The Waves of Population Age Change and Silver Surfers: A Demographic Perspective on Population Ageing in New South Wales

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Introduction

Population ageing refers to the growth of the numbers and percentages of population in the older age groups. The growth of the aged 65 and over age group tends to attract particular attention. The over 65s are clearly differentiated from the younger groups in their (lower) labour force participation and income, expenditure patterns, time use, use of media and information technology, responsiveness to advertising, health, demographic characteristics and geographical location – all of which have ramifications for the provision of and marketing of services (ABS 1998, 2003, 2004, 2006a).

This presentation will focus of the demography of population ageing in New South Wales (NSW), paying particular attention to the dimensions and determinants of population ageing, its spatial aspects, and to the demographic characteristics of the aged. An explanation of why further population ageing is virtually inevitable, and, indeed, of why an acceleration of the ageing of NSW’s population is to be expected, will be developed.

Dimensions of Population Ageing in New South Wales

The ageing of Australia’s population has been well-documented (Rowland 1991, McDonald and Kippen 1999, McDonald and Kippen 2000). Of the various States and Territories South Australia and Tasmania currently have the oldest populations and the Northern Territory and the Australian Capital Territory the youngest (ABS 2005, Jackson and Fremlingham 2002). The population of New South Wales is just slightly older than the population of Australia as a whole.

Perhaps unsurprisingly given that its population represents about one third of the national total, the ageing trend in NSW has been broadly similar to the national pattern. The median age of NSW’s population, in other words the age at which half the population is younger and half is older, increased from 21.9 years in 1901 to 36.8 years in 2005 (ABS 2005). As Figure 1 shows the rise in the median age of the population was interrupted temporarily between 1947 and 1971, with the slight younging of the population after 1947 being due higher birth rates during the post World-War II baby boom and, of lesser importance, to high immigration rates (ABS 2006b, Kippen and McDonald 2000). Between 1901 and 2005 the percentage of NSW’s population above the standard retirement age of 65 increased fourfold (from 3.4% of the population in 1901 to 13.7% in 2005) (Figure 2). Whilst over this period the total population increased fivefold, the increase in the population recorded as being aged 65 years or more has been nearly twentyfold (ABS 2005, 2006b). Figure 3 provides a detailed breakdown of the percentage change in the population by age in the 1996-2001 period. The percentage growth in the over 35 age range is clearly greater than that below 35. The most rapid increases of all were recorded in the over 75 age range and in the 50-59 age range.

The Causes of Population Ageing

The main causes of population ageing in NSW have been the long-term decline in birth rates over time and the reduction in death rates in the older ages. The role of past birth rates in determining how numbers of people in different age ranges compare is often
overlooked. Figure 4 shows the trend for the most widely used measure of birth rates – the total fertility rate. This variable shows what the average number of children per woman would be for a cohort experiencing the rates of fertility prevailing at different ages in a specified time period. The trend since the post World War II peak of 3.4 births per woman in 1961 has been a downwards one. The total fertility rates experienced in NSW between 1946 and 1965 were the highest experienced over the period since 1924 (although they were lower than the rates experienced in the late 19th century and early 20th century). The legacy of the post war baby boom in terms of younging the population will diminish with time. In 2006 the “post war baby boomers” (as they are often called) span the 40-61 years old age range. Their numbers have been contributing to the State's rising median age and in less than five years’ time will contribute to a dramatic increase in the population aged over 65. Figure 5 shows the variation in the percentage change in population by age since 1966. As well as the relatively rapid growth of the over 80 age group in all time periods, the key feature of this graph is to note how a rapid growth in numbers accompanies the ageing of the 1946-1951 birth cohort (i.e. those born in the period 1946-51). The graph has the appearance of a wave which moves to the right (i.e. upwards in age) as time progresses. The rapid growth in the 20-24 age range between 1966 and 1971, the 30-34s between 1976 and 1981, the 40-44s from 1986 and 1991 and the 50-54s from 1996-2001 all correspond to the age range into which the “early boomers” have aged. This pattern of growth is a legacy of the number of births between 1946 and 1951 being far larger than the number between 1941 and 1946. It may be noted the growth in the ages immediately below those filled by the 1946-51 cohort (those to the left of the “crest of the wave”) is positive. The early baby boom cohort is not the largest in the population (the generations following them have generally been larger, with the largest of all being those born during the period of the Whitlam federal government). It is however the one which is associated with the greatest change by age.

