

Social Perspectives

6

Retirement Expectations: How long do we expect retirement to last?

Alison O'Connell

Introduction

Most of us are intrigued by how long we might live. How long we *expect* to live is a different question and, perhaps surprisingly, one that has not been explored in depth. In the context of retirement planning and superannuation policy, how long we expect to live provides an assumption for when retirement will end. Subtract expectations for retirement age and this gives an implicit assumption for how long we expect superannuation and other retirement resources to last.

This paper discusses survey research that shows how long New Zealanders expect their retirement to be. It is part of a wider project on lifespan expectations that will be reported separately. The emphasis here is on retirement planning. Before turning to the survey results and discussion, the first section briefly outlines the background to this research.

Background

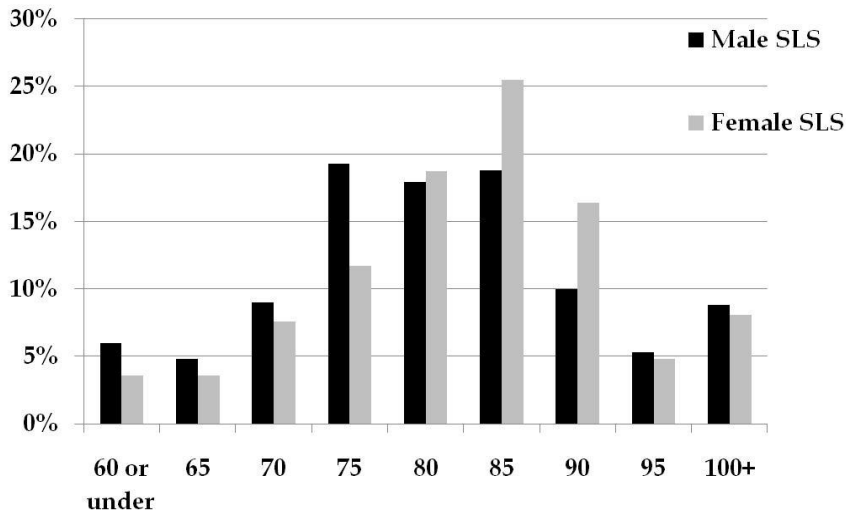
International studies have established that people tend to underestimate how long they are likely to live. The survey on how long New Zealanders expect to live was designed with reference to such studies, including: Banks et al (2004) and O'Brien et al (2005) in the United Kingdom; Hurd and McGarry (1995) and Mirowsky (1999) in the United States; and van Solinge and Henkens (2010) in the Netherlands. However, the New Zealand survey has a wider scope than most international studies as it covers the entire adult population. The analysis also goes deeper, particularly to compare expectations with *future* longevity trends. Further, it probes how people choose their expected age of death; how individuals vary in their expectations and why; and how people take lifespan into account for retirement planning. This paper covers only the last of these topics.

The data were gathered in the ANZ–Retirement Commission Financial Knowledge Survey of 2009. The survey questioned 850 adult New Zealanders to measure their financial knowledge and find out about financial behaviour. Most of the survey results have been published (ANZ–Retirement Commission, 2009). Technical details are in Colmar Brunton (2009). The survey results are weighted to represent the New Zealand population aged 18 and over.

Shape of lifespan expectations

The survey asked ‘What age do you think you will live to?’. Respondents were offered a show card with multiples of five years: 60 or under, 65, 70 ..., 100, over 100. The response is defined here as subjective lifespan (SLS). The distribution of SLS among women is different from that of men (Figure 6.1).

Figure 6.1: Frequencies of subjective lifespan in the New Zealand adult population



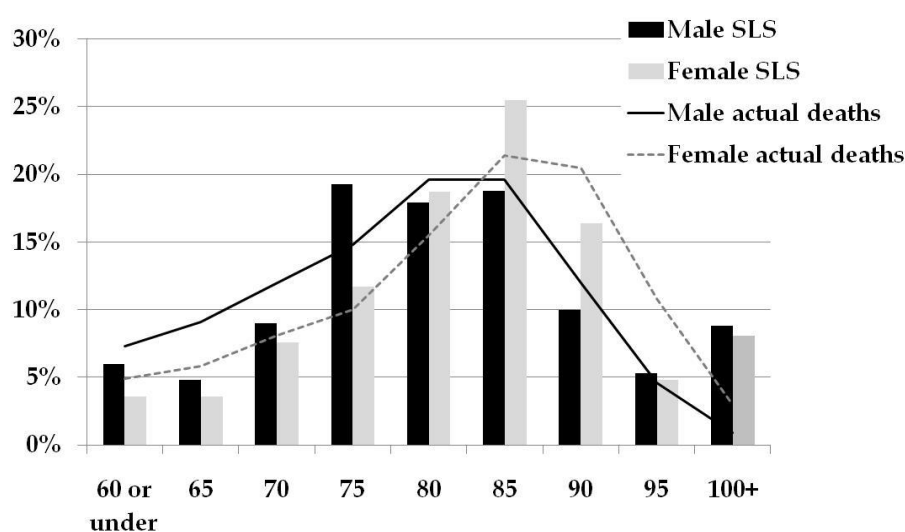
Note: n = 365 males, 361 females who gave a subjective lifespan (SLS).

