

THE ELDERLY MOBILITY TRANSITION:  
A CASE STUDY OF THE  
UNITED KINGDOM

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A CASE STUDY OF THE UNITED KINGDOM**

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## **ABSTRACT**

In the course of the twentieth century the elderly population of the United Kingdom has both grown rapidly and undergone geographic redistribution. This paper examines this history and the influence of elderly migration on it. In the rest of this century and in the first half of the next fresh developments await the elderly. The paper examines the fate of elderly populations in the future through an analysis of a variety of national, regional and local projections. There remains, however, much research to be carried on the socioeconomic correlates of the demographic and geographic picture of the elderly mobility transition painted in the paper.

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## 1. INTRODUCTION

Social scientists seek to understand the way in which contemporary societies and economies work and evolve. Some of social and economic elements are subject to very rapid change, such as the rate of unemployment or inflation (derivatives of short term business cycles); others exhibit medium term trends, such as changes in the rate of divorce (rapid rise after legal reform but reaching a plateau later); while trends in yet other aspects persist for decades.

One long term trend, much studied by population scientists, is the demographic transition which describes the state-shift that has occurred in the vital rates and age structures of populations in developed countries and which is occurring in many developing societies. The shift is between high rates of mortality and fertility at some time in the past, associated with a youthful age structure and low rates of mortality and fertility characteristic of the contemporary population, which has evolved an elderly age structure. It takes at least sixty years after the achievement of the state of low birth and death rates for the transition in the age structure to occur.

At the same time as vital transition was occurring, it was suggested that a mobility transition was occurring (Zelinsky 1971). At the level of personal travel and circulation, the decreasing cost of transport has meant a dramatic rise in the mobility of the population, tempered by political events and business cycles. One clear, long-term trend over the period of vital transition has been the redistribution of population from the countryside to towns and cities, the phenomenon of urbanisation. In the most developed societies over the past twenty five years or so, there has been a partial reversal of the trend to population concentrations. Population has shifted, at least in relative terms, from the largest cities in several processes (expanded suburbanisation, shifts to smaller cities and some return to selected rural areas). This phenomenon of population deconcentration has been labelled, perhaps misleadingly, as counterurbanisation.

The elderly have played particular parts in both the vital transition and the urban transition: in general, they have been the people left behind. The United Kingdom has been a pioneer in the vital transition, in population ageing, urbanisation and in counterurbanisation: that is, it has been among the first handful of nations into each of these transitions (as it was the first nation to industrialise) though in virtually all cases later entrants have exhibited greater speed of transition. In the body of the paper some of the evidence supporting these broad-base statements is examined, although a great deal more detailed research remains to be done.

The twin concepts of vital and mobility transition refer to movement from start to end states. The end state of the vital transition has probably been reached by the United Kingdom population, some sixty years after low fertility rates were achieved. What happens next is a theme running through the paper. However, we can also ask whether the current phase of the mobility transition, deconcentration, has run its course, with particular reference to the elderly population.

The paper is organised on the following lines.

The second section of the paper attempts to be more precise its definition of the term "elderly mobility transition", revealing it to be multi-faceted. The third section looks back at the history of elderly population growth in the different parts of the United Kingdom since the beginning of the century. The fourth section looks forward, at national scale, into the future evolution of the elderly asking about how much uncertainty there is. Section five of the paper reviews the particular patterns of elderly migration in the UK revealed by prior research, as an essential preliminary to projection of regional populations. The sixth section examines the future regional evolution of the elderly in the UK, establishing the relative roles of ageing-in-place and net migration. Section seven of the paper looks at the current geography and future development of the elderly within one of Britain's urban areas, which, in some senses, reproduces in a microcosm, the broad regional patterns.

The final section, section eight, summarises the knowledge gained in the paper about the elderly mobility transition in the United Kingdom.

## 2. THE ELDERLY MOBILITY TRANSITION

The concept of the elderly mobility transition was introduced by Rogers (1989) as a model of how the elderly populations of advanced industrial nations were evolving in terms of numbers and distribution. Implicit in the model is a contrast between the evolution of elderly and non-elderly populations. The model is a description of changes occurring in the structure and geography of the populations of developed nations. Here, it is framed as a set of propositions, based on prior research, (Rogers 1989, Warnes and Law 1984) which need verification (or rejection).

(1) The vital transition leads to a following phase of population ageing

During the twentieth century the population has been ageing rapidly as a consequence of the achievement of the low fertility phase of the vital transition. This process of ageing should continue until a stable population structure has been achieved under low fertility conditions.

(2) Episodes of post-transition above replacement fertility lead to later additional ageing

However, the elderly proportion in the population is likely to increase beyond its stationary value at current mortality because many advanced, industrial countries experienced a baby boom (fertility reprise) between 1945 and 1970 (either throughout that period or in part of it). Past fertility fluctuations affect later elderly population change as a result of ageing-in-place.

(3) Increasing longevity results in a larger elderly population

Further ageing of the population is also likely to occur as a result of continuing improvements in life expectancy consequent on reductions in mortality rates.

(4) Urbanisation leaves behind an elderly population in rural areas

The distribution of the elderly population during the ageing process is affected by urbanisation, driven in partly net rural to urban migration. The elderly are left behind in rural areas which exhibit an older age structure.

(5) Urban populations age more rapidly

However, faster fertility falls in urban areas may mean that later in the vital transition urban populations age more rapidly than rural.

(6) The urban elderly relocate on retirement

With the establishment of substantial urban populations of elderly and adequate retirement pension schemes, the better-off elderly seek higher quality residential locations outside of the large industrial cities. Net out-migration from these cities to new destinations results in stunted ageing of large city populations and in enhanced ageing of retirement destinations.

(7) Favoured retirement locations vary over time and by national culture

The type of location favoured by retirement migrants varies over time and between countries. If the current elderly generation has experienced rural to urban migration,

family ties with rural localities may mean a migration there on retirement. If current elderly migrants are one or more generations removed from the countryside to city move, then a former holiday area or area containing a second home may be selected. Areas experiencing inward migration on retirement are areas of perceived high amenity. The areas favoured by retire migrants are likely to spread and shift over time (Warnes and Law, 1984).

(8) Late age migration is different in pattern

Elderly migration after the retirement phase exhibits different spatial patterns in some countries, with a tendency to favour locations close to care by relatives or by health services.

(9) Late age population redistribution is determined by mortality differences

Because the size of the population diminishes rapidly with age, at the most elderly ages, the redistribution effect of older elderly migration will be small, and mortality differences have more important effects on population redistribution.

These propositions are examined in detail, for the United Kingdom, in the sections of the paper that follow.

### **3. THE GROWTH AND CONCENTRATION OF THE ELDERLY IN THE TWENTIETH CENTURY TO 1990**

In previous papers (Rees and Warnes 1986, 1988) it was established that, despite considerable growth in the total and elderly population of Great Britain in the 19th century, no relative ageing of the population took place until after 1911. This is where our story begins.

#### **3.1 The data**

The statistics on national and regional populations used in this section all derive from the decennial censuses of population held in April of the first year of last decade, with the exception, because of wartime exigencies, of 1941, and of the Sample Census of 1966 (now largely ignored because of underenumeration). However, these data are extraordinarily difficult to work with because the definitions of administrative areas have been in continual flux since 1911.

Firstly, the national definition changes in 1921 when the United Kingdom of Great Britain and Ireland became, with the partition of the latter, the United Kingdom of Great Britain and Northern Ireland. Great Britain refers to the combination of England, Wales and Scotland (separate entities for many legal and administrative purposes).

Secondly, major redefinitions of administrative areas occurred in 1965 involving Greater London and the Home Counties (counties contiguous to London Administrative County), and in 1974/75 when the whole administrative map of the UK was drawn. The definition of statistical regions as amalgamations of counties also changed with each census from 1911 to 1931, and between 1971 and 1981. Some reconstruction of regional population statistics was carried out by OPCS (1974) for the 1971 region definitions but did not include age disaggregation. Therefore it is necessary to reconstruct the populations living within current (1991) region boundaries by aggregating county and part county statistics to obtain approximate estimates of total and elderly populations in a consistent set of spatial units. This was accomplished by Turner (1990) and the statistics are gathered together with 1981 and 1990 estimates in Table 1. The Table 1 estimates must be regarded as only first approximations: the raw regional figures have been adjusted so as to sum to former national totals and may contain discrepancies.



Table 1 adopts age 60 as the threshold age for the elderly population, following recommendations put forward in United Nations (1985). Most easily accessible UK tables provide information as the "pensionable age" population, where pensionable age is defined as 65 and over for men and 60 and over for women. This definition is unsuitable for international comparisons and is likely to change as test cases before the European Court of Justice have established that setting different pension age entitlements for men and women is discriminatory. Where possible supplemental statistics for the 65 or over age group are provided or used.

The raw numbers of Table 1 are converted into three sets of ratio indicators in Table 2: (1) the percentage of each region's population aged 60 or over at each date, (2) the percentage share that each region's elderly population makes up of the UK's elderly population, and (3) the ratio of the regional percentage aged 60 or over to the national percentage (also known as a location quotient).

### 3.2 Regional trends in population ageing

Population ageing has two aspects: absolute ageing is the increase in the numbers of elderly while relative ageing is the increase in the proportion the elderly make up of the total population. Usually they go hand in hand. Between 1911 and 1981 all UK regions age both absolutely and relatively. But there are signs in the 1981-90 period that the ageing phase of the vital transition is coming to an end. The North West sees a decrease in elderly numbers and the elderly percentage stays the same. In East Anglia and Northern Ireland the elderly percentages decrease: the growth in elderly numbers fails to keep pace with non-elderly growth.

Figure 2 plots the pace of relative ageing at twenty year intervals. In general the regions age together across the century. Regional differences remain about the same from 1931 onwards, but are rather more pronounced in 1911 than later. In 1911 four regions have 10% or more of their population aged 60 or over. These are East Anglia, the South West, East Midlands and Northern Ireland and are the most rural regions. Northern Ireland, in particular, suffered from intense out migration. The regions of most intense industrialisation over the previous half century (North, North West, Wales, Yorkshire and Humberside and West Midlands) have below average concentrations of the elderly. Here, therefore we have evidence for proposition four, that "urbanisation leaves behind an elderly population in rural areas".

The positions of the regions change, however, thereafter. Northern Ireland drops down the ageing league to the bottom position by 1951. This is essentially because fertility levels remain much higher than on the mainland and maintain a more youthful age structure. East Anglia drops back into the pack as it moves from being a rural backwater to being the fastest growing region in the UK. The West Midlands drops below average in 1951 and 1971 as a result of the ability of its dynamic engineering industries to attract non-elderly migrants, a dynamic which is lost after 1971. The South West emerges from the pack from 1951 onwards as a result of selective in-migration of retirees. It is joined in 1990, by Wales, whose western, central and northern counties have proved attractive retirement locations.

Table 3 converts the percentage elderly and percentage share indicators into tempi indicators using the simpler definitions presented in Rogers (1989, pp. 28-29). The tempo of ageing, TA, is measured as the annual equivalent change in the percentage elderly in the region

$$TA = 1/n [\% (60+) t + n - \% (60+) t]$$

while TG, the tempo of shifts in geographical distribution, is given as the annual equivalent change in the regional percentage share of the nation's elderly,

$$TG = 1/n [\%(\text{share}) t + n - \% (\text{share}) t]$$

These are, in effect, measurements of rates of change over time in elderly proportions and shares.

The tempo of ageing, in general, increases from the first period (1911-31) to the second (1931-51) and falls thereafter to 1981-90. Six out of eleven regions follow this national pattern. In East Anglia, the South West and Scotland the maximum rate is not attained until 1951-71, while the peak is postponed to 1971-81 in the West Midlands. Northern Ireland exhibits its highest tempo in 1911-31.

