

The Economics of Population Ageing
- New Zealand Treasury Working Paper
- prepared by John Stephenson and Grant Scobie

Comments on the paper from the New Zealand Society of Actuaries

1. p 2, section 2.1:

Three points of clarification need to be included.

(i) *Life Expectancy* (paragraph 1)

Mortality tables deduce death rates prevailing at a single time, for all ages. They do not reliably deduce life expectancy, which spans a period of time because there may be underlying cohort effects: effects such as the increased lifetime health of those that lived through the deprivations of war, or an underlying systemic change in the ethnic makeup of the population. Recent improvements in declared life expectancy might not be maintained due perhaps to our now richer diets, or the increasing numbers of less long lived ethnic groups.

Medical advances and improved treatment techniques might lead to further mortality improvements, but on the other hand a significant future challenge to the health of New Zealanders could arise. Life expectancy looking forward 50 years is not an exact science.

(ii) *Immigration* (paragraph 2)

It is unreliable to view the New Zealand population in relative isolation from the demographics of the world. If populations in neighbouring countries are desperate to leave their perceived overcrowded or unsafe communities there may well be significant future implications for the level of migration. An assumption of a net average population gain of 5,000 from migration could be unrealistic and indeed may be the subject of government policy initiatives.

Stochastic modeling of future population numbers, taking into account changing population makeup, uncertain life expectancy, and migration, would provide a better understanding of the population dynamic.

(iii) *Working Age Population* (paragraph 3)

The third paragraph of chapter 2.1 discusses "dependency ratios" and defines "working aged people" as those between 15 and 64. A problem arises thereafter in that the phrase "working age population" starts off here meaning those aged between 15 and 64 but is later used in (or implied by the reader to refer to) a different context to describe variously the workforce (p 14) or the labour force (p

5/6, 8, 9, 14 & 16), and finally to be relied on when the paper says that there will be a reduction in the total labour supply. There is a need for clear definitions of these terms and for further research into how the ageing of the population can indeed be expected to impact on "the labour force": - plus its impact on total Government tax receipts and on GDP growth.

If the population lives longer, then those passing age 65 may be healthier, may be part of the labour force, and may be more productive than at present. Our predominantly primary industry focus in New Zealand may be more readily continued by (or entered into by) an aging population where technology and machinery can help a lot. The paper needs to widen its scope from a discussion between "services" and "manufacturing" jobs to also include our primary industries.

It is too crude to talk of the labour force as being materially only those aged 15 to 64, when the elderly over the next 50 years might well be contributing a growing percentage of say service revenues in GDP from, for example, computer and internet services provided from home, or in paid under-the-counter work that might not be recognised in GDP, or of say voluntary welfare work. Their contribution to GST revenues and income tax on their savings as well as their earnings must also be factored into their contribution to society.

2. p 2, section 2.1:

Paragraph 4 includes the statement "Also, the degree to which people outside the working age population represent a burden upon productive members of society...". The words "a burden" should say "an asset, or a burden". It is not clear that those over age 64 will be a burden. Nowhere in the paper is there sufficient analysis:

- (i) of the size of the diminished use the aged make on policing, schooling, roading ... etc, offset by the increased use of public transport, health services ... etc, nor
- (ii) of the tax revenue that is gleaned on behalf of the aged from GST, declared earnings, or from investment income for example, nor
- (iii) of the social impact that the aged have in our community in such things as voluntary welfare work.

The concept of people becoming a burden at some time in their life is not acceptable anyway. Government revenues come from companies, individuals, GST, ... etc and span the population at large. There really isn't room for the argument that different age groupings should pay more, or less, in taxes; rather tax is like insurance premiums being paid at the same, or similar, rate by all to cover all the needs of state.

3. p 3, paragraph 2:

Migration impacts will introduce greater uncertainty.

4. p 4, section 2.2, paragraph 3:

The reader will find the statement quoted from Lepina 2000, p.406 somewhat contradictory with other statements in the paper. The statement "Almost all regions that will have a rapid growth in their elderly population are equally well the areas whose overall growth will exceed that of New Zealand as a whole." needs better explanation as to what that overall growth refers to.

5. p 4, section 2.3, paragraph 1:

This paragraph can lead the reader to consider the consequences of inheritance when the "fewer children" benefit from the savings of their deceased parents. There may be some helpful research that could add valuable insight into the way retired individuals in New Zealand consume their wealth or leave it to their children.

6. p 4 & 5, section 2.3, paragraph 3:

The first simplified model refers to the total savings in the economy, whilst the second OLG model refers to the rate of savings, which is a very different concept. For the aged, however defined, total savings could be expected to be high, but their rate of savings could be expected to be negative. If, as is stated elsewhere in the paper, those currently at the older end of "the working population" are the savers, then the current demographic bulge in this group bodes well for the level of total savings by 2020. These issues need teasing out at this point.

7. p 5, 6, 7, & 8, section 3:

This is the section where a more rigorous concept of the "Labour Force" is necessary, considering the issues in item 1 (iii) above. Some of the conclusions are confused without a clearer concept.

