



The Impact of Structural Population Change



This paper was prepared by Bill Boddington of the Population Statistics Unit of Statistics New Zealand as part of the article series: Structural Change and the 65+ Population.

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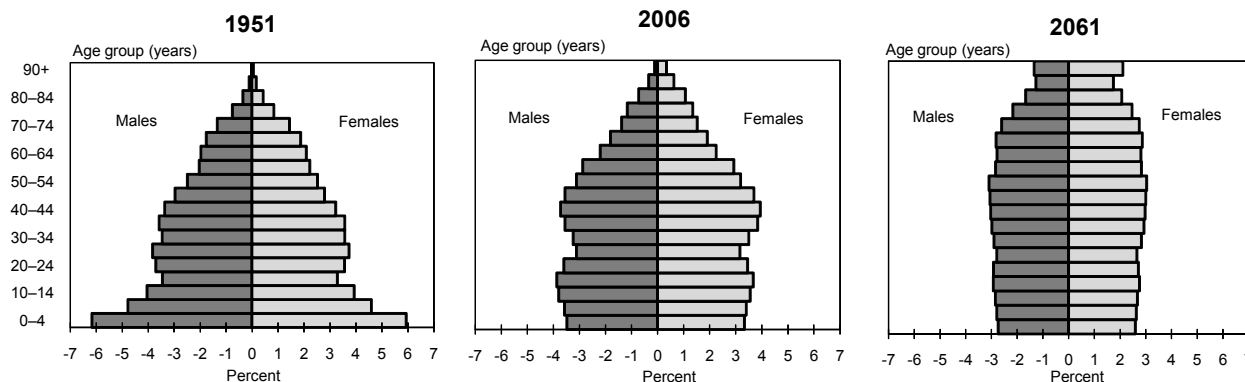
Towards an older and more sustainable age structure

New Zealand is experiencing a demographic transition to an older age structure as a natural consequence of low mortality and, by historical standards, low fertility. Despite experiencing significant net migration inflows for most of the last century, migration's effects on New Zealand's age structure have tended to be relatively short-lived; migration has done little to mitigate population ageing in New Zealand.

Few would view increased longevity as being undesirable. Similarly, it would be hard to argue for substantially higher or lower fertility, given that the current level is close to that required to replace the population. Despite being the inevitable outcome of these two positive drivers (low mortality and sustainable fertility), the emerging older population structure is often viewed as undesirable. Perhaps this is a reflection of the common view that the financial cost of social welfare and health services for the young is an investment in the future, while for older ages, these costs may be viewed as being for past dues rather than future returns. The role of the state versus that of the family in the care and financial support of dependents may also be a factor. The family is the focus of care and support to children, while at older ages; the state is more directly involved through the provision of pensions, and health care and support services.

Figure 1

**Estimated and Projected Age-Sex Distribution
Total Population**



Positive social and cultural attitudes to ageing among Māori, Pacific and Asian cultures, which generally associate age with status and mana, as well as government initiatives such as the Positive Ageing Strategy¹ are undoubtedly influencing attitudes to seniors. Nevertheless, in western society, segments of the population with low labour force participation can struggle to have their contributions to family and society recognised.

Defining 'elderly'

In the 1980s and 1990s, reports like *The Elderly Population of New Zealand* (Department of Statistics, 1990) posited that the proportion of elderly to the working-age population (the aged-dependency ratio) would rise steadily from 1 in 4 in the 1980s and 1990s to reach 1 in 3 by 2016 and 1 in 2 by 2031. We now know these levels will not be reached, not because the anticipated structural change was wrong, but because society, policy, and technology (eg medical and workplace advances) have redefined what 'elderly' means. By pushing up the