The tempo of geographical shifts over the 79 year period, revealed in the bottom panel, of Table 3, is a complex one which has been commented on above in describing Figure 1. Since 1971 the southern regions outside the South East (East Anglia, South West, East Midlands) have gained shares while the North West and Scotland have lost shares, in line with the general pattern of inter-region migration. Rather little change has occurred in the other regions.

### 3.3 Sub-regional trends in population ageing

The British standard regions do not differ very much in their population composition, but all show considerable intra-regional variation in the age structures of their populations.

Warnes (1987 pp. 322-4) has reviewed the distribution of the elderly population in 1981 and his description is built upon here.

Table 4 sets out the districts in the UK with high concentration of pensionable age populations, set within their regions. The table lists all local government districts with 21% or more of their populations made up of persons of pensionable age (65+ for men, 60+ for women).

Districts with concentrations of elderly population are located peripherally within each region, on the coast or in selected attractive rural areas (Leamington, Oswestry and south Shropshire of the West Midlands, the Cotswold district in the South West, the Craven district in Yorkshire and Humberside, Teesdale in the North, Tweeddale in Scotland).

The district statistics reveal that the highest concentrations of the elderly are along the south coast, in the South East and South West regions. The reason for the South East's average position in the regional analysis is that it is composed of districts with average elderly concentration (the inner part of Greater London and parts of the Outer Metropolitan Area), districts with very youthful populations in the counties to the north and west of Greater London and the districts of the "Costa Geriatrica" along the South coast.

Note that this differentiation of the South East into three "life cycle zones" was not a feature of the 1911 geography. The contrast in Table 5 is between the lower proportions elderly in the more urban "home counties" and the higher proportions elderly in the rural counties, either along the South coast or to the North and West of London.

The largest cities in these principal retirement areas (Plymouth, Exeter, Southampton, Portsmouth) do not have high concentrations of elderly population, and the largest and oldest seaside of the seaside resorts (Brighton, Bournemouth) have lower concentrations than adjacent suburban or small town districts (Howes, Eastbourne, Christchurch). The retirement migration streams select smaller communities within these areas.

Districts with the highest elderly concentrations (25% or over of their populations of pensionable age) are clustered along the south coast of East and West Sussex, of Dorset and of East Devon. Only North Norfolk district lies outside these clusters. These clusters are a product of long standing selective out-migration from the London metropolis which generates the greatest numbers of retirees who can afford to move. An additional factor is the greater longevity of elderly populations in these regions than elsewhere. Life expectancy in Dorset in

the 1984-86 period was 73.8 years for males and 79.4 for females whilst in Strathclyde it was 69.2 for males and 75.3 for females (Rees, 1989, Table 5.5.)

#### **4. ELDERLY POPULATIONS IN THE FUTURE: THE NATIONAL PICTURE**

The previous section of the paper reviewed the historical geography of population ageing in the UK. In this section, the future development of the elderly population is assessed at national level. This national exercise is useful because a variety of different projections exist for the UK population as a whole whereas available regional and subregional projections are based on one set of assumptions. The national analysis will provide a measure of the uncertainty that we should later attach to regional projections and some idea of the corrections that might be applied.

##### **4.1 The official national projections: method and assumptions**

Projections of the UK and its constituent countries (England, Wales, Scotland and Northern Ireland) are carried out every two years by the Government Actuary in consultation with the Registrars General. Their prime purpose is to assist in the computation of future state pension liabilities, and so the projection of the future numbers of the elderly assumes particular importance.

A simple, "single region", cohort survival model is used to which the numbers of net migrants are added. Assumptions are made for migration, mortality and fertility. Migration assumptions are derived for migration between countries within the UK and for international migration to and from the UK. Some allowance is made for recent heavier net in-migration into the UK (assumed to be 40 thousand in 1989-90 and 15 thousand in 1990-91) but from 1991-92 onwards the international migration balance is set at zero. Since 1983 the net inward balance has averaged 40 thousand a year.

The mortality scenario adopted in the projection assumes that mortality rates fall at all ages but that the rate of decrease steadily diminishes over 40 years, after which a constant assumption is adopted. To these mortality rates are added supplemental mortality rates for those who die of the Acquired Immune Deficiency Syndrome (AIDS), based on the work of the Department of Health's AIDS working group.

The fertility assumptions affect only the non-elderly population prior to the middle of the twenty-first century, but they do, of course, affect the relative size of the elderly age group. The national projections assume that completed family size recovers to just under 2 children per woman for women born in 1985 and thereafter. In the long run this means a declining population but decline does not occur until 2036 and the population still above its 1989 base level in 2059 at the end of the projection period.

##### **4.2 The official national projections: results**

Tables 6, 7, 8 and 9 summarise the results of the principal national projection for the elderly, adopting four definitions: those aged 60+ (the UN norm), 65+ (the standard adopted in Rogers, Watkins and Woodward 1990), 75+ (the older elderly) and 85+ (the very old). Table 6 reports actual numbers, Table 7 converts these into time series indices, Table 8 contains the percentage statistics on the relative size of the elderly age group while Table 9 lists the percentages of the 60+ age group aged 65 or over, 75 or over and 85 or over, revealing the age structure of the elderly population itself.

The numbers of elderly (60+) are projected to rise from some 11.9 millions in 1991 to 16.6 millions before falling back to 15.4 millions in 2059. Similar patterns characterise the over 64s, the over 74s and the over 84s, except that the peak year is displayed by 5, 15 and 20 years

respectively. There is rather little growth in the elderly population to the end of the century (only 1% more than in 1981) but rapid growth thereafter to 2031. The pattern of growth can be traced back, of course, to higher fertility in the late 1940s (particularly 1947) and from the mid 1950s to early 1970s (particularly the mid 1960s). In the earlier discussion of the elderly mobility transition this was termed "super-ageing".

Table 7 suggests that the older the age group the greater the growth in numbers. This results from the accumulation of survival gains at later ages that accrue from mortality improvements at younger ages. The differences between the index numbers in the 85+ column of Table 7 and those in the 60+ or 65+ columns displaced back the requisite number of years given an indication of the size of this cumulative survival effect. For example, the 2031 index number for the 65+ age group is 140, while the 2051 index for the 85+ age group is 230: the difference, 90, represents the additional gain due to mortality improvements between age 65 and 85. The 40 per cent gain for the 65+ age group compared with the 1991 base is largely due to earlier increases in fertility.

These increases in the numbers of elderly have profound implications for national pension schemes, for the provision of health care for the elderly, for the housing market, for transportation systems and so on. To work out the implications, a great many other factors need to be taken into account, of course - extrapolation from the crude demographic statistics is not enough. We should not, however, be dismayed by the prospect of a more aged society: the country as a whole in 2021-41 (Table 8) will have attained a composition similar to the "elderly" districts had in 1989 (Table 4).

#### 4.3 The degree of uncertainty about future elderly numbers

It is often assumed that, because fertility does not affect the projection of the numbers elderly over the next 60 years, we can be fairly certain about the future size of the elderly population. Although it is possible that a greater proportion of elderly retirees will choose to leave the UK for other parts of the European Community the more likely source of uncertainty is the future course of mortality.

To gauge the likely impact of alternative assumptions on the elderly population, Rees (1988) carried out variant projections. Here the variants and an earlier (1983 based) OPCS projection are compared with the principal 1989 based projections.

The variant projections are based on a biregional model in which the UK, Greater London and Rest of the UK populations are simultaneously projected. The model captures migration between the two subnational units and between them and the outside world. Five year age groups and five year intervals are used in the model. All input rates are estimated for a benchmark period from mid-1981 to mid-1986.

Four variants were developed. Variant A simply applies all the benchmark period fertility, mortality, internal and external migration rates without change until 2051. Variant B assumes that fertility rates rise to replacement level (a total fertility rate of 2.09 children per woman) by the end of the century, that mortality rates decrease by constant percentages per quinquennium and that migration rates remain constant. Variant C adopts the same fertility and mortality scenarios but uses a different set of migration rates based on those current in 1985-86. In this year levels of migration into the UK were considerably higher than for the benchmark period as a whole (as a result of economic recovery from the early 1980s slump). In the final Variant, D, additions are made to mortality rates for both men and women in the reproductive ages to represent the effect of AIDS though the level of AIDS deaths assumed is 3 to 4 times higher than assumed in the 1989 based official projections. In Variants B to D, mortality rates decrease faster than in the official projections, as shown in Table 10 in which shows the percentage reductions in death rates assumed at elderly ages over 40 years. Mortality rates continue to decrease in Variants B to D after 40 years while they cease in the official projections.

Table 11 reports the results of the Variant projections for persons aged 60 and over and persons aged 85 and over, while Figure 3 compares the Variant projections with the 1983 and 1989 GA/OPCS projections. A comparison of the Variant A and B columns reveals the impact of trending death rates downward at the same rate as observed over the past two decades. Some 3.3 millions are added to the elderly population in 2031 (23% more), and the elderly population continues to grow after that date. The differences in the projected sizes of the old elderly (85+) are even greater in relative terms with numbers three times as large by mid-century.

How realistic are the mortality decreases assumed in Variant B? The life expectancies for men reach just over 80 years while women achieve 85 years, beyond current experience for any national population but probably characteristic of favoured subgroups within the most developed nations (Japan, Sweden, Switzerland). They can therefore be regarded as attainable goals though very favourable trends in social and economic development and in inequality reduction will be needed.

To assess the impact of changing mortality and other assumptions, each projection is compared with the 1989 based official projection.

If no changes in early 1980s mortality rates are assumed (Variant A), the outcome is 7% fewer elderly (aged 60+) in 2001 and 18% fewer in 2051. If the assumptions of the 1983 based projection had proved correct, there would be 5% fewer elderly people in 2001 and 10% fewer in 2051 than currently forecast. On the other hand, if the assumption is made that mortality decreases continue at the same pace, then 18% more elderly are projected for 2051. If there is net immigration to the UK at mid-1980s levels as well, eventually in 2051 the elderly population will be 24% higher than in the official projections. Additional mortality due to AIDS may reduce this difference to 19%, however. The numbers of old elderly (85+) are shifted in the same directions as a result of modifying the mortality and migration assumptions though the relative impacts are greater. Variant B, for example, produces 72% more persons in the 85+ age group in 2051.

There is, therefore, considerable uncertainty about the projected size of the elderly population in the United Kingdom, and the likelihood is that current official projections will turn out to be conservative in their calculations. Official projections have underestimated mortality improvement in the 1980s. The official assumptions on international migration are also very cautious. Trends in immigration since 1983, the dramatic spread of freedom and democracy in Eastern Europe and the Soviet Union in 1989-91 and the continuing pressure of refugees and asylum seekers all point to a net inward balance for the 1990s, although the impact on the elderly population is delayed by the time it takes migrants in their 20's, 30's, and 40's to age.

It is in the light of this uncertainty that the regional projections reviewed in the next section should be viewed, as these projections are based on the assumption of constant rates.

## **5. ELDERLY MIGRATION PATTERNS**

In this section of the paper the findings of previous research into the patterns of elderly migrants in the UK (Rees and Warnes 1986, 1988; Warnes 1983, 1987, 1991; Rees 1979; Rees, Stillwell and Boden 1989) are reviewed under three headings: the level of elderly migration, the variation of elderly migration by age and the spatial patterns of elderly migration. All three aspects will have an important effect on the current and future redistribution of the elderly population, and on progress of the elderly mobility transition.

