Glenn Stevens: Finance and the ageing population

Address by Mr Glenn Stevens, Deputy Governor of the Reserve Bank of Australia, at the Financial Planning Association of Australia Limited, Gold Coast, Australia, 16 November 2005.

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There has been much talk about the phenomenon of population ageing in recent years. Some of the figures, on their face, are stark. As a result of declining fertility, and rising longevity, the median age of the world's population is increasing by about three months each year.[1] In Australia, whereas today there are about five people of 'working age' for every person over 65 years, by mid century there will be just over two, according to ABS population projections.[2] Assuming all other things unchanged, that implies a substantial impact on the rate of growth of per capita national income, and on the proportion of national income required to sustain the non-working part of the population. That, in turn, would raise thorny issues of income distribution and require careful management of the policies which affect that distribution.

Whether such an assumption – that all other things remain unchanged – should be made is another thing altogether. Indeed, if we know anything about economic behaviour at all, it is that everything else won't remain constant in the face of such profound changes in society's age structure (forecasts of which, themselves, assume that recent fertility rates persist, even though we know that fertility rates have varied a lot, in both directions, in the past eighty years). Individuals, markets and economies will adjust to these changes. I would like to explore some of the possible adjustment issues today.

Much of the discussion of the ageing issue to date in Australia has been about the impact on government budgets (a lot of which seems to come via the health system, rather than solely through age-specific payments per se). Those matters are important, but surely there will be counterpart issues for private financial markets. In addressing a group of financial planners, it would seem appropriate at least to pose some of those questions, even if we cannot provide many of the answers.

What is ageing and why does it occur?

In popular discussion we often hear about the ageing 'baby boomers'. This generation – those born between 1946 and about 1965 – is getting close to retirement. Indeed, some members of the leading edge of this cohort have presumably started retirement over the past few years, and many more will be thinking about it in the next few years. There has been considerable speculation about the impact that this may have had, and prospectively might have, on asset market prices and returns. Some commentators have attributed the share market boom in many countries in the late 1990s to the efforts of 'boomers' to accumulate assets in their high-income, immediate pre-retirement working years.[3] There is a corresponding concern in some quarters that, as boomers move through their older years, they will sell assets to facilitate consumption, leading to a slump in asset values.

There are a few problems with that story, not least of which is that saving rates have tended to fall, rather than rise, in the past decade at the time when boomers were supposed to be seeking rapidly to build their net worth.[4] But there is no doubt that the baby boom is an important demographic phenomenon. It was the result of a surge in fertility rates during and after the Second World War, after

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[1] UN Population Division, *World Population Prospects: The 2004 Revision Population Database* http://esa.un.org/unpp/index.asp?panel=1).

[2] ABS Cat. 3222.0, *Population Projections, Australia 2002 to 2101*.

[3] See discussion in J. Poterba (2004), 'The Impact of Population Aging on Financial Markets', in *Global Demographic Change: Economic Impacts and Policy Challenges*, A Symposium Sponsored by the Federal Reserve Bank of Kansas City, Federal Reserve Bank of Kansas City, Kansas City, pp. 163–216 http://www.kc.frb.org/PUBLICAT/SYMPOS/2004/pdf/Poterba2004.pdf).

[4] Another is that, in cases where we have information on asset decumulation in old age, it has historically been much smaller than would be consistent with the basic life-cycle saving view of the world. If that continues to be true, the mooted slump in asset values as the baby boomers run down their savings might be a more modest, drawn-out affair than sometimes feared.

a slump which had started in the early 1920s and extended until the mid 1930s. Baby boomer women themselves, on the other hand, had lower fertility rates than their mothers, so that the succeeding generation, the children of the boomers, is relatively smaller. Thus the boomers are disproportionately large in the age distribution compared with both the previous and succeeding generations, and as they age, all other things equal, the median age of society rises.

But it is worth noting that there would be ageing even if the baby boom had never occurred. Declining fertility is a long-term trend observed in all countries as part of the 'demographic transition'. Indeed, maybe the baby boom is best seen as a temporary departure from the long-term trend decline in fertility, in which case it actually put off ageing by a generation or so.

Furthermore, aside from the influence of declining fertility, increasing longevity contributes to ageing of the population. Importantly for financial markets and planners, life expectancy has continued to increase, presumably due to numerous factors including advances in medicine and nutrition, and healthier lifestyles (e.g. a large decline in smoking).

So ageing is not just about the baby boomers, as prominent a cohort as they (or we) are. The effects of the baby boomers are superimposed on a longer, more profound, trend, and they will eventually pass (though, admittedly, that is still some time off). The more far-reaching and long-lasting economic effects of ageing will come about more from the effects of longevity and declining fertility than from 'boomer' effects.

