     |
| 1991                        | 97    | 100                  | 103                   | 107            | 99                | 105                      | 104           | 101              | 98            | 101     |
| 2001                        | 96    | 101                  | 108                   | 115            | 99                | 110                      | 109           | 103              | 97            | 103     |
| 2011                        | 94    | 102                  | 110                   | 122            | 100               | 112                      | 112           | 104              | 96            | 104     |

Source : Computed from unpublished figures supplied by the Regional Demography Unit, OPCS

Table 8. Age composition and dependency indices, English regions, 1981-2011

| Mid-year                               | North | Yorks. & Humb | East Mid-lands | East Anglia | Greater London | Rest of South East | South West | West Midlands | North West |
|--|-------|---------------|----------------|-------------|----------------|--------------------|------------|---------------|------------|
| % AGED 60+                             |       |               |                |             |                |                    |            |               |            |
| 1981                                   | 20.0  | 20.4          | 19.7           | 21.3        | 21.1           | 20.3               | 23.4       | 19.0          | 20.4       |
| 1991                                   | 21.0  | 20.7          | 20.1           | 20.9        | 20.2           | 21.3               | 24.4       | 20.2          | 20.4       |
| 2001                                   | 20.2  | 19.7          | 19.2           | 19.6        | 18.0           | 21.2               | 23.8       | 19.8          | 19.1       |
| 2011                                   | 21.2  | 21.0          | 21.0           | 21.1        | 18.3           | 23.6               | 26.1       | 21.4          | 20.2       |
| % AGED 75+                             |       |               |                |             |                |                    |            |               |            |
| 1981                                   | 5.4   | 5.8           | 5.5            | 6.2         | 6.1            | 6.1                | 7.1        | 5.0           | 5.7        |
| 1991                                   | 6.5   | 6.8           | 6.4            | 7.3         | 7.1            | 7.2                | 8.9        | 6.2           | 6.6        |
| 2001                                   | 7.1   | 7.0           | 6.7            | 7.2         | 6.8            | 7.7                | 9.4        | 6.9           | 6.7        |
| 2011                                   | 7.1   | 6.9           | 6.6            | 6.9         | 6.1            | 8.0                | 9.3        | 6.9           | 6.4        |
| % AGED 85+                             |       |               |                |             |                |                    |            |               |            |
| 1981                                   | 0.9   | 1.0           | 1.0            | 1.2         | 1.2            | 1.2                | 1.4        | 0.9           | 1.0        |
| 1991                                   | 1.4   | 1.5           | 1.4            | 1.6         | 1.7            | 1.6                | 2.0        | 1.3           | 1.4        |
| 2001                                   | 1.7   | 1.9           | 1.7            | 1.9         | 2.0            | 2.0                | 2.6        | 1.6           | 1.7        |
| 2011                                   | 2.1   | 2.1           | 1.9            | 2.1         | 2.0            | 2.3                | 3.0        | 2.0           | 1.9        |
| RATIO OF ELDERLY TO WORKING AGES       |       |               |                |             |                |                    |            |               |            |
| 1981                                   | 39.1  | 40.6          | 38.5           | 42.4        | 39.8           | 40.0               | 47.8       | 37.1          | 40.5       |
| 1991                                   | 39.6  | 39.0          | 37.4           | 39.3        | 37.5           | 40.1               | 47.0       | 37.8          | 38.4       |
| 2001                                   | 38.3  | 37.2          | 36.0           | 36.9        | 33.8           | 40.6               | 45.9       | 37.5          | 36.2       |
| 2011                                   | 40.4  | 40.3          | 40.4           | 40.9        | 34.2           | 46.5               | 51.9       | 41.3          | 38.7       |
| PERCENT IN DEPENDENT AGES              |       |               |                |             |                |                    |            |               |            |
| 1981                                   | 48.9  | 49.6          | 49.0           | 49.7        | 46.9           | 49.2               | 50.9       | 48.8          | 49.7       |
| 1991                                   | 46.8  | 46.9          | 46.3           | 46.9        | 46.0           | 46.7               | 48.1       | 46.5          | 46.9       |
| 2001                                   | 47.2  | 47.1          | 46.7           | 47.0        | 46.8           | 47.7               | 48.1       | 47.2          | 47.2       |
| 2011                                   | 47.5  | 47.8          | 48.1           | 48.4        | 46.5           | 49.3               | 49.7       | 48.3          | 47.8       |
| ELDERLY AS A PERCENT OF DEPENDENT AGES |       |               |                |             |                |                    |            |               |            |
| 1981                                   | 40.9  | 41.2          | 40.1           | 42.9        | 45.1           | 41.3               | 46.0       | 38.9          | 41.0       |
| 1991                                   | 44.9  | 44.1          | 43.4           | 44.5        | 44.0           | 45.7               | 50.7       | 43.5          | 43.4       |
| 2001                                   | 42.8  | 41.8          | 41.1           | 41.7        | 38.5           | 44.5               | 49.4       | 41.9          | 40.6       |
| 2011                                   | 44.6  | 44.0          | 43.7           | 43.7        | 39.4           | 47.8               | 52.4       | 44.2          | 42.2       |

Source: as Table 7.