### **5.1 The level of elderly migration**

Warnes (1983) compared the level of migration activity of the elderly in 1970-71 (from the 1971 Census) with that in 1980-81 (from the 1981 Census) and found that a substantial decrease had occurred. A longer term perspective (Stillwell, Rees and Boden 1991) suggests that

overall migration rates rose in the 1960s (index values of around 100) to peak in the early 1970s (index values around 110), fell steadily to a nadir in 1981-82 (index values of around 85), rose steeply to peak again in 1988-89 (index value of circa 105), falling back thereafter to lower levels. These swings reflect the pattern of economic activity and, in particular, the state of the owner-occupied sector of the housing market, which has grown steadily over the period to constitute two thirds of the housing stock (Central Statistical Office 1991, Table 5.2). Although the elderly are less affected by economic cycles than the non-elderly, they cannot escape general conditions in the housing market, because the majority of buyers and sellers in the market will be non-elderly. Such savings in the level of migration activity are likely to continue in the future, given the two thirds dominance of the owner occupied sector.

The time series indices quoted above are constructed from migration rates measured at different spatial scales. By migration rate is meant either the number of migrants divided by the initial origin population or the number of migrations divided by the origin population averaged over the measurement interval. However, the volume of migration (the number of migrants or events of migration) may behave differently because of changes in the populations at risk. Hence, between 1970-71 and 1980-81, the numbers of elderly migrants aged 75 and over increased substantially in about half of UK regions (Rees, Stillwell and Boden 1989, Figure 3), because of increases in the populations at risk.

## 5.2 The pattern of elderly migration by age

Overall, the elderly population experiences relatively low migration rates, lower than half the average for the whole population, although higher rates are experienced at ages around retirement (60 to 69) in selected migration streams. Examination of migration flows in 1980-81 between a set of 20 regions within the UK (used in the regional projections analysed in section 6 of the paper) revealed that pronounced peaks in migration rates at the retirement ages were present in only a small minority of migration streams (Rees and Warnes 1986, 1988; Rees, Stillwell and Boden 1989). Peaks occurred in migration streams between metropolitan core regions (Greater London, Greater Manchester, West Midlands conurbation, Merseyside, South Yorkshire and West Yorkshire conurbations, the Tyneside conurbation and Central Clydeside) and selected retirement regions nearest to the metropolitan core. Peaks were not present in the reverse flows from retirement region to metropolitan core, nor in flows between metropolitan regions nor within regions. For example, flows within Greater London exhibit child dependant, labour force and constant components but no retirement component, although there is a rise in late age migration. By contrast, the Greater London to East Anglia migration stream exhibits a retirement peak in migration rate that is higher than the labour force peak. The reverse stream has a pronounced labour force peak but little migration occurs outside the 15 to 35 age range (Rees, Stillwell and Boden 1989, Figure 2).

## 5.3 The spatial pattern of elderly migration

It is clear from these remarks about the variation of the rate of migration with age that elderly migrants are selective in their choice of destination and that their choices differ from those of younger ages.

Table 12 provides an analysis of these differences by classifying the destinations of four selected age groups from the young labour force ages (20-24), the middle labour force ages (40-44), the main retirement age group (65-69) and the older elderly (75+). Destination regions are classified into Northern or Southern and into metropolitan and non-metropolitan resulting in a fourway grouping.

Across all age groups there is a clear preference for Southern and non-metropolitan destinations and against Northern and metropolitan destinations. This preference is most marked in the retirement age group, less marked in the older age group but still more

pronounced than at the labour force ages. Retirement age migrants could be said to be the "shock-troops" of population re-distribution in the UK from North to South and from metropolitan cores to peripheries.

Despite a dramatic reversal in net migration from the North to the South in the housing boom years 1987-88 (Stillwell, Boden and Rees 1990), the preliminary returns from the 1991 Census (OPCS 1991b, GRO(S) 1991, Champion 1991) indicate that it is likely that this pattern of redistribution has persisted since 1981. This gives us some confidence in using the results of a regional projection based on late 1970s and early 1980s migration patterns to examine the future course of elderly population change in the next section of the paper.

## **6. ELDERLY POPULATIONS IN THE FUTURE: THE REGIONAL PICTURE**

The consequences of the elderly migration patterns for the future regional distribution of the elderly population can be explored through execution of regional population projections.

### **6.1 Regional population projections: data, methods and assumptions**

Official projections of the populations of subnational areas in the United Kingdom suffer from a number of drawbacks. They are produced separately for England by the Office of Population Censuses and Surveys (OPCS 1991a), for Wales by the Welsh Office and for Scotland by the General Register Office for Scotland. No subnational projections are produced for Northern Ireland. OPCS's England projection uses a sophisticated model that incorporates inter-regional migration (Martin and Voorhees Associates and John Bates Services, 1981), but the other offices use simpler net migration approaches. The England projections still embody constant probabilities of destination assignment based on the 1981 Census (Boden, Stillwell and Rees 1991).

Because of these drawbacks and because migration data from the 1991 Census will not be available until 1993, it was decided to base the analysis on a set of subnational projections carried out in mid-decade by the author (Rees 1986b). These have the advantage of covering the whole country, of incorporating a full set of migration probabilities by age between the regions and in being based on a consistent population accounting framework that includes external as well as internal migration. However, they share with the official projections the disadvantage of incorporating out-of-date migration information and the additional drawback of being based on an application of constant rates of mortality, fertility and migration based on the 1976-81 period. The importance of relaxing such assumptions was demonstrated in section 4 of the paper. With these caveats in mind, the results of this projection are reviewed, concentrating on relative indicators rather than absolute numbers.

### **6.2 The tempi of ageing and geographical redistribution**

A succession of Tables (13 through 17) present the principal results of the projection for 20 UK regions, consisting of 9 metropolitan counties or their equivalent, and 11 non-metropolitan areas, either region remainders or regions without metropolitan counties. The metropolitan counties contain the nation's largest cities. The non-metropolitan areas contain smaller cities, towns and rural districts. At the bottom of the table are the statistics for the fourway grouping of regions used earlier.

Metropolitan areas, under the assumptions of this projection, are faced with decreases in the numbers of elderly, at least until 2011 (Table 13). The further north the area the more pronounced this decline. From 2011 to 2031 the increases are very moderate (359 thousand only). Non-metropolitan regions show moderate increases in the 1981-91 decade, decreases between 1991 and 2001, but increases thereafter. Note that the projected elderly populations for all regions together are below all the levels for the UK plotted in Figure 3, because of the

assumption of mortality improvement. The additional numbers (2 million more by 2031) are not likely to evenly spread between metropolitan and non-metropolitan areas but to accrue more to the latter through migration and differential mortality, the importance of which is discussed in Rees 1986a and Rees, Stillwell and Boden 1989.

The pattern of relative ageing revealed in Table 14's percentage statistics shows that the recession in the proportion elderly between 1991 and 2001 is common to all regions, as is renewed "super-ageing" thereafter. In Table 4 districts with 21% elderly or more were picked out as having special concentrations, though the region averages were all well below this threshold. In 2031, only one of the 20 regions will be below it, though we would expect an additional 3 to 4% to have survived into the elderly age group than shown in the table.

The shifts in regional shares of the elderly, shown in Table 15, should, however, be more robust predictions. All metropolitan regions lose share, except for the Outer Metropolitan area. All Southern non-metropolitan regions gain share while Northern non-metropolitan areas either gain slightly or stay the same. The Outer Metropolitan region really constitutes a suburban ring around London. It continues to gain share to 2011 but loses thereafter. This suburban pattern of ageing is probably repeated in other metropolitan areas. Note that the metropolitan to non-metropolitan shift in the distribution of the elderly is, at 6.4% over the 1981-2031 period, a good deal stronger than the North to South shift over the same period, 2.6%.

Tables 16 and 17 present the rates of change of the statistics in Tables 14 and 15. The period effect is very strong in Table 16 while the regional contrasts are strong in Table 17, but these are best discussed when elderly change is decomposed into its sources in the next sub-section (6.3).

### 6.3 The sources of elderly population change

The strong variation between periods revealed in Table 16 is a result, principally, of strong fluctuations in the numbers of persons achieving their 60th birthdays reflecting past fertility swings. The inter-region contrasts, steady over time, are a product, mainly, of the balance of migration streams into and out of the regions (both after age 60 and before). Elderly population change can be broken down into what Rogers (1989) calls "ageing in place" and "migration". In Rees (1986a) these terms are labelled "elderly natural increase" and "elderly net migration" respectively.

The method for computing these sources of growth is set out in Rees (1986a). Elderly natural increase is the difference between the numbers of persons attaining age 60 in a period, which is measured as an average of the start of interval population aged 55-59 and the end of interval population aged 60-64, and the numbers of deaths occurring at age 60 and above in the interval. Elderly net migration is the difference between total internal in-migration plus immigration occurring at age 60 and above and total internal out-migration plus emigration occurring at age 60 and above in the interval. These definitions differ slightly from those in Rogers (1989) and Rogers, Watkins and Woodward (1990) which have an age 65 boundary and which exclude external migration.

The elderly population changes in the regional projections reported above were decomposed into ageing-in-place and migration components, and the results for the twenty regions are graphed in Figures 4 and 5. The United Kingdom graph is also included in the bottom RH corner of Figure 4 and includes an additional ageing-in-place curve based on the Variant D projections presented in section 4 of the paper. The top line reflects the additional survival expected which may raise the ageing-in-place curves in all of the regional graphs.

At first glance it appears that migration plays a relatively small role in all but the most southern regions of the country (Figure 5). However, migration prior to age 60, in the past, plays a part in displacing the ageing-in-place curve above or below the national curve. Consider, for example, the northern metropolises of Central Clydeside, Tyne and Wear, Greater Manchester



and Merseyside (Figure 4), all of which have a long history of net out-migration at below elderly ages, which reduces the numbers available to age in those areas into the elderly age group.

Conversely, the ageing-in-place curve for the Outer Metropolitan area is displaced well above the national curve, early on during the projection interval. This reflects the strong in-migration to the suburbs, new towns, commuter settlements and industrial satellites around London in the 1930s to 1960s by households whose heads become elderly twenty to thirty years later. Note that the migration component for the Outer Metropolitan area is negative in this analysis and not positive as reported in Rogers (1989, Figure 4) and Rogers, Watkins and Woodward (1990, Figure 6).

Past fertility history also influences the placement of the ageing-in-place curve. In 1976-81 the Northern Ireland curve is close to the UK figure, but it successively departs from it as time goes by, reflecting the arrival at their 60th birthdays of larger and larger cohorts. In the last 15 years of the projection period the ageing-in-place rates for Northern Ireland are double those for the UK as a whole.

Finally, we should note the effect of being a long established destination for elderly migrants and having a particularly aged elderly population. The Outer South East has these characteristics and experiences negative ageing-in-place rates until 2001. The excess in deaths probably reflects the considerable migration, after age 60, into the region making the 60+ population much larger than ageing-in-place would sustain.

In Table 18 are computed the deviations from the UK average for the 1976-2031 period of the ageing-in-place and net migration rates for the elderly. The net migration deviations reflect migration conditions in the benchmark period (1976-81) while the ageing-in-place deviations capture migration patterns and fertility deviations in the past, which support the interpretations provided earlier.

## **7. ELDERLY POPULATIONS IN THE FUTURE: THE LOCAL PICTURE**

Emphasis in section 3 of the paper was placed on the considerable sub-regional variation in the concentration of the elderly. But what of very local variations in the geography of the elderly? We can anticipate, from the studies of the social geographies of cities, considerable differences between residential communities in their age structures.