Source: Author’s analysis using data from ANZ–Retirement Commission Financial Knowledge Survey 2009.

The female distribution of SLS has a single, strong peak at age 85. The male distribution is flat from 75 to 85, but weighted more towards younger ages, and there are higher proportions of men than women at both the lowest and highest SLS. The weighting of men’s SLS towards younger ages suggests that it is well known that men have shorter lifespans than women on average. The higher proportions of men at the oldest ages, when the majority of centenarians are women, are probably a result of gender differences in propensity to say ‘don’t know’. Twice as many ‘don’t know’ responses to the SLS question were from women as from men. The men who give an SLS are therefore more likely to be guessing than the women who do. This may explain why more men than women choose the less likely but optimistic extreme.

The distribution of age of actual deaths in New Zealand is strikingly similar to the distribution of SLS. The lines in Figure 6.2 represent the ‘curve of deaths’ – the relevant proportions of actual deaths at these ages in the year of the survey.

Figure 6.2: Subjective lifespan compared with actual deaths in New Zealand



Note: 100% = deaths over age 57; SLS = subjective lifespan.

Source: Actual deaths 2009, Statistics New Zealand.

The two distributions appear to be a good fit except that the modal SLS for men at 75 and women at 85 exaggerate the peaks and the SLS at age 100 and over appear over-optimistic, especially for men. Individuals make their choice for SLS based on a variety of factors. For most people, this appears to be more emotional than rational (based on further analysis of the survey results not presented here). But *collectively*, the expected lifespans of adult New Zealanders look broadly rational, in the sense that they form a distribution similar to that of actual ages at death. This suggests that people take their view of their prospective lifespan from the pattern of deaths they see around them. However, the current pattern of deaths is not the likely future reality. That would require death rates to stay the same for the next few decades, which has not been the case in recent history.

To examine whether the SLS are close to likely reality, some international studies compare the average SLS by gender with population life expectancy at birth from a published life table. This analysis is not insightful. First, the average hides potentially large differences between SLS and life expectancy for some individuals. Second, population life expectancy at birth is not the correct life table measure for total lifespan for each individual in that population. All other things being equal, a life table will show a higher lifespan for an 80-year-old than a 20-year-old. Having already lived to age 80, the chances of living to age 81 are higher than the chances of surviving from age 20 to age 81. Third, the life tables often used are historic and do not reflect what future lifespans may plausibly be expected.

This analysis addresses these criticisms. Each SLS is compared with the life table lifespan relevant to the specific age and gender for that respondent. Lifespan is calculated as age now plus remaining life expectancy for that age and gender using various life tables published by Statistics New Zealand. The gap between each SLS and benchmark lifespan then forms a distribution for analysis.

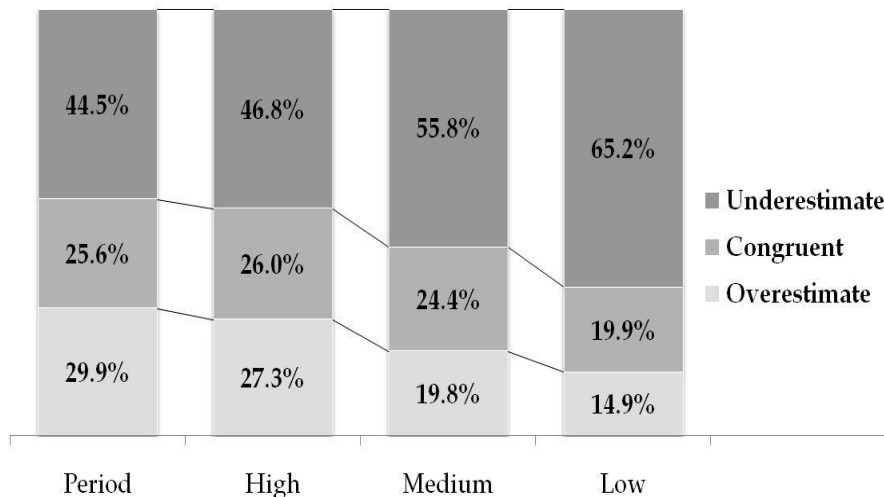
The comparison of SLS with a published life table is not a test of accuracy. Life tables simply provide average measures for a hypothetical population. In a 'period' life table, average remaining lifespan is calculated assuming that mortality rates of the period continue into the future. This is an artificial measure as mortality rates change over time. Instead, 'cohort' life