TABLE 9. Projected elderly populations, UK zones, index numbers (1981= 100), 1981-2031 : non-metropolitan regions

| Mid-year   | Outer<br>South<br>East | South<br>West | East<br>Anglia | Wales | East<br>Midlands | Scotland<br>Rem. | West<br>Midlands<br>Rem. | North<br>West<br>Rem. | Yorks.<br>& Humb.<br>Rem. | North<br>Rem. |
|------------|------------------------|---------------|----------------|-------|------------------|------------------|--------------------------|-----------------------|---------------------------|---------------|
| AGED 60-64 |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1991       | 100.1                  | 98.9          | 105.3          | 95.4  | 101.0            | 102.9            | 106.0                    | 97.4                  | 101.0                     | 101.7         |
| 2001       | 103.0                  | 98.5          | 107.9          | 90.3  | 98.3             | 100.0            | 108.6                    | 95.4                  | 98.9                      | 94.6          |
| 2011       | 138.4                  | 128.3         | 142.7          | 112.5 | 126.3            | 125.1            | 139.0                    | 118.3                 | 124.6                     | 114.9         |
| 2021       | 143.6                  | 128.9         | 140.7          | 109.7 | 122.5            | 126.5            | 138.6                    | 116.5                 | 122.9                     | 110.5         |
| 2031       | 153.1                  | 138.5         | 150.2          | 118.2 | 132.9            | 132.8            | 151.5                    | 124.6                 | 131.8                     | 115.1         |
| AGED 65-69 |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1991       | 97.2                   | 99.5          | 105.5          | 102.8 | 104.7            | 99.9             | 110.5                    | 96.7                  | 100.1                     | 104.5         |
| 2001       | 89.6                   | 89.5          | 98.7           | 86.5  | 92.4             | 91.3             | 101.1                    | 85.0                  | 90.3                      | 89.5          |
| 2011       | 109.7                  | 107.3         | 120.7          | 97.4  | 109.1            | 97.9             | 124.4                    | 96.9                  | 101.2                     | 96.1          |
| 2021       | 117.8                  | 110.3         | 123.1          | 98.8  | 109.1            | 106.3            | 125.7                    | 98.2                  | 105.1                     | 98.1          |
| 2031       | 145.4                  | 136.3         | 148.5          | 118.0 | 131.4            | 127.1            | 153.3                    | 118.1                 | 127.5                     | 114.4         |
| AGED 70-74 |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1991       | 92.1                   | 95.1          | 101.7          | 98.6  | 99.0             | 89.2             | 104.0                    | 89.7                  | 94.4                      | 97.5          |
| 2001       | 88.4                   | 91.9          | 103.2          | 90.3  | 96.7             | 90.1             | 105.8                    | 87.3                  | 93.1                      | 93.3          |
| 2011       | 89.7                   | 91.1          | 104.6          | 85.6  | 94.1             | 87.4             | 107.4                    | 85.1                  | 90.9                      | 86.9          |
| 2021       | 118.8                  | 117.8         | 136.9          | 106.6 | 120.5            | 109.0            | 136.5                    | 105.2                 | 114.2                     | 105.5         |
| 2031       | 122.1                  | 118.1         | 135.0          | 104.0 | 117.0            | 110.0            | 136.0                    | 103.7                 | 112.6                     | 101.6         |
| AGED 75-79 |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1991       | 102.5                  | 106.4         | 115.3          | 105.3 | 108.1            | 102.4            | 114.0                    | 98.5                  | 106.0                     | 103.7         |
| 2001       | 97.4                   | 103.7         | 117.9          | 103.7 | 111.1            | 99.2             | 120.4                    | 96.6                  | 104.6                     | 105.8         |
| 2011       | 89.3                   | 93.2          | 109.5          | 87.6  | 98.0             | 90.6             | 109.6                    | 84.7                  | 94.1                      | 90.7          |
| 2021       | 107.9                  | 110.8         | 132.6          | 98.6  | 115.4            | 97.0             | 133.5                    | 96.2                  | 105.4                     | 97.5          |
| 2031       | 115.0                  | 114.0         | 135.3          | 100.1 | 115.6            | 105.1            | 134.8                    | 97.5                  | 109.4                     | 99.5          |
| AGED 80-84 |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1991       | 120.5                  | 122.9         | 131.6          | 119.1 | 124.3            | 118.6            | 129.3                    | 116.4                 | 121.4                     | 118.2         |
| 2001       | 109.7                  | 114.3         | 129.0          | 113.4 | 120.7            | 104.3            | 130.1                    | 102.6                 | 112.6                     | 112.7         |
| 2011       | 105.4                  | 110.5         | 130.4          | 104.1 | 117.9            | 105.2            | 131.6                    | 99.7                  | 110.3                     | 107.9         |
| 2021       | 106.2                  | 109.3         | 131.4          | 98.7  | 114.6            | 102.0            | 132.8                    | 96.9                  | 107.5                     | 100.4         |
| 2031       | 139.6                  | 140.7         | 171.3          | 122.8 | 146.4            | 126.9            | 168.0                    | 119.6                 | 134.8                     | 122.0         |
| AGED 85+   |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1991       | 126.5                  | 130.2         | 132.7          | 131.8 | 131.5            | 128.2            | 140.0                    | 130.3                 | 128.5                     | 131.6         |
| 2001       | 138.9                  | 142.7         | 153.5          | 139.6 | 145.1            | 134.5            | 156.4                    | 132.7                 | 137.5                     | 137.3         |
| 2011       | 132.8                  | 138.9         | 156.3          | 137.1 | 147.9            | 128.7            | 163.1                    | 128.1                 | 134.7                     | 138.4         |
| 2021       | 123.0                  | 127.1         | 147.8          | 118.7 | 133.9            | 119.9            | 151.2                    | 114.6                 | 123.5                     | 121.7         |
| 2031       | 139.9                  | 143.4         | 169.3          | 128.2 | 149.9            | 125.1            | 175.5                    | 125.2                 | 133.4                     | 126.9         |

Source: Author's projections.