A study of the City of Swansea in the county of West Glamorgan in Wales (Rees 1991) provides considerable material for study which is briefly reviewed here. Table 19 provides the number, percentage and share statistics for the elderly living in the 23 wards of Swansea. The city turns out to be a microcosm of the country as a whole. The pleasant residential wards of South Gower, Oystermouth and Sketty in West Swansea provide places for retirement for the South Welsh elderly (cf. the South Coast). By way of contrast the West Swansea wards of Killay and Duvant offer new suburban housing for young, upwardly mobile households (cf. the counties to the North and West of London). The same differentiation occurs within wards dominated by public housing with West Cross (on Swansea Bay) being an area favoured by the elderly while the more deprived wards of Penderry and Bonymaen have much younger age structures.

Over the projection period most wards lose elderly population (in line with the projection for Wales) and elderly concentrations decrease. Exceptions are the very youthful wards of Killay, Duvant and Bonymaen. Further analysis of the sources of change in the elderly populations would be instructive.

## **8. CONCLUSIONS**

The paper has presented a case study of the elderly mobility transition in a country, the United Kingdom, which was one of the first to move through this transition. The challenges of such a transition were faced in the immediate post-war period and systems of support ("old age pensions") and care ("the National Health Service") were established. The welfare of the elderly remains of great concern in British society and the elderly exercise considerable political muscle at the ballot box.

It will remain an important task to monitor and revise projections of the elderly over the next few years. In particular, the fresh information available from the 1991 Census will enable researchers to check on those results in this paper based on long-in-the-tooth data.

Particularly useful in this respect will be two 1991 Census products promised for 1993: the Sample of Anonymised Records (SAR) and the improved Special Migration Statistics (SMS). These will enable us to establish the socioeconomic characteristics of both elderly populations and elderly migrants. Only then will we be able to answer questions about who is participating in the elderly mobility and who is left behind.

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TABLE 1

Historical statistics on the total and elderly populations in UK regions, 1911-1990

Region	1911	1931	1951	1971	1981	1990
<u>Population of all ages</u>						
East Anglia	1,193	1,197	1,386	1,669	1,895	2,059
South West	2,819	2,896	3,493	4,081	4,381	4,667
South East	11,628	13,817	14,949	16,930	17,010	17,458
East Midlands	2,494	2,677	3,151	3,633	3,853	4,019
West Midlands	3,278	3,636	4,443	5,110	5,186	5,219
Yorks & Humb	3,925	4,431	4,578	4,856	4,918	4,952
North West	5,623	5,861	6,146	6,596	6,460	6,389
North	2,691	2,844	3,015	3,142	3,118	3,075
Wales	2,421	2,594	2,599	2,732	2,814	2,881
Scotland	4,761	4,843	5,096	5,229	5,180	5,103
N Ireland	1,251	1,243	1,371	1,534	1,538	1,589
United Kingdom	42,083	46,039	50,226	55,513	56,353	57,411
<u>Population aged 60+</u>						
East Anglia	133	178	242	337	404	429
Sout West	294	427	635	920	1,023	1,128
South East	956	1,663	2,472	3,269	3,458	3,604
East Midlands	253	309	481	665	756	802
West Midlands	251	384	616	855	983	1,043
Yorks & Humb	288	477	704	924	1,001	1,019
North West	372	624	972	1,254	1,312	1,297
North	178	278	436	572	620	640
Wales	175	280	409	542	599	634
Scotland	387	545	732	937	989	1,026
N Ireland	126	165	189	237	254	260
United Kingdom	3,411	5,331	7,891	10,511	11,398	11,882

## Notes:

Slight discrepancies occur between the figures in a column and the column total due to rounding

## Sources:

1. 1911-1971 for East Anglia to North: Censuses for years aggregated in Turner (1990)
2. 1911-1971 for Wales to N Ireland: Censuses for years reported in Rees (1979), Table 2.
3. 1981, 1990: Censuses adjusted to population estimated reported in OPCS (1991a, 1991b)

TABLE 2

The evolution of elderly percentages, shares and location  
quotients, UK regions, 1911-1990

Region	1911	1931	1951	1971	1981	1990
<u>Aged 60+</u>						
East Anglia	11.1	14.9	17.5	20.2	21.3	20.8
South West	10.4	14.7	18.2	22.5	23.4	24.2
South East	8.2	12.0	16.5	19.3	20.3	20.6
East Midlands	10.1	11.5	15.3	18.3	19.6	20.0
West Midlands	7.7	10.6	13.9	16.7	19.0	20.0
Yorks & Humb	7.3	10.8	15.4	19.0	20.4	20.6
North West	6.6	10.6	15.8	19.0	20.3	20.3
North	6.6	9.8	14.5	18.2	19.9	20.8
Wales	7.2	10.8	15.7	19.8	21.3	22.0
Scotland	8.1	11.3	14.4	17.9	19.1	20.1
N Ireland	10.0	13.3	13.8	15.4	16.5	16.4
UK	8.1	11.6	15.7	18.9	20.2	20.7
Stan. Dev.	3.4	1.6	1.4	1.8	1.6	1.7
<u>% Share (60+)</u>						
East Anglia	3.9	3.3	3.1	3.2	3.5	3.6
Sout West	8.6	8.0	8.0	8.8	9.0	9.5
South East	28.0	31.2	31.3	31.1	30.3	30.3
East Midlands	7.4	5.8	6.1	6.3	6.6	6.7
West Midlands	7.4	7.2	7.8	8.1	8.6	8.8
Yorks & Humb	8.4	8.9	8.9	8.8	8.6	8.6
North West	10.9	11.7	12.3	11.9	11.5	10.9
North	5.2	5.2	5.5	5.4	5.4	5.4
Wales	5.1	5.3	5.2	5.2	5.3	5.3
Scotland	11.3	10.2	9.3	8.9	8.7	8.6
N Ireland	3.7	3.1	2.4	2.3	2.2	2.2
UK	100.0	100.0	100.0	100.0	100.0	100.0
<u>Location quotient (60+)</u>						
East Anglia	1.37	1.28	1.11	1.07	1.05	1.00
South West	1.28	1.27	1.16	1.19	1.16	1.17
South East	1.01	1.03	1.05	1.02	1.00	1.00
East Midlands	1.25	0.99	0.97	0.97	0.97	0.97
West Midlands	0.95	0.91	0.89	0.88	0.94	0.97
Yorks & Humb	0.90	0.93	0.98	1.01	1.01	1.00
North West	0.81	0.91	1.01	1.01	1.00	0.98
North	0.81	0.84	0.92	0.96	0.99	1.00
Wales	0.89	0.93	1.00	1.05	1.05	1.06
Scotland	1.00	0.97	0.92	0.95	0.95	0.97
N Ireland	1.23	1.15	0.88	0.81	0.82	0.79
UK	1.00	1.00	1.00	1.00	1.00	1.00

Source:

computed from the statistics in Table 1

TABLE 3

The tempi of ageing and geographical redistribution,  
UK regions, 1911-1990

Region	1911-31	1931-51	1951-71	1971-81	1981-90
<u>The tempo of ageing TA (60+)</u>					
East Anglia	0.190	0.130	0.135	0.110	-0.056
South West	0.215	0.175	0.215	0.090	0.089
South East	0.190	0.225	0.140	0.100	0.033
East Midlands	0.070	0.190	0.150	0.130	0.044
West Midlands	0.145	0.165	0.140	0.230	0.111
Yorks & Humb	0.175	0.230	0.180	0.140	0.022
North West	0.200	0.260	0.160	0.130	0.000
North	0.160	0.235	0.185	0.170	0.100
Wales	0.180	0.245	0.205	0.150	0.078
Scotland	0.160	0.155	0.175	0.120	0.111
N Ireland	0.165	0.025	0.080	0.110	-0.011
United Kingdom	0.175	0.205	0.160	0.130	0.044
<u>The tempo of geographical redistribution TG (60+)</u>					
East Anglia	-0.030	-0.010	0.005	0.030	0.011
Sout West	-0.030	0.000	0.040	0.020	0.056
South East	0.016	0.005	-0.010	-0.080	0.000
East Midlands	-0.080	0.015	0.015	0.050	0.022
West Midlands	-0.010	0.030	0.015	0.050	0.022
Yorks & Humb	0.025	0.000	-0.005	-0.020	0.000
North West	0.040	0.030	-0.020	-0.040	-0.067
North	0.000	0.015	-0.005	0.000	0.000
Wales	0.010	-0.005	0.000	0.010	0.000
Scotland	-0.055	-0.045	-0.020	-0.020	-0.011
N Ireland	-0.030	-0.035	-0.005	-0.010	0.000
United Kingdom	-	-	-	-	-

## Notes:

1. TA = tempo of ageing =  $1/n$  (%60+ at t+n - 60+ at t)
2. TG = tempo of geographical distribution =  $1/n$  (% share 60+ at t+n - % share 60+ at t)

TABLE 4

## Districts with elderly population concentrations, UK 1989 estimates

REGION, District	%PA	%75+	REGION, District	%PA	%75+
EAST ANGLIA	19.4	7.4	EAST MIDLANDS	17.8	6.5
Breckland	21.7	7.9	Derbyshire Dales	21.2	8.4
<u>North Norfolk</u>	26.6	10.9	East Lindsey	21.9	8.2
Norwich	21.4	8.6	South Holland	21.5	7.9
South Norfolk	21.2	8.3			
Waveney	23.2	9.1	WEST MIDLANDS	17.5	6.2
			Leominster	22.2	8.7
SOUTH EAST	18.1	7.0	Oswestry	21.7	9.1
Brighton	22.6	9.7	South Shropshire	22.4	8.6
<u>Eastbourne</u>	31.1	14.4			
Hastings	24.2	10.4	YORKS & HUMB	18.3	6.9
Hove	25.8	11.9	East Yorkshire	21.1	8.0
Lewes	24.2	9.4	Craven	21.7	8.5
Rother	33.3	14.2	Scarborough	24.1	10.1
Wealden	24.8	10.7			
Southend-on-Sea	24.2	10.1	NORTH WEST	18.1	6.7
Tendring	30.0	12.3	Blackpool	24.9	10.4
New Forest	23.0	9.1	Fylde	23.4	9.1
Medina	22.9	9.1	Lancaster	22.3	9.4
<u>South Wight</u>	28.2	11.8	Wyre	24.8	9.6
Canterbury	23.0	9.2			
Dover	21.1	8.2	NORTH	18.4	6.6
Shepway	24.4	10.1	South Lakeland	23.1	9.4
Thanet	26.5	11.0	Teesdale	21.2	7.7
Elmbridge	21.7	8.9	Berwick-upon-Tweed	22.7	9.2
Reigate and Banstead	21.4	8.7			
Waverley	21.2	8.7	WALES	19.4	7.1
Adur	25.9	10.1	Colwyn	24.5	10.2
Arun	30.0	13.0	Glyndwr	21.5	8.2
Chichester	24.9	9.8	Rhuddlan	24.5	10.4
<u>Worthing</u>	32.4	15.7	Carmarthen	21.6	7.4
			Ceredigion	21.1	8.0
SOUTH WEST	21.1	8.4	Dinefwr	21.5	7.8
Bath	22.9	9.6	Llanelli	23.1	8.5
Caradon	21.0	8.3	<u>Aberconwy</u>	25.6	10.7
Carrick	24.4	9.5	Dwyfor	24.9	9.5
Isles of Scilly	23.1	8.9	Meirionnydd	23.5	9.4
Kerrier	21.1	7.9	Rhondda	21.4	7.9
North Cornwall	22.4	8.5	Brecknockshire	21.6	7.7
Penwith	23.4	9.3	Radnor	21.8	8.0
<u>East Devon</u>	30.3	13.1	Port Talbot	21.3	7.4
South Hams	22.8	9.3			
Teignbridge	26.5	11.5	SCOTLAND	17.7	6.4
Torbay	27.8	12.1	Berwickshire	22.8	9.4
Torrige	23.1	9.1	Ettrick & Lauderdale	21.4	8.1
West Devon	21.9	8.5	Roxburgh	21.9	8.3
Bournemouth	28.1	12.5	Tweeddale	21.6	9.2
<u>Christchurch</u>	35.0	14.5	Annandale & Eskdale	21.4	7.8
<u>East Dorset</u>	25.5	10.1	Stewartry	22.4	8.5
North Dorset	22.4	9.3	Skye & Lochalsh	21.4	8.6
Poole	22.7	9.3	Sutherland	22.9	9.1
<u>West Dorset</u>	25.7	10.4	Western Isles	21.1	9.4
Cotswold	22.0	8.8			
Taunton Deane	21.1	8.1	NORTHERN IRELAND	14.6	5.1
West Somerset	30.0	12.8			