¹ <http://www.osc.govt.nz/positive-ageing-strategy/index.html>

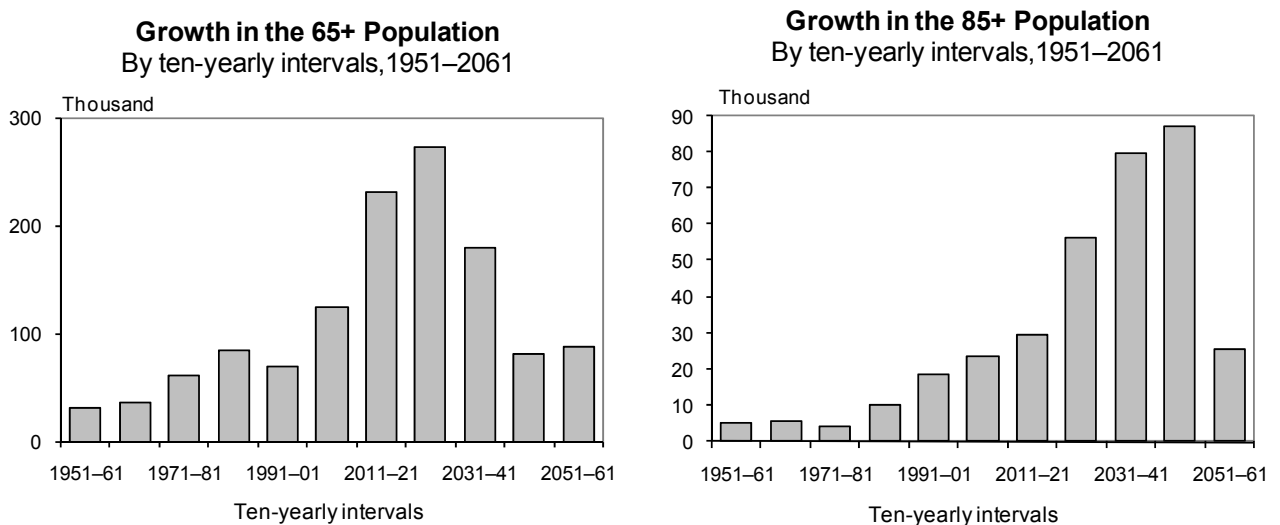
age threshold for this life stage, at least five years have been added to an earlier life stage. That potentially gives five more years to work, develop a career, pay off a mortgage, save for retirement, and so on. Not only are those aged 60–64 years no longer seen as having reached the concluding life stage, but society is also reluctant to label those aged 65 years and over (65+). This reluctance raises the question: 'Is 65+ a single life stage?'

Ageing of the aged

The growth in New Zealand's 65+ population will accelerate in coming decades as the larger post-World War II cohorts start turning 65 from 2011. The period between 1949 and 1961 was one of high growth, with each cohort larger than the one before. Having risen by one-third between 1949 and 1961, birth numbers peaked at 65,000 in 1961, but remained above 60,000 until 1974.

By 2031, the last of the high-growth cohorts will have turned 65 and population ageing will begin to slow because of the birth plateau reached 65 years earlier. Despite the slowing growth, it will be several more decades before the transition to an older age structure is complete. The post-WWII cohorts will begin turning 85 in 2031 and, while mortality will have thinned their ranks, a sizeable proportion of them might live into their 90s and beyond. Therefore, the ageing of the 65+ population is likely to accelerate even as the ageing of the population as a whole slows.

Figure 2



Without a significant shift in the components of population change (births, deaths, migration), the age structure of New Zealand's population will reach a period of equilibrium in the latter half of the 21st century. That is, the transition from a young society with high fertility and high mortality to an older population with low fertility and greater longevity will be complete and a more stable state will be reached.

Modest ageing, as the result of incremental reductions in mortality at older ages, may continue throughout the 21st century, but the age profile revealed in figure 1 will only alter subtly after 2061. Projections suggest that by the later part of the 21st century around 27 percent of New Zealand's population will be aged 65+. This proportion is lower than in many countries and partly reflects expectations of higher fertility in New Zealand (see table 2.13 in *Demographic Trends 2007*, Statistics New Zealand, 2008). Australia, for example, projects that the proportion of its 65+ population will settle at 31 percent. These assumptions are based on their projected total fertility rate of 1.5 births per woman compared with New Zealand's projected rate of 1.9.