TABLE 10. Projected elderly populations UK zones, index numbers (1981 = 100), 1981-2031; Northern Ireland and metropolitan regions

| Mid-year   | Northern<br>Ireland | Tyne &<br>Wear | South<br>Yorks. | West<br>Yorks. | Mersey-<br>side | Central<br>Clyde-<br>side | Greater<br>Man-<br>chester | West<br>Mid-<br>lands<br>m.c. | Outer<br>Metro.<br>Area | Greater<br>London |
|------------|---------------------|----------------|-----------------|----------------|-----------------|---------------------------|----------------------------|-------------------------------|-------------------------|-------------------|
| AGED 60-64 |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1991       | 98.1                | 96.1           | 93.0            | 93.0           | 96.3            | 94.2                      | 89.2                       | 93.7                          | 106.2                   | 87.2              |
| 2001       | 95.9                | 80.2           | 87.6            | 86.5           | 82.0            | 82.6                      | 83.3                       | 82.5                          | 102.2                   | 78.2              |
| 2011       | 109.9               | 92.2           | 105.0           | 105.6          | 91.4            | 85.4                      | 99.5                       | 90.9                          | 126.3                   | 93.2              |
| 2021       | 134.7               | 87.5           | 105.5           | 102.2          | 90.6            | 78.6                      | 95.2                       | 88.2                          | 121.0                   | 91.1              |
| 2031       | 140.9               | 88.8           | 113.6           | 108.2          | 92.4            | 77.5                      | 99.5                       | 93.4                          | 125.0                   | 91.5              |
| AGED 65-69 |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1991       | 96.9                | 101.0          | 99.4            | 96.4           | 94.6            | 92.6                      | 92.7                       | 98.9                          | 108.1                   | 86.8              |
| 2001       | 89.8                | 80.4           | 82.2            | 80.2           | 79.2            | 80.6                      | 74.6                       | 80.5                          | 99.5                    | 70.5              |
| 2011       | 103.4               | 76.4           | 90.8            | 85.6           | 75.7            | 73.4                      | 81.0                       | 83.3                          | 111.1                   | 74.2              |
| 2021       | 197.3               | 78.7           | 91.9            | 88.4           | 76.7            | 70.8                      | 81.1                       | 80.2                          | 111.2                   | 77.3              |
| 2031       | 141.4               | 88.8           | 110.3           | 103.2          | 89.7            | 77.5                      | 93.6                       | 93.0                          | 129.8                   | 86.1              |
| AGED 70-74 |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1991       | 94.7                | 96.7           | 98.3            | 88.6           | 89.4            | 87.4                      | 88.2                       | 99.7                          | 103.3                   | 84.3              |
| 2001       | 93.0                | 87.8           | 88.3            | 82.3           | 83.1            | 85.4                      | 78.7                       | 89.1                          | 106.6                   | 74.1              |
| 2011       | 90.9                | 73.8           | 83.2            | 76.7           | 71.4            | 75.2                      | 73.6                       | 78.9                          | 102.4                   | 67.0              |
| 2021       | 104.3               | 85.2           | 99.9            | 93.7           | 80.1            | 78.4                      | 88.0                       | 87.6                          | 126.6                   | 80.0              |
| 2031       | 127.3               | 81.0           | 100.2           | 90.7           | 79.4            | 72.5                      | 84.4                       | 85.1                          | 122.1                   | 78.2              |
| AGED 75-79 |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1991       | 103.0               | 101.4          | 107.7           | 97.7           | 101.3           | 97.8                      | 100.8                      | 109.7                         | 115.5                   | 99.8              |
| 2001       | 100.5               | 101.5          | 106.2           | 94.2           | 92.9            | 96.4                      | 95.3                       | 106.0                         | 123.4                   | 88.9              |
| 2011       | 93.1                | 81.1           | 88.0            | 78.6           | 78.0            | 83.9                      | 77.0                       | 86.7                          | 112.6                   | 72.8              |
| 2021       | 107.2               | 77.7           | 97.2            | 84.1           | 75.3            | 77.0                      | 83.7                       | 90.2                          | 125.8                   | 77.0              |
| 2031       | 111.1               | 80.0           | 98.4            | 86.8           | 76.4            | 74.5                      | 83.8                       | 87.1                          | 126.6                   | 80.1              |
| AGED 80-84 |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1991       | 110.7               | 117.4          | 123.9           | 112.6          | 115.0           | 113.3                     | 119.4                      | 124.0                         | 130.4                   | 120.2             |
| 2001       | 104.3               | 111.4          | 119.6           | 100.5          | 100.2           | 105.9                     | 104.1                      | 122.5                         | 130.5                   | 103.2             |
| 2011       | 102.4               | 101.4          | 107.7           | 93.4           | 93.4            | 103.6                     | 93.3                       | 109.8                         | 133.0                   | 91.4              |
| 2021       | 100.1               | 85.7           | 101.6           | 87.2           | 80.8            | 91.5                      | 87.3                       | 97.7                          | 127.7                   | 83.0              |
| 2031       | 114.9               | 99.3           | 122.1           | 106.5          | 91.3            | 95.8                      | 104.5                      | 109.1                         | 157.9                   | 99.3              |
| AGED 85 +  |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1991       | 181.7               | 133.9          | 137.6           | 128.6          | 126.3           | 130.0                     | 133.4                      | 136.1                         | 129.6                   | 125.7             |
| 2001       | 200.0               | 134.9          | 145.7           | 130.2          | 128.1           | 138.1                     | 134.7                      | 148.4                         | 143.1                   | 131.1             |
| 2011       | 196.6               | 133.7          | 143.5           | 124.4          | 117.5           | 135.3                     | 126.3                      | 144.8                         | 149.1                   | 118.0             |
| 2021       | 186.3               | 110.8          | 122.1           | 106.7          | 101.2           | 121.0                     | 104.9                      | 121.7                         | 138.7                   | 99.5              |
| 2031       | 201.4               | 104.0          | 129.8           | 110.6          | 96.3            | 110.7                     | 110.2                      | 122.8                         | 149.4                   | 101.2             |

Source: Author's projections.