1. PA = pensionable age = men aged 65+ plus women aged 60+

2. Underlined districts have PA% of 25 or more

3. No districts estimates are available for Northern Ireland

Source: CSO 1991



**TABLE 5**      Elderly concentrations in the counties of the SouthEast region, 1911 and 1989

County	1911 %60+	1989 %PA
<b>SOUTH EAST COUNTIES</b>		
East Sussex	10.8	26.1
Isle of Wight	11.8	25.2
West Sussex	11.6	24.1
<b>HOME COUNTIES</b>		
Surrey	8.7	19.2
Kent	9.4	19.0
Essex	7.7	18.7
Greater London	7.5	17.3
Hertfordshire	9.4	17.4
<b>NORTH &amp; WEST COUNTIES</b>		
Hampshire	8.7	17.5
Oxfordshire	11.3	16.2
Bedfordshire	10.5	14.8
Berkshire	10.3	14.6
Buckinghamshire	10.3	14.5

**Sources:**

1. 1989 %PA : CSO 1991.
2. 1911 %60+ : Turner (1990) from the 1911 Census.

**Notes:**

1. The boundaries of most counties differ markedly between 1911 and 1989 as a result of reorganisation in 1965 and 1974.
2. The 1911 Greater London figure is a combination of London and Middlesex figures.

**TABLE 6      Projected UK elderly populations, 1989-2059:**  
**numbers**

<b>Year</b>	<b>All ages</b>	<b>60+</b>	<b>65+</b>	<b>75+</b>	<b>85+</b>
1989	57,236	11,865	8,954	3,932	834
1991	57,561	11,907	9,031	4,003	892
1996	58,413	11,942	9,177	4,179	1,054
2001	59,174	12,064	9,226	4,415	1,170
2006	59,681	12,532	9,336	4,513	1,247
2011	60,033	13,471	9,765	4,530	1,337
2016	60,379	13,970	10,605	4,594	1,355
2021	60,743	14,762	11,030	4,909	1,351
2026	61,012	15,871	11,696	5,494	1,387
2031	61,068	16,555	12,616	5,689	1,535
2036	60,857	16,373	13,093	6,017	1,758
2041	60,470	15,888	12,776	6,508	1,748
2046	60,038	15,535	12,251	6,678	1,860
2051	59,608	15,367	11,889	6,287	2,050
2056	59,200	15,364	11,755	5,835	2,044
2059	58,978	15,384	11,792	5,678	1,922

Source:

OPCS 1991

**TABLE 7    Projected UK elderly populations, 1991-2059: time series indices**

<b>Year</b>	<b>All ages</b>	<b>60+</b>	<b>65+</b>	<b>75+</b>	<b>85+</b>
1991	100	100	100	100	100
1996	101	100	102	104	118
2001	103	101	102	110	131
2011	104	113	108	113	150
2021	106	124	122	123	151
2031	106	139	140	142	172
2041	105	133	141	163	196
2051	104	129	132	157	230
2059	102	129	131	142	215

Source:

Computed from Table 6

Notes:

1.        Indices based on 1991 = 100

**TABLE 8    Projected UK elderly populations, 1989-2059: percentages**

<b>Year</b>	<b>All ages</b>	<b>60+</b>	<b>65+</b>	<b>75+</b>	<b>85+</b>
1981	100.0	20.4	15.1	5.8	1.1
1989	100.0	20.7	15.6	6.9	1.5
1991	100.0	20.7	15.6	7.0	1.5
1996	100.0	20.4	15.7	7.2	1.8
2001	100.0	20.4	15.6	7.5	2.0
2011	100.0	22.4	16.3	7.5	2.2
2021	100.0	24.3	18.2	8.1	2.2
2031	100.0	27.1	20.7	9.3	2.5
2041	100.0	26.3	21.1	10.8	2.9
2051	100.0	25.8	19.9	10.5	3.4
2059	100.0	26.1	20.0	9.6	3.3

Source:    computed from Table 6

TABLE 9 Projected UK elderly populations, 1989-2059: elderly percentages

Year	60+	65+	75+	85+
1981	100.0	73.9	28.5	5.2
1989	100.0	75.5	33.1	7.0
1991	100.0	75.8	33.6	7.5
1996	100.0	76.8	35.0	8.8
2001	100.0	76.5	36.5	9.7
2011	100.0	72.5	33.6	9.9
2021	100.0	74.7	33.3	9.2
2031	100.0	76.2	34.4	9.3
2041	100.0	80.4	41.0	11.0
2051	100.0	77.4	40.9	13.3
2059	100.0	76.7	36.9	12.5

Source: computed from Table 6

**TABLE 10**                      Percentage reductions in mortality over 40 years  
assumed in the United Kingdom projections

Period-cohort		Variant B		OPCS		Age last birthday
Initial ages	Final ages	model		1989 based projections		
		male	female	male	female	
55-59	60-64	44	22	26	20	62
60-64	65-69	39	28	26	20	67
65-69	70-74	39	28	28	22	72
70-74	75-79	39	34	27	24	77
75-79	80-84	34	44	27	26	82
80-84	85-89	34	39	24	23	87
85+	90+	28	34	21	6	90+

Sources:    Rees (1988) and OPCS (1991)

TABLE 11 Projected UK elderly populations, 1981-2051: numbers based on alternative assumptions

Year	OPCS 1983 base	Variant A  Constant 1981-86 B,D & M rates	Variant B  Trended B & D rates, Constant M rates	Variant C  Trended B & D rates, Higher M rates	Variant D  Trended B & D rates, Higher M rates, with AIDS rates added
POPULATIONS AGED 60+					
1981	11,462	11,398	11,398	11,398	11,398
1986	11,744	11,739	11,739	11,739	11,739
1991	11,705	11,703	11,839	11,846	11,846
1996	11,584	11,423	11,798	11,814	11,814
2001	11,491	11,187	11,849	11,878	11,878
2011	12,597	11,947	13,303	13,380	13,374
2021	13,823	12,755	14,944	15,131	15,063
2031	15,466	14,173	17,476	17,899	17,615
2041	14,548	13,280	17,692	18,293	17,816
2051	13,872	12,611	18,203	18,988	18,361
POPULATIONS AGED 85+					
1981	595	600	600	600	600
1986	713	709	709	709	709
1991	854	817	857	858	858
1996	974	901	1,017	1,018	1,018
2001	1,074	922	1,141	1,142	1,142
2011	1,174	903	1,367	1,370	1,370
2021	1,226	820	1,535	1,541	1,541
2031	1,433	872	1,950	1,964	1,964
2041	1,633	959	2,591	2,625	2,618
2051	1,904	1,130	3,532	3,627	3,574

Source: author's computations (see Rees 1988 for full details) and OPCS (1985)

Notes: B = birth; D = death; M = migration (internal and external)

**TABLE 12**    The distribution of in-migrants by broad region and metropolitan status, 1980-81

	Per cent of GB total Age group at the end of the year				% of GB total
	20-24	40-44	65-69	75+	Population
<b>NORTH</b>					
Metro regions	15.3	14.3	9.0	12.6	23.9
Non-metro	21.6	26.2	25.2	23.0	26.5
Sub-total	36.9	40.5	34.2	35.6	50.4
<b>SOUTH</b>					
Metro regions	32.5	24.9	14.9	25.0	22.3
Non-metro	30.6	34.5	51.1	39.5	27.3
Sub-total	63.1	59.4	66.0	64.5	49.6
<b>GREAT BRITAIN</b>					
Metro regions	47.8	39.2	23.9	37.6	46.2
Non-metro	52.2	60.7	76.3	62.5	53.8
Sub-total	100.0	100.0	100.0	100.0	100.0

Source:    Rees, Stillwell and Boden (1989), computed from the National and Regional Migration Reports of the 1981 Census

**Notes:**

1. The figures refer to males
2. Regions are classified as follows:
 

North Metro:	Central Clydeside, Tyne & Wear, Greater Manchester, Merseyside, South Yorkshire, West Yorkshire, West Midlands county
North Non-metro:	Scotland Remainder, North Remainder, Yorkshire & Humberside Remainder, West Midlands Remainder, Wales
South Metro:	Greater London, Outer Metropolitan area
South Non-metro:	Outer South-East, South West, East Anglia, East Midlands



TABLE 13      Projected total and elderly populations, UK regions, 1981-2031

Region	1981	1991	2001	2011	2021	2031
ALL AGES						
East Anglia	1,878	2,014	2,088	2,125	2,144	2,141
South West	4,349	4,519	4,627	4,681	4,714	4,704
South East						
Greater London	6,808	6,503	6,234	6,030	5,891	5,815
Outer Metro	5,344	5,480	5,466	5,389	5,315	5,262
Outer SE	4,830	5,195	5,500	5,665	5,773	5,785
East Midlands	3,780	3,908	3,934	3,909	3,873	3,836
West Midlands						
WM County	2,658	2,518	2,373	2,243	2,142	2,093
WM Rem	2,508	2,638	2,718	2,733	2,722	2,701
Yorks & Humb						
South Yorks	1,310	1,295	1,267	1,234	1,204	1,184
West Yorks	2,043	2,012	1,957	1,897	1,844	1,812
YH Rem	1,516	1,545	1,552	1,540	1,523	1,508
North West						
G Manchester	2,619	2,510	2,402	2,299	2,212	2,164
Merseyside	1,516	1,414	1,320	1,238	1,173	1,141
N W Rem	2,310	2,331	2,334	2,305	2,267	2,239
North						
Tyne & Wear	1,144	1,086	1,013	,950	,900	,875
North Rem	1,924	1,915	1,866	1,803	1,745	1,711
Wales	2,769	2,795	2,772	2,731	2,692	2,663
Scotland						
C Clydeside	1,705	1,546	1,387	1,251	1,141	1,092
Scot Rem	3,425	3,462	3,456	3,401	3,329	3,277
N Ireland	1,562	1,617	1,685	1,731	1,775	1,792
United Kingdom	55,998	56,300	55,954	55,154	54,380	53,793
NORTH						
Metro	12,995	12,381	11,719	11,112	10,616	10,361
Non-metro	16,014	16,303	16,383	16,244	16,053	15,891
Sub-total	29,009	28,684	28,102	27,356	26,669	26,252
SOUTH						
Metro	12,152	11,983	11,700	11,419	11,206	11,077
Non-metro	14,837	15,636	16,149	16,380	16,504	16,466
Sub-total	26,989	27,619	27,849	27,799	27,710	27,543
METRO	25,147	24,364	23,419	22,531	21,822	21,438
NON-METRO	30,851	31,939	32,532	32,642	32,557	32,357

Source: author's projections (see Rees 1986b for details)

TABLE 13 (Continued)