Possible changes in fertility patterns

Potential certainly exists for changes in fertility patterns to alter New Zealand's future age structure. The Māori and Pacific populations contribute significantly to New Zealand's higher fertility rate (Didham, 2004). If the experiences of these two populations encourage other ethnic groups to have larger families or, alternatively, if their fertility is influenced by the lower fertility of other New Zealanders, then the future age structure will be affected accordingly. For example, under the high fertility projection assumption (2.1 births per woman), the 65+ population would comprise just 24 percent of the New Zealand population by 2061. Other things remaining equal, under the low fertility assumption (1.7 births per woman) the 65+ population would rise to 28 percent of the population by 2061. The medium projection assumption (1.9 births per woman) sees the proportion of the 65+ population reaching 26 percent by 2061 and rising only very slightly thereafter.

However, in the short- to medium-term, higher fertility does little to offset most of the economic consequences of population ageing. Higher fertility adds population who will not become fully independent workers for approximately two decades. Under all three fertility assumptions, the proportion of the population aged 15–64 years, the so called 'working-age population', is projected to be 58 percent of the total population in 2061.

Burden on society?

In approximately 25 years, the 65+ population will have doubled and aged-dependency ratios will have risen from 1 person 65+ for every 5 people aged 15–64 years to 2 people 65+ for every 5 aged 15–64 years. Yet, while the aged-dependency ratio may double, any burden on society probably will not. Dependency ratios are crude measures that assume all people outside prime working ages are dependent on the segment of the population that is deemed independent.

Paid employment is not reserved for those aged under 65 years; wage and salary earners or the self-employed are not the only productive members of society and the transfer of resources is not only one way. For example, the elderly may provide childcare or support that enables parents to work, and so they indirectly contribute to the labour supply. Similarly, they may provide capital, expertise, unpaid labour, and networks that enable self-employed people to stay in business. By participating in community groups, coaching sport teams, or doing voluntary work they contribute to the community in ways that free others to perform more monetarily productive jobs. The 2006 Census data on unpaid activities showed approximately 40 percent of those aged 65–69 years were involved in unpaid activities outside the home compared with 30 percent of those aged 30–34 years.

Timing of life stages

While individuals may go through distinct life stages, the timing of the transitions from one stage to another are not predetermined. For example, although the biological window for a woman to bear children is more than 25 years (from before age 15 until the early 40s), in reality, childbearing is generally completed within just a few years. And so, there is often considerable flexibility in the timing of transitions from one life stage to the next. Perhaps it is no coincidence that when school rolls were high and unemployment was low, school leaving ages were low. And, as the number of new entrants to the labour force rose, school leaving ages also rose. In this way, society can mitigate the extremes of structural change to some extent.