8. p 7, paragraph 1:

Evidence cited suggests that the age of retirement declined up to the year 1995. Such evidence depends on the definition of retirement: The 1990's saw a wave of restructurings and redundancies which involved many 50-65 year olds "retiring" from full-time work. Some continued to work part-time but whether this has been counted as "retirement" is not clear. There is room for better analysis on what retirement represents.

It is not clear that the trend to earlier retirement will continue for three reasons;

(i) *State Retirement Age*

The age of eligibility was 65 for males in 1950, and 60 for females. The subsequent lowering of the state retirement age for males can be expected to have resulted in a lowering in the average retirement age by 1995, especially considering the impact of a superannuation surcharge and an income tax trap on earnings in addition to the state benefit.

Now the age of eligibility for New Zealand Superannuation has increased again, over the period 1990-2001, from age 60 to age 65. This may have a profound impact on the assumption, used later in the paper, that retirement ages are reducing.

There is however some evidence from the UK that retirement ages there are reducing, even apparently without any clear explanation.

(ii) *Affordability*

Over the same period, the number of New Zealanders participating in employer-sponsored superannuation schemes has declined. Retirement patterns can be expected to be influenced by the relative wealth of those retiring (refer section 4.5, p15) so research is indicated into the future trend of retirement.

(iii) *Demand for skilled labour*

In the future there may be more labour demand for older workers as the supply of skilled young workers dwindles. A lack of technological skills is cited as a factor in firms shedding older workers in favour of younger workers. However, there is a view that the rapid burst of technological change experienced over the last 10 years will not continue at the same pace. The current cohort of over 50's is probably the last to leave the education system before the advent of widespread use of computers. Future cohorts will have received at least some IT training.

9. p 7, paragraph 2:

The comment about private pension schemes not giving extra retirement benefits for added contributions with delayed retirement is wrong. It is firstly questionable if just "pension" schemes are very relevant to the retirement decision now, with so many lump sum schemes in the market. But it is also true that most pension schemes give fair value for deferred retirement and additional contributions.

10. p 7, paragraph 5:

The comment that greater certainty of retirement income would lower labour force participation rates amongst older workers is misleading and needs greater analysis and, we agree, needs research for two major reasons:

- (i) The greatest uncertainty on retirement is one's longevity so retirement income is seldom very certain being partly dependent on one's savings and one's longevity.
- (ii) The measurement of labour force participation is confused by the lack of clarity on the issues raised at item 1 (iii) above.

11. p 8, paragraph 2:

This paragraph needs clearer exposition of what is meant by the future supply of labour inputs (factoring in unpaid work, work by the over 65's ... etc), and by stochastic analysis of the future population.

12. p 8, paragraph 4:

This analysis of possible productivity decline from a future reduced level of advanced skills in the economy does not factor in the possibility that the elderly might help make up the deficit. There is room for better analysis of such a possible impact.

13. p 8, paragraph 5:

The putative lower rates of labour force participation from Maori and Pacific Islanders may not be factoring in part time work, paid but untaxed work, nor might it be factoring in unpaid work. In addition the implications of the future population having greater numbers of Maori and Pacific Islanders may alter the population demand for Government services, something that could be better analysed.

14. p 10 to 13, section 4.1:

This discussion of the demand for future health expenditure for the aged has no satisfactory conclusion and requires further research.

15. p 13, section 4.2:

Public provision of retirement income is predicted to double as a percentage of GDP but stochastic analysis of the future population would indicate the degree of uncertainty of this prediction. The impact of a changing ethnic makeup of the population for example might change the numbers living to old age and drawing New Zealand Superannuation.

16. p 14, section 4.4:

Reference to Government revenue problems surrounding a declining working population needs to be carefully analysed in terms of item 1 (iii) above and of course the uncertainty over the future population makeup.

In addition the factors constraining Government's tax policy options in future are likely to be the tax regimes and demand for skilled workers in other developed countries (especially Australia), and resulting migration. New Zealand will be (and in fact, already is) competing with Australia and other developed countries for its young skilled labour.

17. p 17 & 18, section 5.1

The outcome that investment by people as they get older will favour fixed income returns needs to be tempered by the recognition that New Zealand savers have not recently been motivated significantly by tax breaks, but more by “risk” and “return”. This concentration on economic reality may militate against the making of “conservative” fixed interest investment assumptions by the aging. There is scope for additional research on this point.

18. p 18, paragraph 3:

Reference to “house prices will fall” needs better analysis as it is quite possible that the price of large houses will fall, but the price of low maintenance, smaller houses (e.g. townhouses) may rise as retirees trade down. There is also likely to be significant regional variation (e.g. house prices in the Bay of Plenty, Nelson and other retirement "sun-belts" could increase).

19. p 20, section 6.2:

This section begins by taking for granted “The projected reduction in the labour force ...” without considering the implications of item 1 (iii) above. The case is not proven, and indeed it brings into question the interpretation and results of the quoted GDP growth rate formula.

20. p 21, paragraph 4:

As a result of the issue raised at item 19 there is then less certainty over the claim of a future increasing capital to labour ratio.