Region	1981	1991	2001	2011	2021	2031
			60+			
East Anglia	392	431	434	486	526	578
South West	1,003	1,036	999	1,089	1,176	1,306
South East						
Greater London	1,449	1,349	1,186	1,174	1,202	1,285
Outer Metro	966	1,066	1,058	1,132	1,176	1,252
Outer SE	1,061	1,080	1,047	1,162	1,288	1,445
East Midlands	738	782	756	822	868	949
West Midlands						
WM County	502	515	463	449	444	467
WM Rem	448	498	500	560	602	666
Yorks & Humb						
South Yorks	258	263	242	247	258	281
West Yorks	413	400	365	372	384	412
YH Rem	314	325	313	334	354	389
North West						
G Manchester	521	498	445	450	459	486
Merseyside	297	292	258	246	245	258
N W Rem	476	470	445	474	498	542
North						
Tyne & Wear	231	234	207	196	194	201
North Rem	369	385	362	373	384	409
Wales	578	595	552	577	602	655
Scotland						
C Clydeside	327	312	289	271	257	257
Scot Rem	657	668	642	681	729	798
N Ireland	246	250	242	256	286	329
United Kingdom	11,247	11,450	10,803	11,353	11,932	12,938
NORTH						
Metro	2,549	2,514	2,269	2,231	2,241	2,362
Non-metro	3,088	3,191	3,056	3,255	3,455	3,788
Sub-total	5,637	5,705	5,325	5,486	5,696	6,150
SOUTH						
Metro	2,415	2,415	2,244	2,231	2,378	2,510
Non-metro	3,194	3,329	3,236	3,559	3,858	4,278
Sub-total	5,609	5,744	5,480	5,865	6,236	6,788
METRO	4,964	4,929	4,513	4,537	4,619	4,872
NON-METRO	6,282	6,520	6,292	6,814	7,313	8,066

TABLE 14 The evolution of elderly percentages, UK regions, 1981-2031

Region	1981	1991	2001	2011	2021	2031
% 60+						
East Anglia	20.9	21.4	20.8	22.9	24.5	27.0
South West	23.1	22.9	21.6	23.3	24.9	27.8
South East						
Greater London	21.3	20.7	19.0	19.5	20.4	21.6
Outer Metro	18.1	19.5	19.4	21.0	22.1	23.8
Outer SE	22.0	20.8	19.0	20.5	22.3	25.0
East Midlands	19.5	20.0	19.2	21.0	22.4	24.7
West Midlands						
WM County	18.9	20.5	19.5	20.0	20.7	22.3
WM Rem	17.9	18.9	18.4	20.5	22.1	24.7
Yorks & Humb						
South Yorks	19.7	20.3	19.1	20.0	21.4	23.7
West Yorks	20.2	19.9	18.7	19.6	20.8	22.7
YH Rem	20.7	21.0	20.2	21.7	23.2	25.8
North West						
G Manchester	19.9	19.8	18.5	19.6	20.8	22.5
Merseyside	19.6	20.7	19.5	19.9	20.9	22.6
N W Rem	20.6	20.2	19.1	20.6	22.0	24.2
North						
Tyne & Wear	20.2	21.5	20.4	20.6	21.6	23.0
North Rem	19.2	20.1	19.4	20.7	22.0	23.9
Wales	20.9	21.3	19.9	21.1	22.4	24.6
Scotland						
C Clydeside	19.2	20.2	20.8	21.7	22.5	23.5
Scot Rem	19.2	19.3	18.6	20.0	21.9	24.4
N Ireland	15.7	15.5	14.4	14.8	16.1	18.4
United Kingdom	20.1	20.3	19.3	20.6	21.9	24.1
NORTH						
Metro	19.6	20.3	19.4	20.1	21.1	22.8
Non-metro	19.3	19.6	18.7	20.0	21.5	23.8
Sub-total	19.4	19.9	18.9	20.1	21.4	23.4
SOUTH						
Metro	19.9	20.2	19.2	20.2	21.2	22.7
Non-metro	21.5	21.3	20.0	21.7	23.4	26.0
Sub-total	20.8	20.8	19.7	21.1	22.5	24.6
METRO	19.7	20.2	19.3	20.1	21.2	22.7
NON-METRO	20.4	20.4	19.3	20.9	22.5	24.9

Source: Computed from Table 13

TABLE 15 The evolution of elderly shares, UK regions, 1981-2031

Region	1981	1991	2001	2011	2021	2031
SHARE %						
East Anglia	3.5	3.8	4.0	4.3	4.4	4.5
South West	8.9	9.0	9.2	9.6	9.9	10.1
South East						
Greater London	12.9	11.8	11.0	10.3	10.1	9.7
Outer Metro	8.6	9.3	9.8	10.0	9.9	9.7
Outer SE	9.4	9.4	9.7	10.2	10.8	11.2
East Midlands	6.6	6.8	7.0	7.2	7.3	7.3
West Midlands						
WM County	4.5	4.5	4.3	4.0	3.7	3.6
WM Rem	4.0	4.3	4.6	4.9	5.0	5.1
Yorks & Humb						
South Yorks	2.3	2.3	2.2	2.2	2.2	2.2
West Yorks	3.7	3.5	3.4	3.3	3.2	3.2
YH Rem	2.8	2.8	2.9	2.9	3.0	3.0
North West						
G Manchester	4.6	4.3	4.1	4.0	3.8	3.8
Merseyside	2.6	2.6	2.4	2.2	2.1	2.0
N W Rem	4.2	4.1	4.1	4.2	4.2	4.2
North						
Tyne & Wear	2.1	2.0	1.9	1.7	1.6	1.6
North Rem	3.3	3.4	3.4	3.3	3.2	3.2
Wales	5.1	5.2	5.1	5.1	5.0	5.1
Scotland						
C Clydeside	2.9	2.7	2.7	2.4	2.2	2.0
Scot Rem	5.8	5.8	5.9	6.0	6.1	6.2
N Ireland	2.2	2.2	2.2	2.3	2.4	2.5
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0
NORTH						
Metro	22.7	22.0	21.0	19.7	18.8	18.3
Non-metro	27.5	27.9	28.3	28.7	29.0	29.3
Sub-total	50.1	49.8	49.3	48.3	47.7	47.5
SOUTH						
Metro	21.5	21.1	20.8	20.3	19.9	19.4
Non-metro	28.4	29.1	30.0	31.3	32.3	33.1
Sub-total	49.9	50.2	50.7	51.7	52.3	52.5
METRO	44.1	43.0	41.8	40.0	38.7	37.7
NON-METRO	55.9	56.9	58.2	60.0	61.3	62.3

Source: Computed from Table 13

TABLE 16 The tempo of ageing, UK regions, 1981-2031

Region	1981-91	1991-01	2001-11	2011-21	2021-31	Total ageing 1981-2031
TA						
East Anglia	0.05	-0.06	0.21	0.16	0.25	6.1
South West	-0.02	-0.13	0.17	0.16	0.29	4.7
South East						
Greater London	-0.06	-0.07	0.05	0.09	0.12	0.3
Outer Metro	0.14	-0.01	0.16	0.11	0.17	5.7
Outer SE	-0.12	-0.18	0.15	0.18	0.27	3.0
East Midlands	0.05	-0.08	0.18	0.14	0.23	5.2
West Midlands						
WM County	0.16	-0.10	0.05	0.07	0.16	3.4
WM Rem	0.10	-0.05	0.21	0.16	0.26	6.8
Yorks & Humb						
South Yorks	0.06	-0.12	0.09	0.13	0.23	4.0
West Yorks	-0.03	-0.12	0.09	0.12	0.19	2.5
YH Rem	0.03	-0.08	0.09	0.15	0.26	5.1
North West						
G Manchester	-0.01	-0.13	0.11	0.12	0.17	2.6
Merseyside	0.11	-0.12	0.04	0.10	0.17	3.0
N W Rem	-0.04	-0.11	0.15	0.14	0.22	3.6
North						
Tyne & Wear	0.13	-0.11	0.02	0.10	0.14	2.8
North Rem	0.09	-0.07	0.13	0.13	0.19	4.7
Wales	0.04	-0.04	0.12	0.13	0.22	3.7
Scotland						
C Clydeside	0.10	0.06	0.09	0.08	0.10	4.3
Scot Rem	0.01	-0.07	0.14	0.19	0.25	5.2
N Ireland	-0.02	-0.11	0.04	0.13	0.23	2.7
United Kingdom	0.02	-0.10	0.13	0.13	0.22	4.0
NORTH						
Metro	0.07	-0.09	0.07	0.10	0.17	3.2
Non-metro	0.03	-0.09	0.13	0.15	0.17	4.5
Sub-total	0.05	-0.10	0.12	0.13	0.17	4.0
SOUTH						
Metro	0.03	-0.10	0.10	0.10	0.15	2.8
Non-metro	-0.02	-0.13	0.17	0.17	0.26	5.5
Sub-total	0.00	-0.11	0.14	0.14	0.21	3.8
METRO	0.05	-0.09	0.08	0.11	0.15	3.0
NON-METRO	0.00	-0.11	0.16	0.16	0.24	4.5

Source: Computed from Table 14

Notes:

1. TA = tempo of ageing =  $\frac{1}{2}$  (%60+ at t+n - %60+ at t)

TABLE 17 The tempo of geographical redistribution, UK regions, 1981-2031

Region	1981-91	1991-01	2001-11	2011-21	2021-31	Total shift 1981-2031
TG						
East Anglia	0.03	0.02	0.03	0.01	0.01	+1.0
South West	0.01	0.02	0.04	0.03	0.02	+1.2
South East						
Greater London	-0.11	-0.08	-0.07	-0.02	-0.04	-3.2
Outer Metro	0.07	0.05	0.02	-0.01	-0.02	+1.1
Outer SE	0.02	0.02	0.02	0.01	0.00	+1.8
East Midlands	0.00	-0.02	-0.03	-0.03	-0.01	+0.7
West Midlands						
WM County	0.00	-0.02	-0.03	-0.03	-0.01	-0.9
WM Rem	0.03	0.03	0.03	0.01	0.01	+0.9
Yorks & Humb						
South Yorks	0.00	-0.01	0.00	0.00	0.00	-0.1
West Yorks	-0.02	-0.01	-0.01	-0.01	0.00	-0.5
YH Rem	0.00	0.01	0.00	0.01	0.00	+0.2
North West						
G Manchester	-0.03	-0.02	-0.01	-0.02	-0.00	-0.8
Merseyside	0.00	-0.02	-0.02	-0.01	-0.01	-0.6
N W Rem	-0.01	0.00	0.01	0.00	0.00	0.0
North						
Tyne & Wear	-0.01	-0.01	-0.02	-0.01	0.00	-0.5
North Rem	0.01	0.00	-0.01	-0.01	0.00	-0.1
Wales	0.01	-0.01	0.00	-0.01	0.01	0.0
Scotland						
C Clydeside	-0.02	0.00	-0.03	-0.02	-0.02	-0.9
Scot Rem	0.00	0.01	0.01	0.01	0.01	+0.4
N Ireland	0.00	0.00	0.01	0.01	0.01	+0.3
United Kingdom	-	-	-	-	-	-
NORTH						
Metro	-0.07	-0.10	-0.13	-0.09	-0.05	-4.4
Non-metro	0.04	0.04	0.04	0.03	0.03	+1.8
Sub-total	-0.03	-0.05	-0.10	-0.06	-0.02	-2.6
SOUTH						
Metro	-0.04	-0.03	-0.05	-0.04	-0.05	-2.1
Non-metro	0.07	0.09	0.13	0.10	0.08	+4.7
Sub-total	0.03	0.05	0.10	0.05	0.03	+2.6
METRO	-0.09	-0.12	-0.18	-0.13	-0.10	-6.4
NON-METRO	0.10	0.13	0.18	0.13	0.10	+6.4

Source: Computed from Table 15.