Figure 3

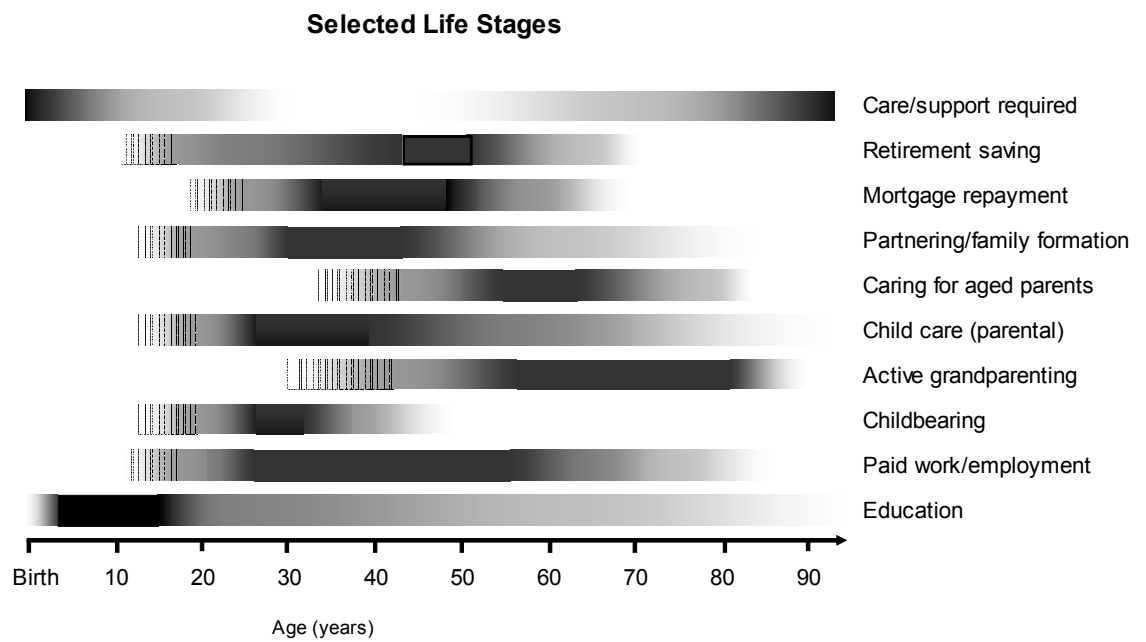
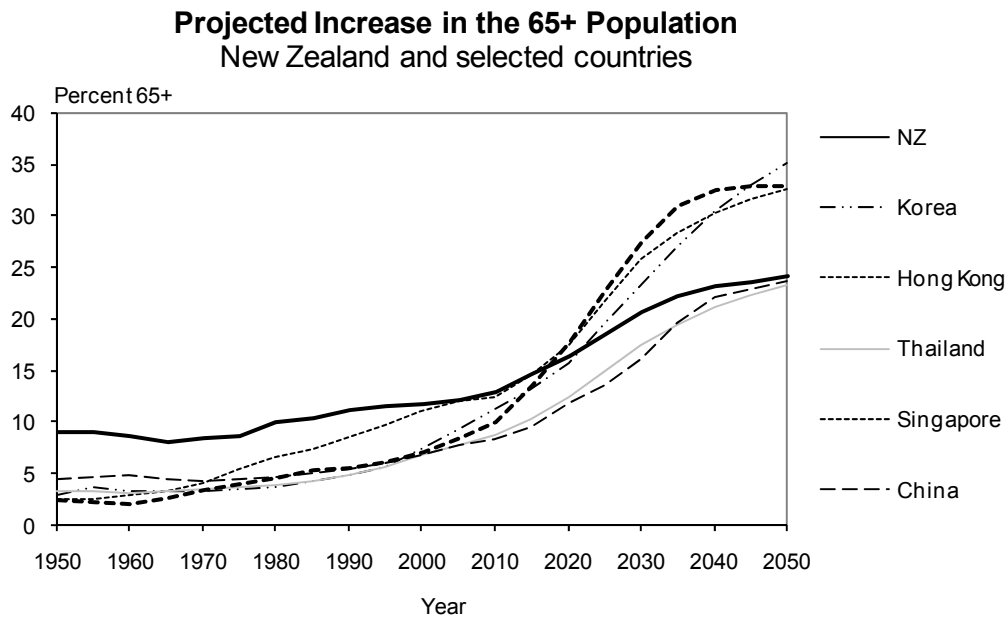


Figure 3 attempts to graphically display the timing of a number of life events. While the two age extremes of youth and extreme old age stand out, what is immediately apparent is that for most adults between the ages of 20 and 70 years, there are a large number of competing demands. This group can be roughly divided into two groups, those in the family formation stages who are caring for children and 'empty nesters' whose focus is grandchildren and parents. For some individuals, all these activities may occur together. This has become more common as delayed parenting (for financial and career reasons) has increased the intergenerational interval for successive cohorts and compressed many of these activities into ages over 30 years. For other individuals, particularly those who have chosen not to have children and/or a partner, a different set of life events exists.