Compounding the effect of these birth rate changes has been the decline in mortality at older ages. Figure 6 shows the upwards trends for male and female life expectancy at birth since 1971. Most of this increase is attributable to the reduction of mortality in the older ages (c.f. Booth 2003 for the national picture). Throughout most of the last century NSW has experienced a net gain from international migration (i.e. it has received more migrants from overseas than it has lost to overseas)(ABS 2006b). Since international migrants are on average younger than those who are already resident in the state, the effect of the immigration has been to keep the population of NSW slightly younger than it would have been had there been no international migration. Over the last three decades NSW has experienced a net loss of population as a result of moves to the other States and Territories of Australia (ABS 2006b). The scale of the net interstate migration loss has generally been smaller than the net gain from international migration. The impact on the age structure of NSW’s population of net internal outmigration has been slight.

**Projections of Future Ageing**

The standard method for projecting future population growth and age structure change, known as the cohort component method, involves calculating the changes to groups of people born in the same time period (i.e. cohorts). These effects are twofold:
firstly there is the entirely predictable change in age over time (“each year we grow a year older’’); and secondly there are the less predictable effects of levels of mortality and migration (assumptions need to be made in relation to the levels of these variables). There is also the formation of new cohorts as a result of births. Their projected numbers reflect (assumed) levels of fertility and mortality and migration in the youngest age ranges (see eg Rowland 2003). Projections of the future population of NSW are published on a regular basis by the Australian Bureau of Statistics (ABS) and the NSW Department of Infrastructure Planning and Natural Resources (DIPNR) (DIPNR 2004, ABS 2006c).

The ABS projections illustrate the differing effects of a range of different scenarios for future fertility, mortality, international and interstate migration. However in broad terms the results are similar, with all projections showing the population continuing to age in the future (Figures 7 and 8). A striking feature of the results of the official projections is the acceleration of the growth of the over 65 age group: by 2026 over 20 percent of the population is projected to be in this range. The growth of the over 65 age group will accelerate after 2011 as the early baby boomers begin to enter this age range (ABS 2006c). A future ageing of the NSW population is also evident from the DIPNR projections (DIPNR 2004).

A popular misconception is that the prospects for a future ageing of the population are synonymous with the prospects for further extending human longevity. This is not so. Even without further improvements in the mortality the population of NSW would age further, because of the momentum for ageing which past changes in fertility patterns have created. The mortality assumptions used in the past in ABS population projections have been rightly criticised by Booth and Tickle for their track record of being too conservative in the future gains in life expectancy they assume (Booth and Tickle 2003). Two of the three ABS projections series shown in Figures 7 and 8 (Series B and C) could also be criticized on these grounds. Much publicity has also been given to the recent small rise in the birth rate. Series A, which uses a fertility rate assumption significantly higher than the current level, illustrates the occurrence of further population ageing even if further increases in the birth rate occur. Just as at the national level the prospects for averting a further ageing of the population by increasing the levels of net immigration have been comprehensively dismissed (McDonald and Kippen1999), so such a possibility can be dismissed for NSW.

The Geographic Distribution of the Aged Population

The age distribution of the State’s population varies geographically. Sydney’s population is younger than the balance of the State. Many of the Statistical Local Areas (SLA) (in most cases the SLA coincides with a Local Government Area) with the oldest median ages and the highest percentages in the retirement ages are rapidly growing populations located on the coast. There are also some inland areas in which an exodus of younger people has left behind a declining and relatively old population. Figure 9 summarises the variation in the percentage aged over 65 between regions of the State. According to DIPNR, all the Statistical Local Areas in NSW are expected to have older populations in the future (DIPNR 2004). Sydney’s population will continue to remain somewhat younger than the rest of the State, due to the influx of younger adults. The
oldest parts of the State will generally be coastal areas. Such geographical variations in age structure have important implications for the spatial location of facilities and the spatial targeting of marketing campaigns.