Notes: TG = tempo of geographical shifts =  $1/n$  (% share 60+ at  $t + n$  - % share 60+ at  $t$ )

TABLE 18 Rates of ageing in place and net migration for the elderly population 60+, UK regions, 1976-2031

Region	Ageing-in-place		Net migration	
	1976-2031 Ave	Deviation from UK	1976-2031 Ave	Deviation from UK
East Anglia	2.0	-0.7	5.6	5.8
South West	0.7	-2.0	4.2	4.4
South East				
Greater London	4.6	1.9	-6.9	-6.7
Outer Metro	7.9	5.2	-2.6	-2.4
Outer SE	1.8	-0.9	4.3	4.5
East Midlands	3.6	0.9	1.2	1.4
West Midlands				
WM County	2.4	-0.3	-3.6	-3.4
WM Rem	6.1	3.4	1.4	1.6
Yorks & Humb				
South Yorks	2.5	-0.2	-1.0	-0.8
West Yorks	1.3	-1.4	-1.4	-1.2
YH Rem	2.3	-0.4	1.5	1.7
North West				
G Manchester	1.1	-1.6	-1.9	-1.7
Merseyside	-1.2	-3.9	-2.3	-2.1
N W Rem	2.0	-0.7	0.3	0.5
North				
Tyne & Wear	-1.6	-4.3	-1.4	-1.2
North Rem	1.5	-1.2	-0.1	0.1
Wales	0.4	-2.3	1.5	1.7
Scotland				
C Clydeside	-2.0	-4.7	-1.3	-1.1
Scot Rem	2.3	-0.4	1.1	1.3
N Ireland	6.7	4.0	-1.3	-1.1
United Kingdom	2.7	0.0	-0.2	0.0

TABLE 19      Projections of the elderly population of the wards of Swansea, 1989-2004

Ward	Population aged 60+			% aged 60+			% share 60+		
	1989	1994	2004	1989	1994	2004	1989	1994	2004
North Gower	1456	1401	1303	22.2	20.7	17.4	3.5	3.6	3.8
South Gower	727	598	502	30.5	24.0	16.5	1.7	1.5	1.5
Pennard	614	632	695	20.1	19.3	17.7	1.5	1.6	2.0
Bishopston	1155	1140	1115	22.6	21.0	17.8	2.8	2.9	3.2
Killay	834	983	1060	16.0	15.9	16.1	2.0	2.5	3.1
Dunvant	615	663	787	12.1	15.9	16.1	1.5	1.7	2.3
Mayals	648	682	673	22.3	20.0	18.6	1.6	1.7	1.9
West Cross	2155	1952	1945	30.7	27.5	25.4	5.2	5.0	5.6
Newton	862	792	716	24.1	22.0	18.3	2.1	2.0	2.1
Oystermouth	1468	1337	1068	32.8	29.1	21.3	3.5	3.4	3.1
Sketty	4115	3733	2995	29.8	26.0	21.2	9.8	9.6	8.7
Cockett	3101	2902	2396	23.9	22.8	19.3	7.4	7.4	6.9
Uplands	3619	3114	2516	28.2	25.0	18.6	8.7	8.0	7.3
Castle	3166	2691	1915	27.2	23.7	18.8	7.6	6.9	5.5
Townhill	2110	1531	1580	22.4	18.2	18.5	5.0	3.9	4.6
Cwmbwrla	2188	1949	1576	26.9	24.0	18.3	5.2	5.0	4.6
Landore	1371	1215	1005	22.0	21.0	16.2	3.3	3.1	2.9
Penderry	2135	2280	1878	17.9	18.6	16.2	5.1	5.8	5.4
Mynyddlach	1805	1877	1795	17.0	18.5	17.0	4.3	4.8	5.2
Morrison	3376	3197	2804	20.1	18.8	17.1	8.1	8.2	8.1
Llansamlet	1683	1814	1761	15.5	14.8	14.5	4.0	4.6	5.1
Bonymaen	1115	1155	1209	14.4	14.7	14.9	2.7	3.0	3.5
St. Thomas	1484	1385	1230	21.3	20.5	16.9	3.6	3.5	3.6
Swansea	41802	39023	34524	22.5	20.8	17.9	100.0	100.0	100.0
Wales (1000s)	600.6	580.6	559.5	21.5	20.8	20.3	7.0	6.7	6.2

Source:                      The Swansea model constructed by GMap Ltd, University of Leeds.  
                                     See Rees and Rees (1991) and Rees (1991) for details

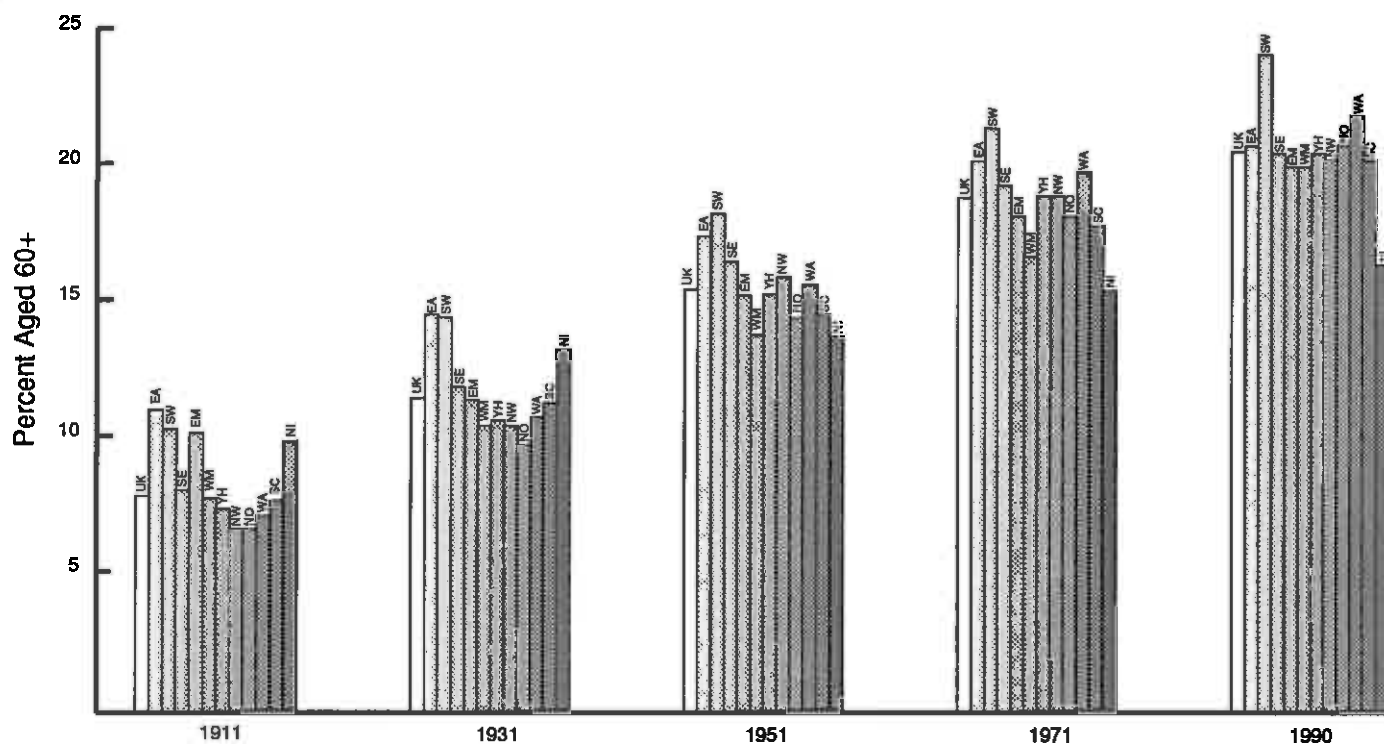
Notes:

1. The projections assume redistribution between wards using attractiveness factors calculated using 1980-81 inter-ward migration and calibration procedures over the interval 1981-86, together with major housing developments in Penderry and Llansamlet wards.
2. The Wales figures are interpolated from the figures in Table 13.
3. The Wales share columns show the Swansea 60+ population as a % of the Welsh total.





FIGURE 1: The geographical units used in the paper



KEY TO REGIONS :

UK = United Kingdom  
 EA = East Anglia  
 SW = South West  
 SE = South East  
 EM = East Midlands  
 WM = West Midlands

YH = Yorkshire & Humberside  
 NW = North West  
 NO = North  
 WA = Wales  
 SC = Scotland  
 NI = Northern Ireland

FIGURE 2: Percentages aged 60+ in UK regions (1911–1990)