tables use assumptions for how mortality will change in future. There are three variants of Statistics New Zealand’s total population cohort tables: high, medium, or low mortality, each becoming more optimistic about the pace of mortality improvement. Each variant assumes continued improvement in mortality, that is, continued lengthening of lifespan. This is consistent with the majority view of demographers internationally, although the pace of improvement is a contentious issue (Carnes and Olshansky, 2007; Christensen et al, 2009). Because improvement is assumed, lifespans from cohort tables are longer than lifespans from the period table. For example, the average lifespan for the New Zealand female population at age 45, from the latest complete period table (2005–07) is 83.6 years. From cohort life tables, the average lifespan for women aged 45 in 2006 ranges from 85.5 years to 88.7 years. Cohort life tables do not represent a certain prediction for future lifespans, but they do represent what Statistics New Zealand considers suitable estimates. The test here is how SLS compare with official lifespan estimates.

The crucial question for retirement planning is whether people underestimate their lifespan. If they do then, whether or not they plan explicitly, they risk having a longer retirement than their savings will cover, or will be on New Zealand Superannuation (NZS) alone for longer than they think, or will give up work earlier than they ideally should have done. Longevity risk in the context of individual financial planning for retirement is defined as the possibility of living longer than assumed (Stallard, 2006).

Figure 6.3 shows the estimated proportion of the adult population whose SLS is congruent with an overestimate or underestimate of the relevant lifespan for age and gender from different life tables. The first column shows period table data; the next three columns show future mortality on cohort tables. The proportions underestimating increase as the assumptions for mortality get more optimistic, moving from left to right.

Figure 6.3: Subjective lifespan compared with life table benchmarks



Note: n = 365 males, 361 females who gave a subjective lifespan. ‘High’, ‘medium’, and ‘low’ refer to cohort life tables of different variants, as explained in the text.

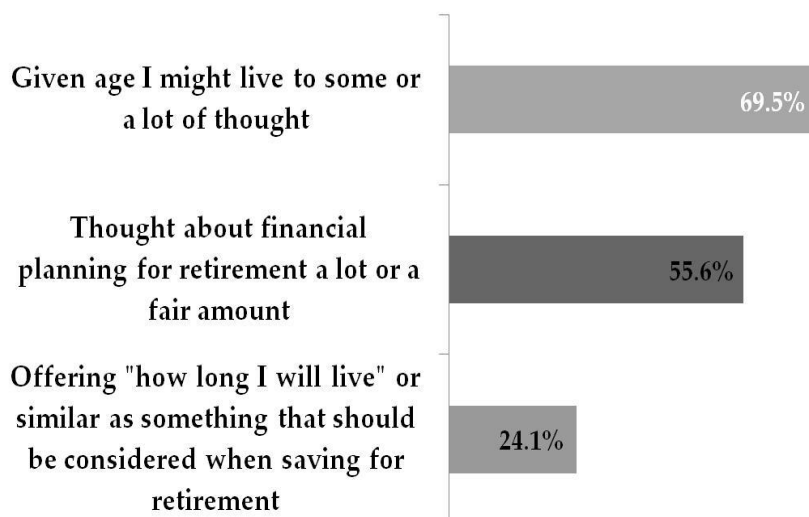
Source: Author’s analysis using data from ANZ–Retirement Commission Financial Knowledge Survey 2009. Life table data from Statistics New Zealand, period table 2005–07.

Even on the assumption that mortality will not improve in future, there are around 45% of adult New Zealanders underestimating their lifespans. On the most optimistic assumption for mortality improvement shown here, nearly two-thirds underestimate their lifespans. The extent of underestimation can be significant. The maximum underestimation of SLS is 25 years under the period table and 30 years on the most optimistic future table.