TABLE 11. Age composition and dependency indices, UK zones, 1981-2031 : non-metropolitan regions

| Mid-year                               | Outer<br>South<br>East | South<br>West | East<br>Anglia | Wales | East<br>Midlands | Scotland<br>Rem. | West<br>Midlands<br>Rem. | North<br>West<br>Rem. | Yorks.<br>& Humb.<br>Rem. | North<br>Rem. |
|--|------------------------|---------------|----------------|-------|------------------|------------------|--------------------------|-----------------------|---------------------------|---------------|
| % AGED 60+                             |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1981                                   | 22.0                   | 23.1          | 20.9           | 20.9  | 19.5             | 19.2             | 17.9                     | 20.6                  | 20.7                      | 19.2          |
| 1991                                   | 20.8                   | 22.9          | 21.4           | 21.3  | 20.0             | 19.3             | 18.9                     | 20.2                  | 21.0                      | 20.1          |
| 2001                                   | 19.0                   | 21.6          | 20.8           | 19.9  | 19.2             | 18.6             | 18.4                     | 19.1                  | 20.1                      | 19.4          |
| 2011                                   | 20.5                   | 23.3          | 22.9           | 21.1  | 21.0             | 20.0             | 20.5                     | 20.6                  | 21.7                      | 20.7          |
| 2021                                   | 22.3                   | 24.9          | 24.5           | 22.4  | 22.4             | 21.9             | 22.1                     | 22.0                  | 23.3                      | 22.0          |
| 2031                                   | 25.1                   | 28.0          | 27.2           | 25.0  | 25.1             | 24.9             | 25.0                     | 24.7                  | 26.2                      | 24.5          |
| % AGED 75+                             |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1981                                   | 7.2                    | 7.0           | 6.1            | 5.8   | 5.4              | 5.5              | 4.7                      | 5.8                   | 5.9                       | 5.2           |
| 1991                                   | 7.5                    | 7.8           | 7.0            | 6.6   | 6.2              | 6.0              | 5.5                      | 6.3                   | 6.7                       | 5.8           |
| 2001                                   | 6.8                    | 7.5           | 7.0            | 6.5   | 6.3              | 5.8              | 5.6                      | 6.0                   | 6.5                       | 6.0           |
| 2011                                   | 6.2                    | 7.0           | 6.7            | 5.9   | 5.9              | 5.6              | 5.4                      | 5.6                   | 6.2                       | 5.7           |
| 2021                                   | 6.6                    | 7.4           | 7.2            | 6.1   | 6.3              | 5.7              | 5.9                      | 5.9                   | 6.5                       | 5.8           |
| 2031                                   | 7.6                    | 8.4           | 8.2            | 6.9   | 7.1              | 6.7              | 6.7                      | 6.6                   | 7.3                       | 6.6           |
| % AGED 85+                             |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1981                                   | 1.3                    | 1.2           | 1.1            | 0.9   | 0.9              | 0.9              | 0.7                      | 0.9                   | 1.0                       | 0.8           |
| 1991                                   | 1.6                    | 1.6           | 1.4            | 1.2   | 1.1              | 1.1              | 1.0                      | 1.2                   | 1.3                       | 1.0           |
| 2001                                   | 1.6                    | 1.7           | 1.5            | 1.3   | 1.2              | 1.2              | 1.0                      | 1.2                   | 1.4                       | 1.1           |
| 2011                                   | 1.5                    | 1.6           | 1.5            | 1.3   | 1.3              | 1.1              | 1.1                      | 1.1                   | 1.3                       | 1.1           |
| 2021                                   | 1.4                    | 1.5           | 1.4            | 1.1   | 1.2              | 1.1              | 1.0                      | 1.0                   | 1.2                       | 1.0           |
| 2031                                   | 1.6                    | 1.7           | 1.7            | 1.2   | 1.3              | 1.2              | 1.2                      | 1.2                   | 1.4                       | 1.1           |
| RATIO OF ELDERLY TO WORKING AGES       |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1981                                   | 44.1                   | 46.6          | 41.8           | 41.5  | 38.2             | 37.6             | 34.0                     | 40.9                  | 41.2                      | 37.4          |
| 1991                                   | 38.8                   | 43.3          | 40.4           | 40.3  | 37.0             | 35.4             | 34.0                     | 37.5                  | 39.0                      | 37.5          |
| 2001                                   | 34.9                   | 39.8          | 38.6           | 36.8  | 35.0             | 33.5             | 32.6                     | 34.7                  | 36.8                      | 35.6          |
| 2011                                   | 37.6                   | 43.2          | 43.2           | 39.1  | 38.6             | 36.1             | 36.8                     | 37.6                  | 39.7                      | 38.1          |
| 2021                                   | 41.6                   | 46.9          | 46.9           | 41.7  | 41.5             | 40.0             | 40.1                     | 40.5                  | 43.1                      | 40.9          |
| 2031                                   | 49.2                   | 55.6          | 54.6           | 48.8  | 48.8             | 48.0             | 47.7                     | 47.8                  | 51.1                      | 47.6          |
| PERCENT IN DEPENDENT AGES              |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1981                                   | 50.2                   | 50.6          | 50.0           | 49.8  | 48.9             | 48.9             | 47.4                     | 49.5                  | 49.7                      | 48.7          |
| 1991                                   | 46.4                   | 47.1          | 47.0           | 47.2  | 45.9             | 45.5             | 44.5                     | 46.2                  | 46.2                      | 46.4          |
| 2001                                   | 45.4                   | 45.8          | 46.2           | 45.9  | 45.1             | 44.6             | 43.6                     | 45.1                  | 45.2                      | 45.6          |
| 2011                                   | 45.5                   | 46.2          | 47.0           | 46.0  | 45.6             | 44.5             | 44.3                     | 45.3                  | 45.4                      | 45.6          |
| 2021                                   | 46.3                   | 46.9          | 47.7           | 46.3  | 46.0             | 45.3             | 44.9                     | 45.8                  | 46.0                      | 46.1          |
| 2031                                   | 49.0                   | 49.7          | 50.2           | 48.9  | 48.6             | 48.2             | 47.7                     | 48.4                  | 48.8                      | 48.6          |
| ELDERLY AS A PERCENT OF DEPENDENT AGES |                        |               |                |       |                  |                  |                          |                       |                           |               |
| 1981                                   | 43.7                   | 45.6          | 41.9           | 42.0  | 39.9             | 39.2             | 37.7                     | 41.6                  | 41.8                      | 39.4          |
| 1991                                   | 44.8                   | 48.7          | 45.6           | 45.2  | 43.6             | 42.5             | 42.4                     | 43.7                  | 45.5                      | 43.4          |
| 2001                                   | 41.9                   | 47.1          | 45.0           | 43.4  | 42.6             | 41.6             | 42.2                     | 42.3                  | 44.6                      | 42.9          |
| 2011                                   | 45.1                   | 50.4          | 48.7           | 45.9  | 46.1             | 45.0             | 46.2                     | 45.4                  | 47.8                      | 45.4          |
| 2021                                   | 48.2                   | 53.2          | 51.4           | 48.3  | 48.7             | 48.3             | 49.3                     | 48.0                  | 50.6                      | 47.7          |
| 2031                                   | 51.2                   | 56.2          | 54.1           | 51.1  | 51.6             | 51.6             | 52.4                     | 50.9                  | 53.7                      | 50.4          |