Population ageing – a global phenomenon

Population ageing is increasingly a global phenomenon. Many developing nations have made the transition from high mortality and relatively high fertility to low mortality and fertility almost within a generation. These societies will need to adapt to a much more rapid social change than New Zealand (see figure 4). New Zealand is fortunate in that mortality fell in the late 19th and early 20th centuries, but fertility remained high well into the mid-20th century. Countries such as New Zealand, which experienced a baby boom (with fertility levels remaining high into the early 1960s), have a more gradual transition to an older age structure.

Figure 4



Despite some similarities in social history, population ageing is currently more pronounced in Australia, Canada, the United Kingdom, and most of western Europe (see table 1.19 in *New Zealand's 65+ Population: A statistical volume (2007)*). In part, this situation reflects slightly higher fertility in New Zealand since WWII.

The proportion of the population aged 65+ in Korea, Hong Kong, Thailand, Singapore, and China was less than half that of New Zealand's in the early 1970s (see figure 4). Within the next 15 years, Korea, Hong Kong, and Singapore will surpass New Zealand and have a larger proportion of their population aged 65+. Thailand and China are set to surpass New Zealand in the mid 21st century. Not surprisingly, international labour markets may become increasingly competitive, particularly for young and skilled workers. Nevertheless, India, the Middle East, Africa, and the Pacific Island nations will retain youthful age structures for many more decades.

Labour demand and trans-national families

Labour demand caused by population ageing may result in trans-national families becoming more common. Not only will demand for skilled workers increase, but ease of travel and communication will enable greater use of temporary work permits to ease labour demand, without necessarily adding to the country's population. New Zealand is already witnessing new immigration policies aimed at addressing seasonal labour shortages in the pomiculture (fruit cultivation), horticulture, and viticulture industries.²

Similarly, many other developed nations allow varying degrees of temporary migration to fulfil the demand for unskilled and semi-skilled workers in the service, construction, and farming industries. With one-fifth of Japan's population aged 65+, the Japanese are putting significant resources into developing robots as aged-carers.³ While in part this may simply be a case of identifying a commercial use for an emerging technology, the social implications of immigrants and temporary workers, cultural resistance among the elderly, and the simple issues of cost, skills, and supply are undoubtedly considerations. Japan estimates it needs 33 million immigrants in the next 50 years to offset population ageing and maintain its workforce (Cornell, 2000).

² <http://www.beehive.govt.nz/release/more+flexibility+foreign+seasonal+labour+workers>

³ <http://www.uow.edu.au/arts/sts/bmartin/pubs/O6spp.html>

Demographic transition draws to a close

In New Zealand, the demographic transition to an older population structure is nearing its end. Although the ageing of the population is sometimes wrongly viewed as being a result of the large 'baby boom' cohorts born post-WWII, these generations did little more than delay and prolong the transition. Indeed, developing countries *did not* experience baby booms, but they are facing much more rapid age transformations.

As New Zealand's population has aged, the associated structural change has affected successive age groups in the population. Demand for maternity hospitals, schools, jobs, and housing has consequently shifted. Society has adapted to these changes without much pain through migration, investment, and redefining life stages and roles. As ageing progresses, there are indications that adaptation is already happening at older ages. In the past twenty years, marked shifts have occurred in attitudes to, and expectations of, people aged 60–64 years. Moreover, defining a group as old purely based on age is becoming less and less acceptable.

Attitudes will continue to evolve as the final effects of the demographic transition are felt at the very oldest ages. Yet while the experience of ageing may differ, health care and support services tend to be a feature of extreme old age. The role of the family, the market, and the state in the provision of these services is likely to remain a contentious issue. For, while a school or a maternity hospital is an investment in the future for which the family, community, and taxman can all anticipate a return, a dementia care unit or a hospice is often the final cost of past returns.

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