Retirement expectations

Given this tendency to underestimate lifespan, in some cases significantly, how does this relate to retirement planning? Figure 6.4 shows how much New Zealanders think about retirement planning and lifespan.

Figure 6.4: Thoughts about retirement planning and lifespan; estimated proportion of adult New Zealanders



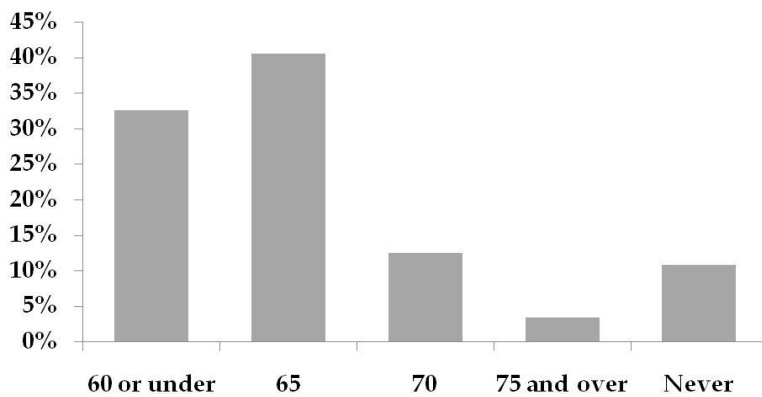
Note: n = 850.

Source: Author's analysis using data from ANZ-Retirement Commission Financial Knowledge Survey 2009.

Most New Zealanders have thought about the age they might live to. Fewer have thought about financial planning for retirement. Fewer than a quarter appear to have put the two together. When asked the open question 'What should be considered when thinking about saving for retirement?', only 24% answer 'how long I will live' or similar. Other factors are more widely known. An estimated 75% provide responses to do with required spending in retirement. It appears that people generally do not plan their retirement with an understanding of how long they are likely to live. Instead, thinking about likely lifespan happens mostly outside retirement planning. This means that retirement planning may depend on an adviser's assumption for lifespan; or an assumption for lifespan may be implicit. As the previous section showed, an assumption is likely to be an underestimate.

A further survey question was 'At what age, if any, do you think you are most likely to retire?'. Retirement was defined as to 'stop full-time work with no intention of working full time again, although you might still do a little part-time work or some voluntary work'. Figure 6.5 shows the distribution of likely retirement age.

Figure 6.5: Likely retirement age, estimated percentage of adult New Zealand working population



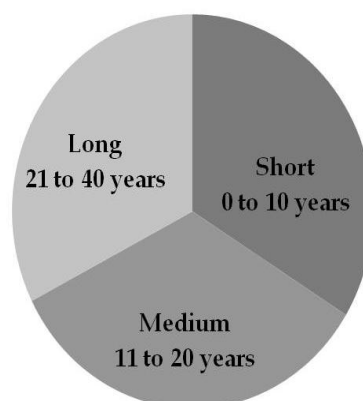
Note: n = 671 workers who gave an intended retirement age. The age categories were pre-coded.

Source: Author’s analysis using data from ANZ–Retirement Commission Financial Knowledge Survey 2009.

An estimated 70% of the working population intend to retire at age 65 or below. Retirement at age 65 is the most popular. Controlling for other factors, choosing a retirement age of 70 or more (compared with one of 65 or less) is significantly more likely for older New Zealanders, for males, and those who think they are going to live to the median SLS (age 85) or more. Choosing a retirement age of 65 or below is significantly more likely for New Zealanders of high net wealth, high financial knowledge, and for those who gave New Zealand European as their sole ethnicity.¹ As people get closer to likely retirement, or if they think they are going to live longer than the median, then they may increase their intended retirement age. Conversely, if they believe they have sufficient financial resources they intend to retire early. Retirement intentions, while strongly guided by the age of eligibility for NZS, appear pragmatic.

Implied length of retirement (ILR) for each respondent was calculated by subtracting likely retirement age from SLS. It is ‘implied’ rather than ‘intended’ or ‘likely’ length of retirement, because, as shown above, the majority of people would not have explicitly carried out the calculation for themselves. The ILRs obtained were grouped into three equally sized tritiles, as shown in Figure 6.6. An estimated third of New Zealanders expect, explicitly or more likely implicitly, a retirement of 10 years or less, but another third expect a retirement of well over 20 years.

Figure 6.6: Implied lengths of retirement for the New Zealand adult working population, by tritile



1 The details of this analysis are not shown here but are available from the author on request.

Note: n = 603 workers who gave a subjective lifespan and intended retirement age.