Source: Author's projections.

TABLE 12. Age composition and dependency indices, UK zones, 1981-2031 : Northern Ireland and metropolitan areas

| Mid-year                               | Northern<br>Ireland | Tyne &<br>Wear | South<br>Yorks. | West<br>Yorks. | Mersey-<br>side | Central<br>Clyde-<br>side | Greater<br>Man-<br>chester | West<br>Mid-<br>lands<br>m.c. | Outer<br>Metro.<br>Area | Greater<br>London |
|--|---------------------|----------------|-----------------|----------------|-----------------|---------------------------|----------------------------|-------------------------------|-------------------------|-------------------|
| % AGED 60 +                            |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1981                                   | 15.8                | 20.2           | 19.7            | 20.2           | 19.6            | 19.2                      | 19.9                       | 18.9                          | 18.1                    | 21.3              |
| 1991                                   | 15.4                | 21.6           | 20.3            | 19.9           | 20.7            | 20.2                      | 19.9                       | 20.4                          | 19.5                    | 20.7              |
| 2001                                   | 14.4                | 20.4           | 19.1            | 18.6           | 19.6            | 20.8                      | 18.5                       | 19.5                          | 19.3                    | 19.0              |
| 2011                                   | 14.8                | 20.7           | 20.1            | 19.6           | 19.8            | 21.7                      | 19.6                       | 20.0                          | 21.0                    | 19.5              |
| 2021                                   | 16.1                | 21.6           | 21.4            | 20.8           | 20.9            | 22.6                      | 20.7                       | 20.7                          | 22.1                    | 20.4              |
| 2031                                   | 18.3                | 23.7           | 24.2            | 23.2           | 23.2            | 24.6                      | 23.0                       | 22.9                          | 24.1                    | 21.9              |
| % AGED 75 +                            |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1981                                   | 4.1                 | 5.4            | 5.1             | 5.7            | 5.5             | 4.9                       | 5.3                        | 4.8                           | 4.8                     | 6.0               |
| 1991                                   | 4.6                 | 6.4            | 6.1             | 6.2            | 6.4             | 5.8                       | 6.1                        | 6.0                           | 5.7                     | 7.0               |
| 2001                                   | 4.3                 | 6.7            | 6.2             | 6.1            | 6.3             | 6.3                       | 6.0                        | 6.4                           | 6.0                     | 6.6               |
| 2011                                   | 4.0                 | 6.2            | 5.6             | 5.6            | 6.0             | 6.5                       | 5.4                        | 5.9                           | 5.9                     | 5.9               |
| 2021                                   | 4.1                 | 5.9            | 5.7             | 5.6            | 5.7             | 6.4                       | 5.5                        | 5.8                           | 6.2                     | 5.8               |
| 2031                                   | 4.4                 | 6.5            | 6.4             | 6.3            | 6.3             | 6.9                       | 6.1                        | 6.2                           | 6.8                     | 6.4               |
| % AGED 85 +                            |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1981                                   | 0.5                 | 0.8            | 0.8             | 0.9            | 0.9             | 0.7                       | 0.8                        | 0.7                           | 0.8                     | 1.1               |
| 1991                                   | 0.8                 | 1.2            | 1.1             | 1.2            | 1.2             | 1.0                       | 1.1                        | 1.0                           | 1.1                     | 1.4               |
| 2001                                   | 0.9                 | 1.2            | 1.2             | 1.2            | 1.3             | 1.1                       | 1.1                        | 1.2                           | 1.2                     | 1.5               |
| 2011                                   | 0.8                 | 1.3            | 1.2             | 1.2            | 1.3             | 1.2                       | 1.1                        | 1.2                           | 1.2                     | 1.4               |
| 2021                                   | 0.8                 | 1.2            | 1.0             | 1.1            | 1.1             | 1.2                       | 1.0                        | 1.1                           | 1.2                     | 1.2               |
| 2031                                   | 0.8                 | 1.1            | 1.1             | 1.1            | 1.2             | 1.2                       | 1.1                        | 1.2                           | 1.3                     | 1.3               |
| RATIO OF ELDERLY TO WORKING AGES       |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1981                                   | 32.6                | 39.9           | 38.6            | 40.2           | 39.3            | 39.0                      | 39.5                       | 37.1                          | 34.8                    | 40.9              |
| 1991                                   | 30.2                | 40.8           | 37.4            | 37.3           | 38.9            | 38.5                      | 37.1                       | 38.6                          | 36.0                    | 38.0              |
| 2001                                   | 27.9                | 38.1           | 34.5            | 34.3           | 36.4            | 40.5                      | 34.0                       | 36.6                          | 36.0                    | 34.3              |
| 2011                                   | 28.3                | 38.0           | 36.1            | 36.0           | 36.3            | 41.7                      | 35.8                       | 37.1                          | 39.3                    | 34.8              |
| 2021                                   | 30.9                | 39.9           | 38.8            | 38.5           | 38.4            | 43.5                      | 38.2                       | 38.4                          | 41.8                    | 36.8              |
| 2031                                   | 36.7                | 45.7           | 46.1            | 44.9           | 44.7            | 49.4                      | 44.3                       | 44.3                          | 47.3                    | 40.7              |
| PERCENT IN DEPENDENT AGES              |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1981                                   | 51.7                | 49.4           | 49.1            | 49.8           | 50.1            | 50.9                      | 49.7                       | 49.1                          | 48.1                    | 47.9              |
| 1991                                   | 48.9                | 47.2           | 45.7            | 46.7           | 47.0            | 47.5                      | 46.5                       | 47.1                          | 46.0                    | 45.4              |
| 2001                                   | 48.6                | 46.5           | 44.7            | 45.8           | 46.3            | 48.6                      | 45.6                       | 46.6                          | 46.2                    | 44.6              |
| 2011                                   | 47.7                | 45.6           | 44.4            | 45.5           | 45.4            | 47.9                      | 45.3                       | 46.0                          | 46.5                    | 44.0              |
| 2021                                   | 48.0                | 45.9           | 44.8            | 45.9           | 45.6            | 48.1                      | 45.7                       | 46.0                          | 47.0                    | 44.5              |
| 2031                                   | 50.3                | 48.1           | 47.5            | 48.3           | 48.0            | 50.3                      | 48.0                       | 48.3                          | 49.1                    | 46.1              |
| ELDERLY AS A PERCENT OF DEPENDENT AGES |                     |                |                 |                |                 |                           |                            |                               |                         |                   |
| 1981                                   | 30.5                | 40.8           | 40.1            | 40.5           | 39.2            | 37.6                      | 40.0                       | 38.5                          | 37.6                    | 44.4              |
| 1991                                   | 31.6                | 45.7           | 44.4            | 42.5           | 43.9            | 42.5                      | 42.7                       | 43.4                          | 42.3                    | 45.7              |
| 2001                                   | 29.6                | 43.9           | 42.7            | 40.7           | 42.3            | 42.8                      | 40.7                       | 41.9                          | 41.9                    | 42.6              |
| 2011                                   | 31.0                | 45.3           | 45.2            | 43.1           | 43.7            | 45.3                      | 43.2                       | 42.2                          | 45.2                    | 44.3              |
| 2021                                   | 33.5                | 47.0           | 47.8            | 45.4           | 45.8            | 46.9                      | 45.4                       | 44.2                          | 47.0                    | 45.9              |
| 2031                                   | 36.3                | 49.2           | 50.9            | 48.1           | 48.4            | 48.8                      | 47.9                       | 46.3                          | 49.1                    | 47.6              |

Source: Author's projections.