Changes in the Demographic Characteristics of the Aged

As a consequence of the greater longevity of females and despite the slightly larger numbers of male among the births which initially formed the cohorts and among the migrants who joined these cohorts, a majority of the older population is female. Figure 10 shows that it is only since the end of World War II that females have formed a majority of NSW’s over 65 population. Moreover with the narrowing of the gap between male and female death rates which has been evident since the early 1980s and a feminisation of the overseas migration intake over time, the extent to which older females outnumber their male age-mates has been reducing for the last 20 or so years. An ageing of the aged has also been evident (Figure 11). By this I mean the average age of those aged 65 or over has increased. ABS projections indicate this will continue in the future (ABS 2006c).

Migrants form over one in three of the over 65 population of NSW. We should expect this proportion to increase in the future. Among the current migrant aged European birthplaces predominate. In the future however we should expect a diversification of the places of birth of aged migrants as more of the more diverse (post abolition of “White Australia”) intakes of the last 30 years age into this range.

Closing Remarks: The Strengths and Limitations of Demography

That in the future the population of NSW will be on average older than it is now seems virtually certain. Official projections show in 20 years’ time the population aged 65 or above will have grown by about three quarters of a million and will form over 20% of the State’s population. Demographers have successfully predicted (in broad terms) population ageing in the past, and I see no compelling reason not to expect similar success in the future. The track record suggests demographers can also predict reasonably confidently in broad terms some of the changes to the demographic characteristics of the aged population (such as their sex and age distributions). With the growth of the post-retirement age population, a growth in the time the population has for activities other than work (including reading) would appear virtually assured. Technological change, its adoption and related lifestyle changes (such changes as the media used for reading) are less predictable. For example, the recent years have seen the advent of a new “demographic” group -the “silver surfers” (older users of the internet). Twenty years ago nobody (not even the best demographers in the world) could have foretold the advent and growth of this group!
References


Kippen, R. and McDonald, P. (2000). “Australia’s population in 2000: the way we are and the ways we might have been” People and Place. 8(3): 10-17.


Figures and Tables

Figure 1: Median Age NSW 1901-2005

![Graph showing median age trends in NSW from 1901 to 2005.](image-url)
Figure 2: Percentage Aged 65 Years or More: NSW 1901-2005
Figure 3: Percentage Change in Population by Age: NSW 1996-2001

Figure 4: Total Fertility Rate: NSW 1947-2004
Figure 5: Percentage Change by Age: NSW 1966-2001

Figure 6: Life Expectancy at Birth: NSW 1971-2003
Figure 9: Percent Aged Over 65 by Region: NSW 2001

Figure 10: Females as Percentage of All Over 65s: NSW 1901-2005
Figure 11: Aged 85 and Over as Percentage of Aged 65 and Over: NSW 1901-2005

Table 1: Median Age and Percentage Aged Over 65 by State or Territory 2005

<table>
<thead>
<tr>
<th>State of Territory</th>
<th>Median Age</th>
<th>Percent Aged 65+</th>
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<tbody>
<tr>
<td>South Australia</td>
<td>38.8</td>
<td>15.2</td>
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<tr>
<td>Tasmania</td>
<td>38.7</td>
<td>14.5</td>
</tr>
<tr>
<td>NSW</td>
<td>36.8</td>
<td>13.7</td>
</tr>
<tr>
<td>Victoria</td>
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<tr>
<td>Australia</td>
<td>36.6</td>
<td>13.1</td>
</tr>
<tr>
<td>West Australia</td>
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<tr>
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<tr>
<td>Northern Territory</td>
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ABS (2005) Population by Age and Sex, Australian States and Territories