Source: Author's analysis using data from ANZ–Retirement Commission Financial Knowledge Survey 2009.

Longevity risk exists whatever the ILR. Those with short ILRs may not be able to find or do the work they expect to have at older ages. They may find that their retirement income does not last if they live longer than they expect. Those with long ILRs are more likely to choose a low retirement age and a high SLS. Their risk is that they have not prepared financially for the long retirement they are implicitly or explicitly expecting.

Conclusions and discussion

In the context of uncertainty about future lifespan prospects there is an apparent bias towards underestimation. This suggests there is longevity risk. People are likely to live longer than they expect in their retirement planning. Members of the population have a wide range of expectations for when they are going to die, and a narrow range of expectations for when they will retire. Individuals' expectations for their lifespans appear generally disconnected from retirement planning.

If policy makers wanted to help people avoid longevity risk, further encouragement could be given to using realistic assumptions in individual retirement planning, on retirement age, age at death, and the length of time between the two. The Retirement Commission suggests potential ages at death for use in the retirement planning calculators on its 'Sorted' website. These potential lifespans are based on age and gender and assume some future improvement in mortality.

If policy makers want to encourage people to continue to work at older ages, this analysis suggests two approaches based on the way people set their intentions for retirement age. First, the age of eligibility of NZS sets a strong marker for intended retirement age, despite there no longer being any reason why it should. Therefore, raising the age of eligibility would send a powerful signal about expectations of retirement age. This is distinct from the debate about options for reducing the cost of NZS in future, although working at older ages contributes positively to that debate.

Second, people with higher expectations for their lifespan are more likely to intend to work beyond age 65 than those with lower SLS. Realistic public information about likely ages at death *in future* may help to counteract the bias towards underestimation of likely lifespan, which may be partly caused by basing SLS on current ages at death. For example, cohort life tables with an assumption of future improvement in mortality could be referenced more often and more clearly. However, the period table that assumes no future mortality improvement is still the most common source for policy and media commentary.

Finally, policy makers may also be prone to underestimation of future lifespans. In this context, longevity risk occurs if the assumptions used in policy planning underestimate the number of years for which people will collect superannuation. It can further be hypothesised that if people underestimate their own likely lifespans, they may not accept the rationale for policy changes that anticipate longevity improvement, such as raising the age for eligibility for superannuation. A national debate on the likely course of longevity in New Zealand could bring together evidence and expert judgement on what assumptions for future mortality change are plausible. This could help to refine the population projections that form the basis for long-term fiscal modelling and public messages about longevity.

References

- ANZ–Retirement Commission (2009) *2009 Financial Knowledge Survey: Summary*. Wellington: Retirement Commission. www.financialliteracy.org.nz.
- Banks, J, E Carl, and Z Oldfield (2004) ‘Not so brief lives: Longevity expectations and wellbeing in retirement.’ In I Stewart and R Vaitilingam (eds) *Seven Ages of Man and Woman* Swindon: Economic and Social Research Council.
- Carnes, BA, and SJ Olshansky (2007) ‘A realist view of aging, mortality, and future longevity.’ *Population and Development Review* 33(2): 367–381.
- Christensen, K, G Doblhammer, R Rau, and JW Vaupel (2009) ‘Ageing populations: the challenges ahead.’ *Lancet* 374: 1196–1208.
- Colmar Brunton (2009) *2009 Financial Knowledge Survey*. Prepared for the Retirement Commission. Wellington: Colmar Brunton.
- Hurd, MD, and K McGarry (1995) ‘Evaluation of the subjective probabilities of survival in the health and retirement study.’ *Journal of Human Resources* 30 (Special Issue on the Health and Retirement Study: Data Quality and Early Results): S268–S292.
- Mirowsky, J (1999) ‘Subjective life expectancy in the US: Correspondence to actuarial estimates by age, sex and race.’ *Social Science and Medicine* 49: 967–979.
- O’Brien, C, P Fenn, and S Diacon (2005) *How Long Do People Expect to Live? Results and implications*. Centre for Risk and Insurance Studies Research Report 2005–1 Nottingham: Nottingham University Business School.
- Stallard, E (2006) ‘Demographic issues in longevity risk analysis.’ *Journal of Risk and Insurance* 73(4): 575–609.
- van Solinge, H, and K Henkens (2010) ‘Living longer, working longer? The impact of subjective life expectancy on retirement intentions and behaviour.’ *European Journal of Public Health* 20