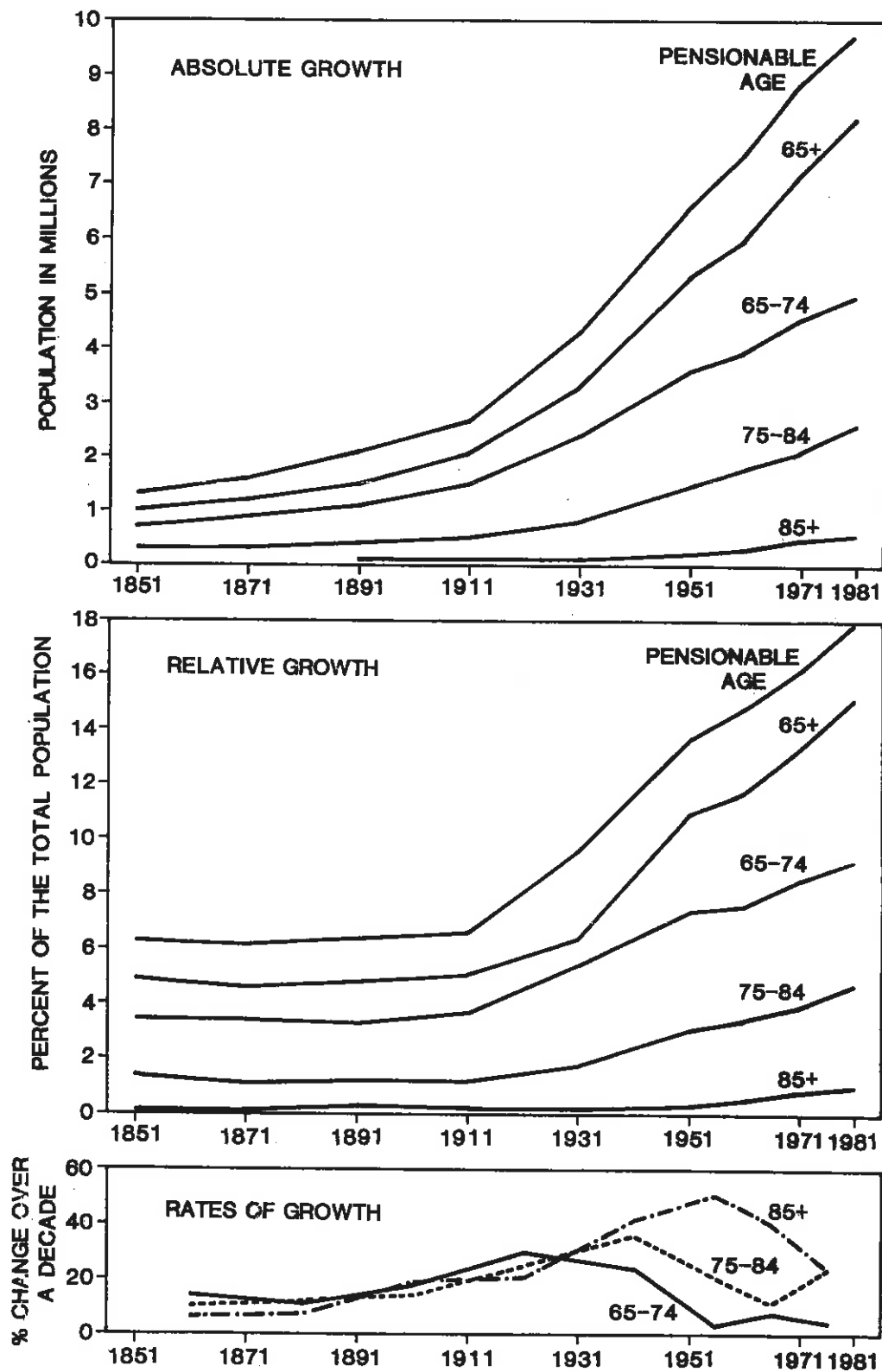


FIGURE 1. The ageing of the Great Britain population, 1851-1981

Source: Rees and Warnes (1986)