Why should individuals care about ageing?

Insofar as ageing occurs because of increased longevity, it's hard to see it as a bad thing. Unless increased longevity is of the type that involves an elongated period of being seriously unwell before death, and there is no evidence that that is the case, it is surely a good thing. People can look forward to being productive at things they enjoy, to consuming goods and services, and to enjoying the non-pecuniary 'goods' of life for longer.

The problem comes about simply because people have to make decisions with significant long-run consequences at various points in their life. They make decisions about saving and asset allocation through their lives. And, of course, one of the biggest decisions is when to retire from the workforce. If this decision is more or less irreversible, then the individual has to ask: have I got enough assets to last me until I die?

Rising life expectancy undermines the assumptions typically made in this area. Since the mid 1970s, life expectancy at age 65 has risen by about four years, to about 83 for men and 86 for women. Quite possibly it will keep edging up at that rate.

Consider then someone who is today about 50 years of age, and intends retiring a decade from now. By retirement, they will probably face a world in which they can expect to live five or six years longer than they would have anticipated (had they thought about it) when they started work in the mid to late 1970s. Which means, if they were planning to provide for their own retirement needs out of accumulated savings, based on assumptions made earlier in their lives, they quite possibly will find that they won't have enough. The fact that most of us didn't think about this when we started work, of course, won't help matters.

This is a complex area, and I am conscious that all of you in this room have far greater technical expertise than I in the actuarial intricacies of retirement income sufficiency. But if we imagine an individual with an expected forty-year working life, and a plan to accumulate enough assets to provide a reasonable fraction of pre-retirement income after they retire, with plausible assumed saving rates and asset returns, we can ask what effect a rise in life expectancy of, say, five years would have on the calculations for asset sufficiency. Roughly speaking, there would need to be a rise in the saving rate of several percentage points of income through their whole working life. Alternatively, asset returns would need to be perhaps 50 to 75 basis points higher, risk adjusted, through their whole working life. A third possibility is that our representative person could simply accept a lower retirement income. Finally, he or she could decide to retire later than originally planned, so accumulating more assets and shortening the draw-down period. Some combination of these possibilities could also be adopted, of course.

These sums are arrived at in a hypothetical, modelled situation for the representative individual. But in practice, for many people, by the time they realise that they will have a problem of insufficient assets, it is quite likely to be late in their asset accumulation phase. So they can't save a few extra percentage

points of income over their whole life; they would have to save a great deal more over a short period towards the end of their working life. Nor will extra yield equivalent to half a percentage point or more every year for forty years be easy to find, at least without taking much more risk (wherein lies a major issue). It would be even harder to find if everyone is simultaneously attempting to save more since rates of return would be bid down. Equally, most people would find the prospect of noticeably lower post-retirement income hard to accept.

So, in the end, my guess is that while people will adjust their saving behaviour to some extent, and this will have an effect on financial markets, a large part of the adjustment to the recognition of increasing life expectancy will ultimately need to take the form of prolonging working lives. The existence of the old-age pension, on which people can fall back if their own funds are inadequate, naturally complicates the analysis. Even so, one way or another, surely increasing longevity means we will have to get used to the idea of retiring later than we might once have done. In fact, the rule of thumb is likely to be that the proportion of total expected life spent working will need to be roughly constant, as life expectancy increases.

People will start to make that adjustment naturally. I think it is probably already beginning. Presumably a role for public policy is to foster the adjustment, by making sure that the retirement income system does not inadvertently offer incentives in the opposite direction. That is a big topic, and would take me outside my usual area of expertise. So I shall turn instead to some of the implications of ageing for financial markets.

Why should financial markets care about ageing?

We have established that, for individuals, ageing in the form simply of living longer means that earlier notions of retirement age and asset sufficiency will be revisited. We need then to think about the various effects on financial markets. For as individuals seek to adjust their own behaviour, including through saving, investment and work/retirement decisions, there will surely be effects on market pricing and structure.

In a world in which people live longer and enjoy longer retirement, they will need to build a higher stock of savings with which to retire. For a given length of working life (an assumption to be relaxed in a moment), this would require a higher rate of saving in each of their working years, and lower annual consumption every year of their life. The total size of accumulated assets would be higher in every year of life than would be the case with shorter life-spans. The amount of savings to be invested in the economy would be higher.

The question would then arise: how would the additional capital which becomes available be deployed, and by whom? And what price changes are required to induce them to do so?