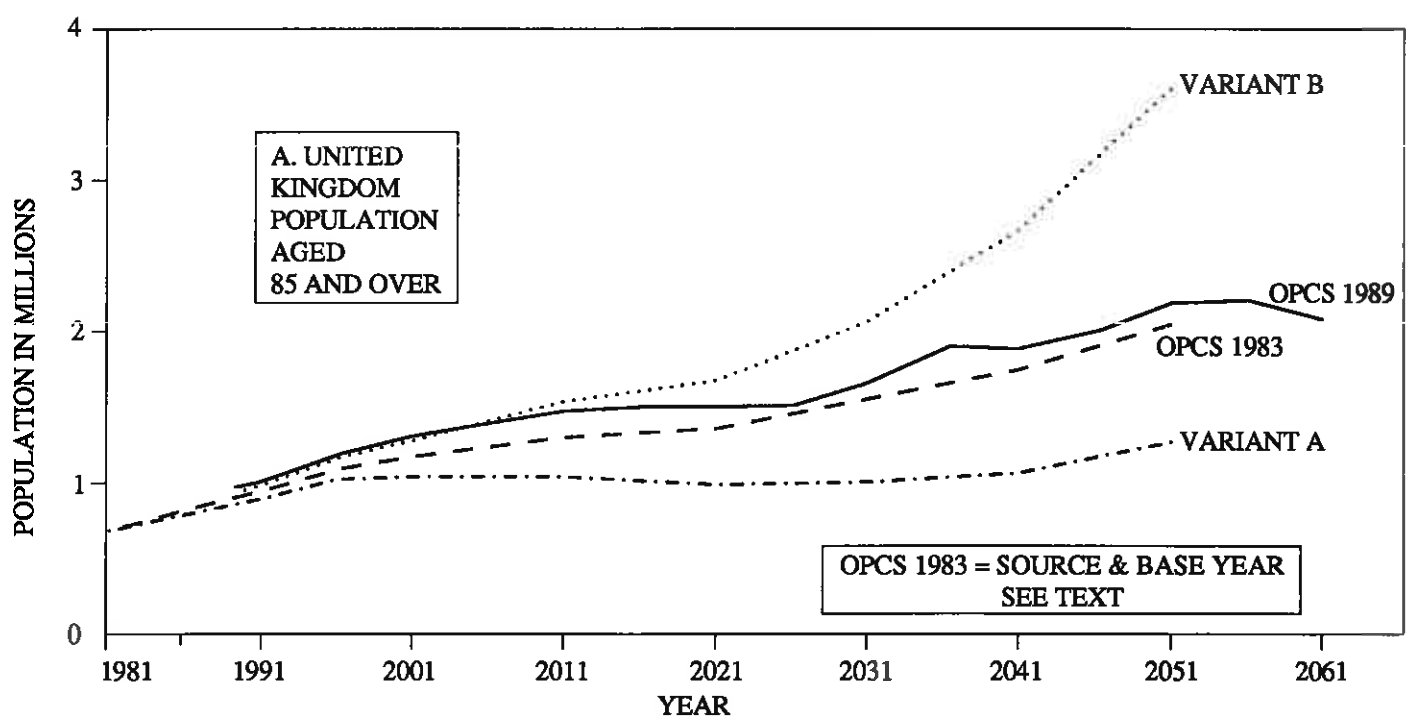
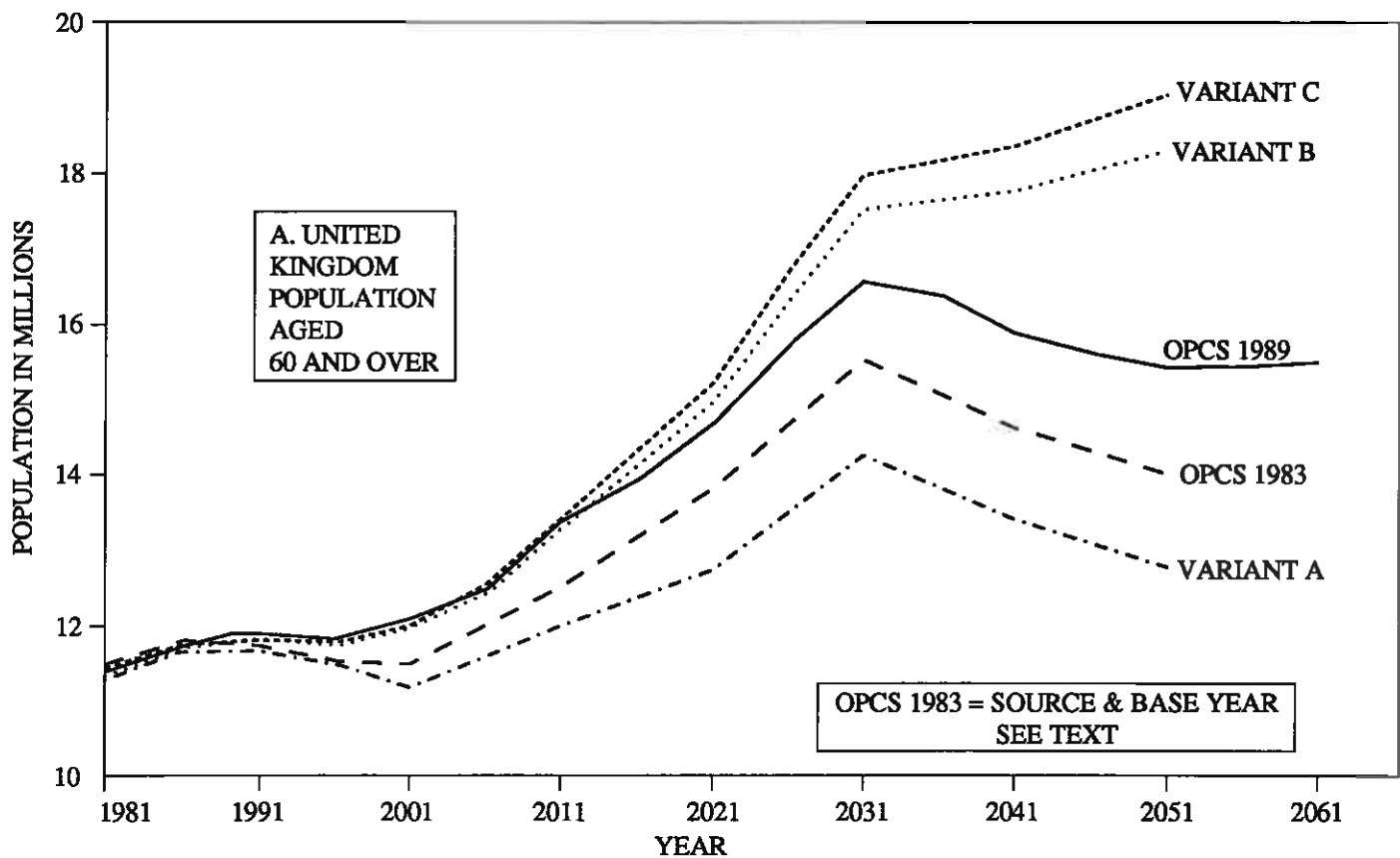


FIGURE 3: Variant projections of the numbers of elderly in the UK, 1981 – 2061

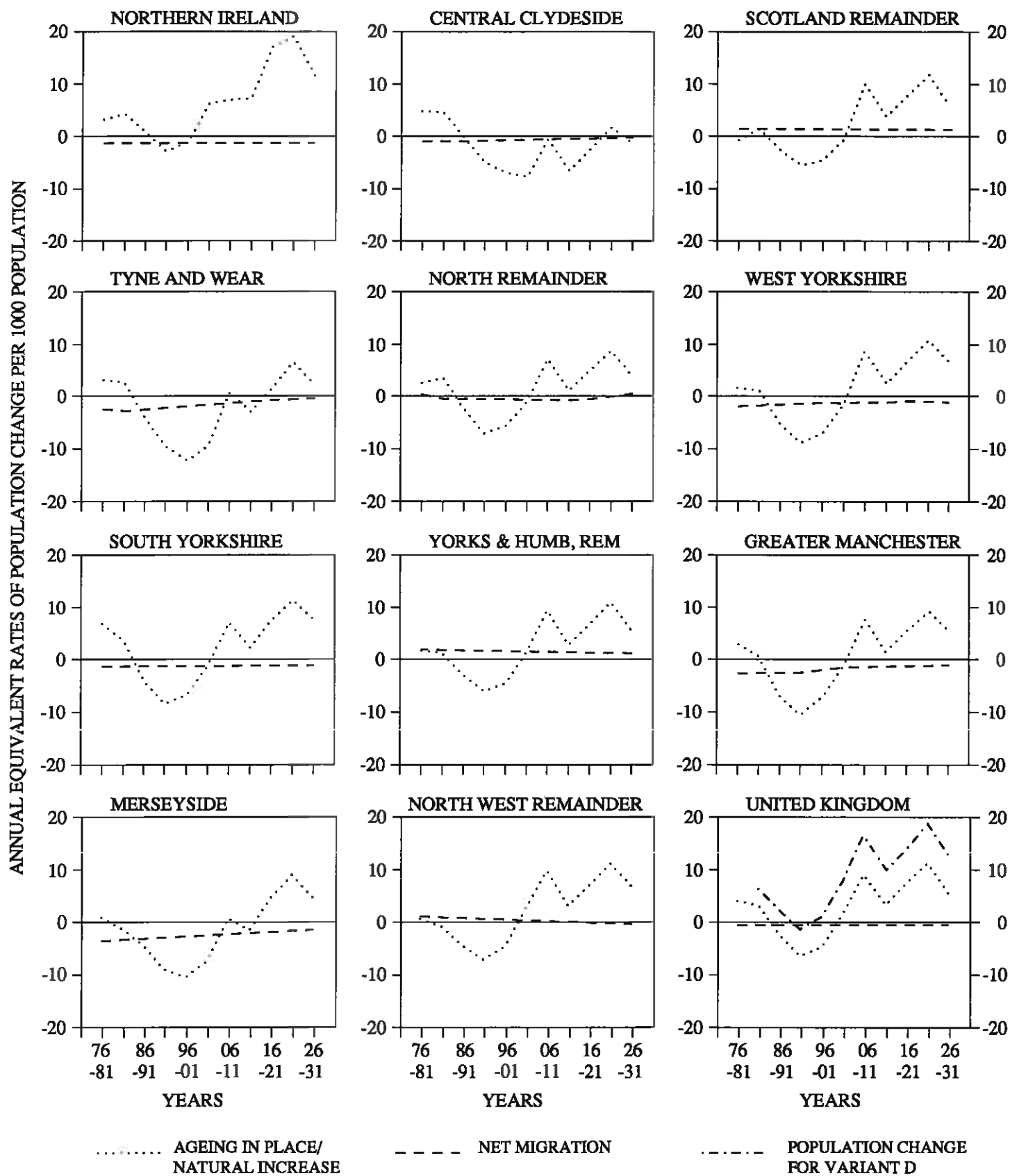


FIGURE 4: Components of change for the population aged 60+, UK regions

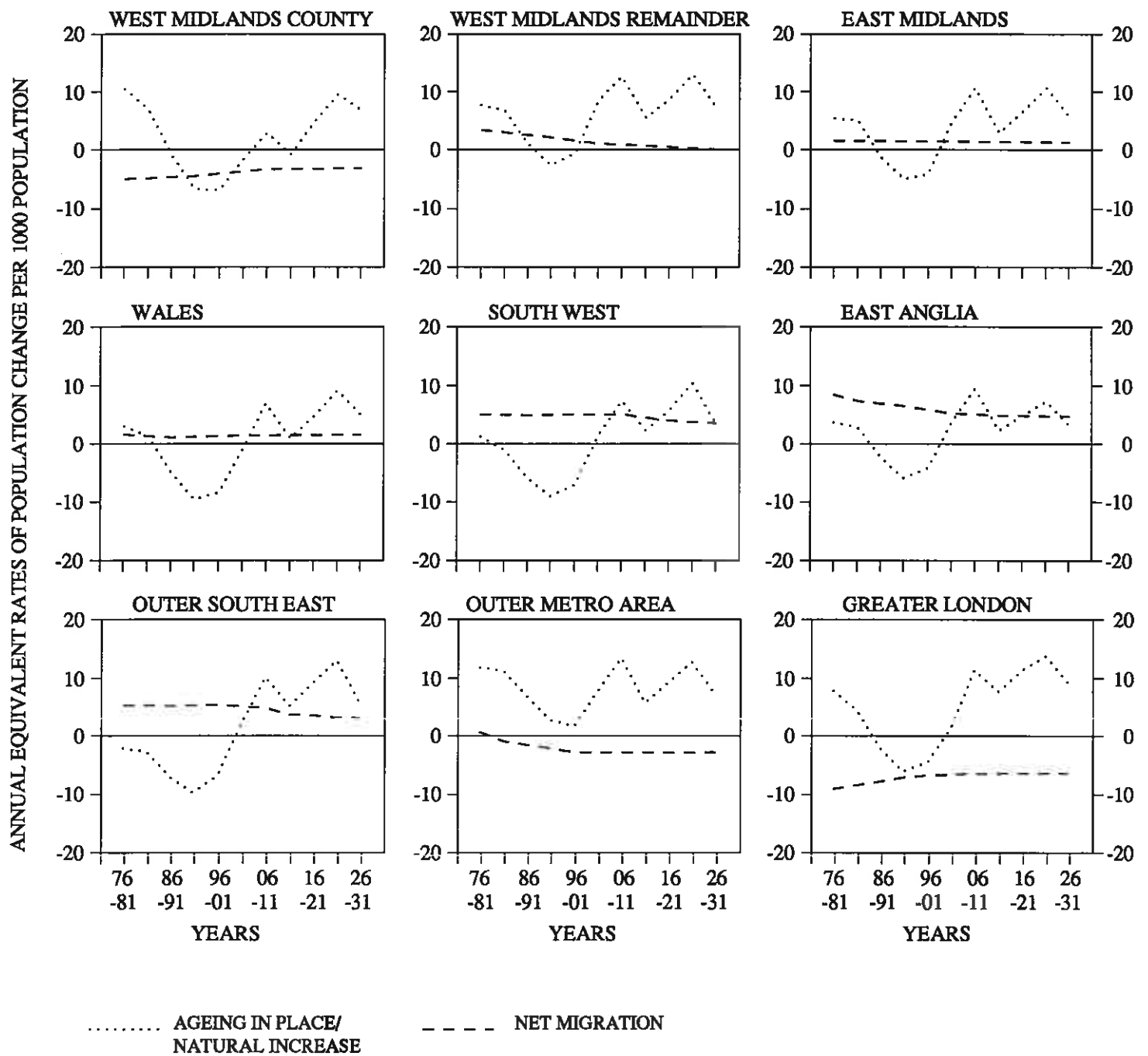


FIGURE 5: Components of change for the population aged 60+, UK regions(1)