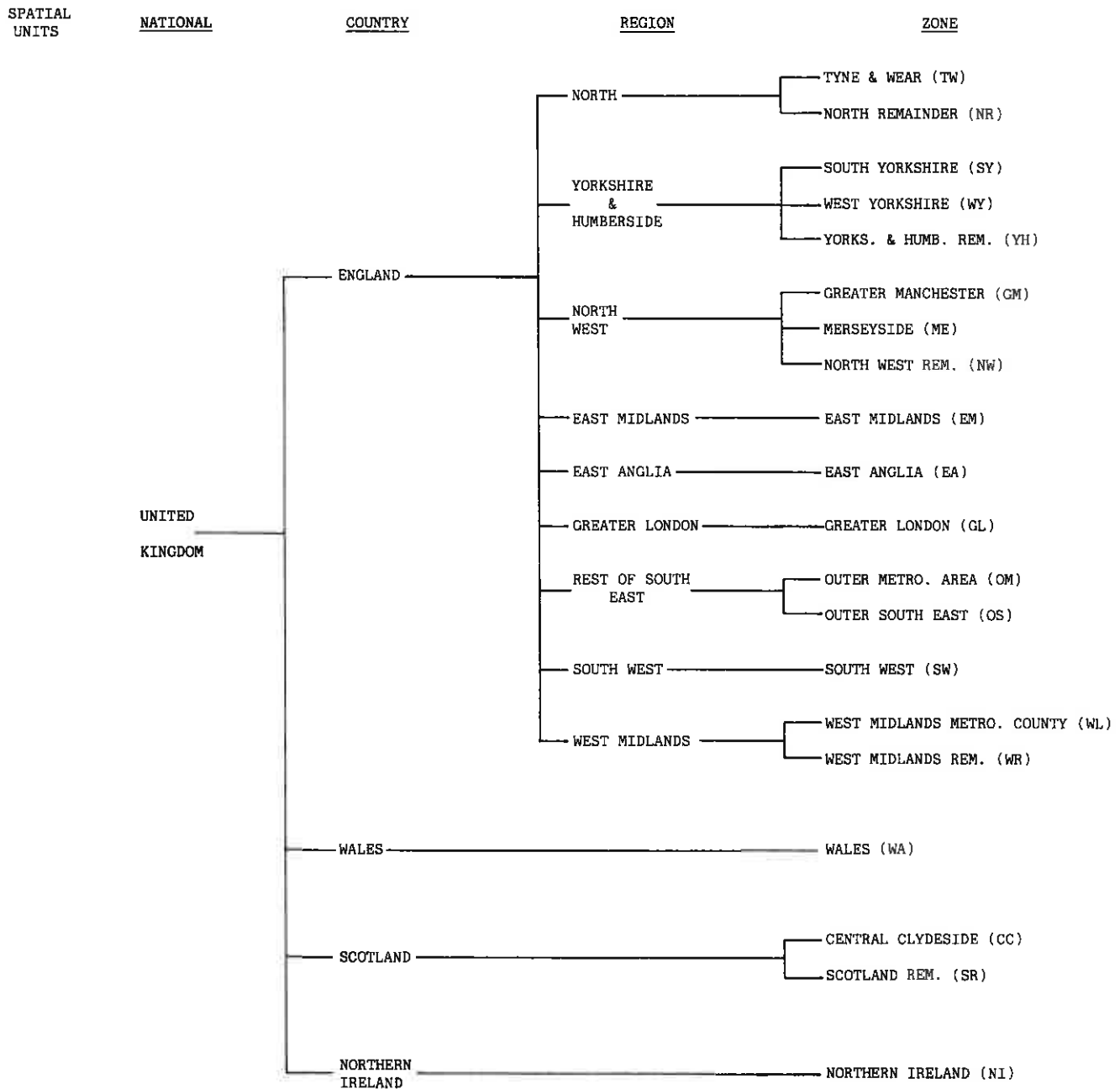
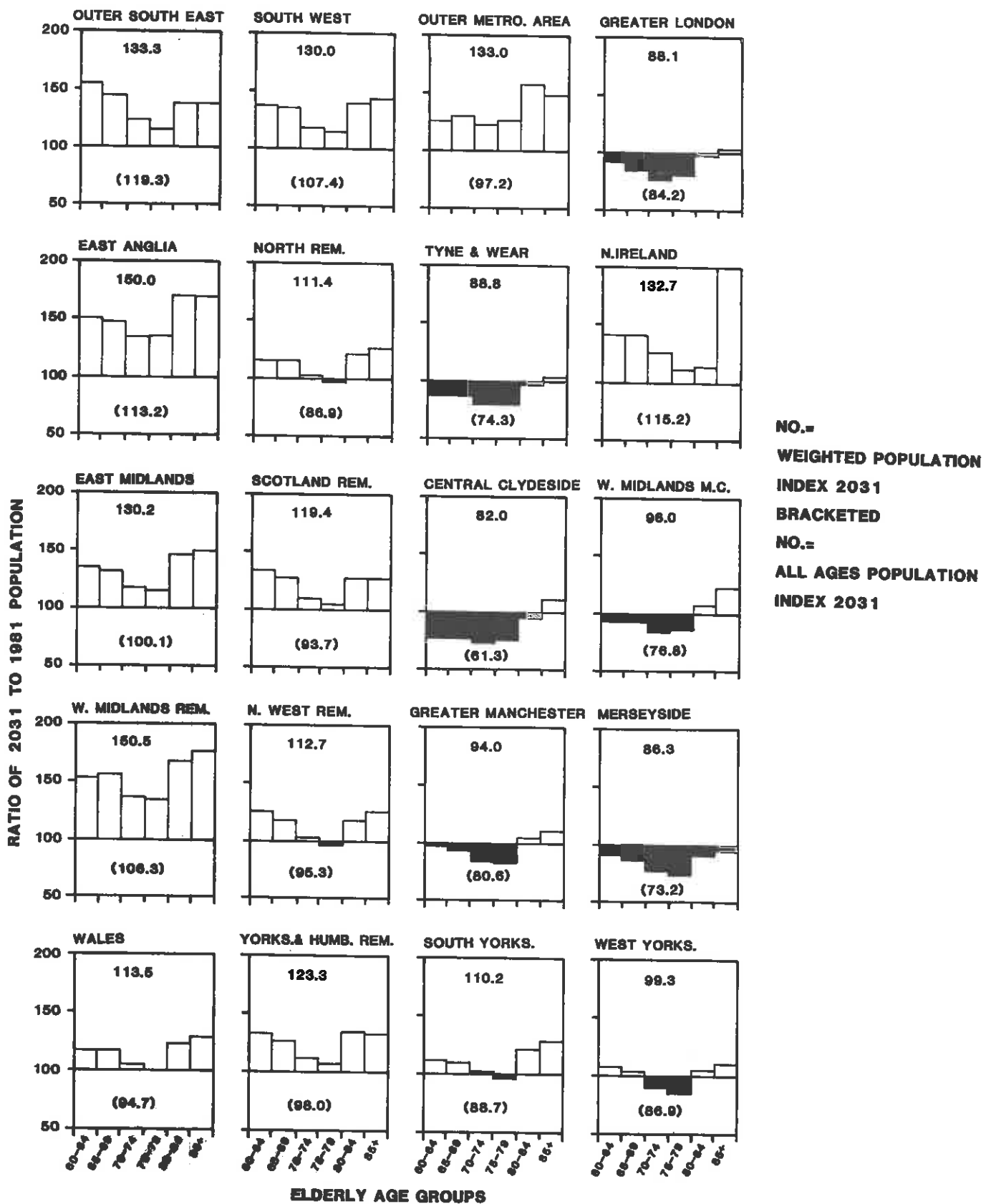


FIGURE 2. The spatial units for which projections of the elderly population are analyzed



**FIGURE 3 THE SPATIAL UNITS USED FOR PROJECTION**



**FIGURE 4. RELATIVE CHANGE IN REGION POPULATIONS, 1981-2031**