Businesses may be inclined to adopt a more capital-intensive production technology if the availability of labour diminishes relative to capital as the population ages. But economics teaches that this shift in the capital-labour ratio would be associated with a higher real wage, relative to the return on capital. This stands to reason: if the situation is one of an impending relative scarcity of workers and a relative abundance for saving looking for a use, then the relative prices of the two factors of production would alter accordingly. So overall, this sounds like a scenario in which long-run returns to capital are lower (perhaps after an adjustment period in which the bidding down of yields produces a rise in asset values).

Two things potentially moderate that tendency. First, the length of working life is not fixed and as I noted above, it seems likely that people will tend to delay their retirement. The mooted relative price change between capital and labour would reinforce that tendency by changing the incentives between work and retirement, in the direction of it being more rewarding to make the adjustment partly in the form of a longer working life, rather than entirely in the form of higher saving.

Second, in a globalised world, 'surplus' capital arising from higher saving in any given country might, instead of simply lowering returns at home, flow abroad with little impact on home rates of return.

One general prediction is that capital will flow from 'old' societies to 'young' ones, though it is actually more complex than that. Most societies are ageing; it is the different rates of ageing, and the different positions in the 'demographic transition', which would drive the potential capital flows. The 'older' societies are now seeing a decline in the share of their populations which is of working age, but some other countries, such as India and some other countries in Asia, will see a rise in this share for some time yet even though they too are ageing. This so called 'demographic dividend' arises now because

their fertility rates declined more recently than in the developed western countries. In such countries, investment rates will presumably need to be relatively higher, in order to provide the capital for the larger workforce to work with. So one might expect capital to flow towards them from countries which are more 'advanced' in the ageing process.[5]

One might have expected this to mean capital would flow into many developing countries in Asia. Over recent years, as it turns out, the reverse has been occurring. National investment rates fell in many countries in Asia after the financial crisis in 1997–98, and have not recovered much as yet. So 'surplus' saving in Asia has been flowing out of the region, towards the developed world.

This reminds us that financial flows are responsive to a great many forces; demography is only one of them. Perhaps it is not surprising, then, that attempts to distil empirically the effects of changing demographic structure on asset prices and returns in the past have had mixed results. Some studies do find a significant relationship but others don't. Even in studies where demographic effects are statistically significant, the amount of variation in asset prices and returns that is explained by demographic factors is often small relative to the total degree of variation in those things. It would seem that, given our present state of knowledge at least, the cycle of euphoria and gloom still does much of the work in driving asset prices and returns.

For that reason alone, not to mention the complexity of demographic effects themselves, any hypothesis about how ageing will affect financial prices shouldn't be held dogmatically. Added to that is the fact that the long-run state we are imagining is a long time away – assuming we ever get there. The transition towards it will have its own complications, not least because many people will only gradually recognise the implications of increasing longevity, and accordingly will adjust their behaviour only slowly. Nonetheless, a reasonable working hypothesis for the moment, in my judgement, is that we would expect to observe a tendency toward higher rates of saving, lower returns and longer working lives.[6]

Moving from these general points to more specific concerns of financial markets and institutions, a major issue exists in managing longevity risk for providers of defined-benefit pension plans. Such providers, of course, have an obligation to provide a stream of payments to pensioners for the remainder of their lives after retirement. If those lives turn out to be longer than expected, the pension plans will be under-funded.

In some countries (not Australia), funding of defined-benefit obligations is turning out to be a major issue for household-name companies who carry the legacy costs of a large number of former employees with pension and other entitlements. Only a small part of these problems seems to be due to people living longer – mainly they reflect a period of less-than-expected returns and funding holidays taken by businesses. Nonetheless, they are a picture of the sorts of problems that could arise more frequently in an ageing scenario. A public policy question which we could expect to emerge in these countries is the extent to which shareholders of the companies in question will be able to shift these obligations on to their country's taxpayers, or indeed the pensioners themselves.

But even if adequate funding is available, with the longer duration of obligations, the question is whether there are sufficient long-duration assets to hold. These factors can affect financial markets. Regulations requiring closer matching of duration in some countries in Europe have been nominated as one factor (though far from the only one) behind apparently strong demand for long-dated government securities in global markets. Some European governments have recently issued very long-dated securities – up to 50-year maturities – to tap this demand. There are also proposals to create 'longevity bonds' to help pension providers manage longevity risk. A more daring idea still is

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[5] That said, some developing countries may, in due course, age quite rapidly. In China, for example, the share of population of working age has been rising quickly up to now. But between 2010 and 2050, it is expected to decline more quickly than in the United States, and by about the same as in Germany.

[6] In theory, ageing can in some circumstances produce lower saving rates. The reason is that people have a longer period over which compounding affects their wealth, so that they need a lower saving rate each year. See, for example, D. Bloom, D. Canning and M. Moore (2004), 'The Effect of Improvements in Health and Longevity on Optimal Retirement and Saving', NBER Working Paper No. 10919 (http://papers.nber.org/papers/w10919.pdf). But in models which produce this result the yield on investment is assumed unchanged in the face of ageing, whereas it is reasonable to think that rates of return would be lower in an ageing scenario. Hence the power of compounding would probably not, in practice, be enough to allow a fall in saving rates.

that of a swap of exposures between pension funds and those industries which might expect to profit from longer life-spans.

In Australia, there are relatively few defined-benefit plans these days; the growing pool of superannuation assets is predominantly of an accumulation type. Hence, these issues of funding adequacy and long-duration asset availability do not arise to quite the same extent for our superannuation funds. The risk that a retirement plan might be under-funded has been transferred to the retiree.

Nonetheless, there is presumably a qualitatively similar, if quantitatively less pressing, issue on duration once people get to retirement, if we assume that it is desirable for them to purchase an income stream. Increasing longevity still presumably implies a requirement for assets of an appropriately longer duration to support these sorts of products; the question will be at what price they can be acquired.

In fact as a general proposition, completeness in the set of financial markets and instruments is likely to be important in managing the various issues associated with ageing. Instruments which facilitate the transformation of assets into long-run income streams will presumably be increasingly needed. It is to our advantage, therefore, that Australia's financial market participants are at the dynamic and innovative end of the spectrum when it comes to creating and adopting new instruments, and we can expect them to respond well to the changing needs of the population. Along with that will come, of course, all the associated issues of pricing and risk, and the requirement for user education.

Financial planners and ageing

What then are we to say to financial planners about the implications of ageing for their work?

It is obvious that as people come to terms with all the issues around ageing, they will focus increasingly on their saving, investment and retirement decisions. So there will be no shortage of demand for the services of good financial planners. But because the issues are of such importance, the performance of the financial planing industry will surely be subject to heightened scrutiny.

It is not for me to prescribe how you should respond to these challenges. The Reserve Bank certainly has no regulatory power over, or supervisory responsibility for, the financial planning industry. Let me simply offer two broad observations.

The first is that while financial planners have much to offer their clients in the form of advice on asset allocation and tax management, it still seems to me that probably about the biggest decision most of your clients are going to make is when to retire. I grant that for more than a few who have retired over the past two decades, the decision was not entirely voluntary. But I suspect that many people have been content to take early retirement, because they held an optimistic – probably too optimistic – set of assumptions about the future earning potential of their assets. They may well also have underestimated longevity. It gradually will be dawning on people that in a world of lower yields on most assets and increasing longevity, they are going to have to work hard at making their assets last – or, simply, work in the more normal sense of that word.

Retirement ages will tend naturally to rise in the future as people realise that they need more resources for their lengthening lives. Financial planners can probably assist that natural, and inevitable, development by giving appropriate advice. As time goes by, I think that we will see a world in which later retirement is more feasible than it might have been in the past, because the demographic changes occurring themselves mean that an excess supply of labour, common from 1970 to 2000, will more than likely give way to excess demand for labour in the future. Surely firms are going to find it to their advantage to keep their older employees, and will need to offer effective inducements to them in order to do so. So while people will need to be productive for longer in order to adjust to longer life expectancy, it will hopefully be not only more feasible, but also more rewarding, for them to expend their energies in that fashion.

Second, because increasing longevity will likely mean an ever-increasing focus on the adequacy of assets, rates of return (and, one trusts, risk), it surely follows that there will also be more attention paid to the fee structure of the service providers in the funds management and advising businesses. For fund managers, the era of high nominal yields on many assets disguised the fee structure – just as high inflation distorted a great many price signals in the economy. When yields are lower, and people have a keener appreciation of the importance of the earnings on their savings, fees are more visible. Those offering advice, who usually (and rightly) point out to people the power of compound interest,

will surely see people concerned about that power being weakened through a long flow of commissions. One can easily imagine the fees for financial advice and managing funds being of more community interest than the fees on bank accounts. This will be a challenge for the industry.

Conclusion

The phenomenon of ageing is one of the key long-run developments our society faces. To the extent that it reflects greater longevity, there is no reason to fear it (though of course declining fertility, if it proceeded far enough, would bring much bigger concerns). We simply need to adjust to it. To date much discussion has, understandably, been focussed on the impacts on government finances. As important as they are, participants in private financial markets should also take an interest. Financial arrangements will be able to adapt to the needs of an ageing population, I expect, but they will adapt more smoothly if we have some realistic discussion of the issues.

I am sure that this will provide business opportunities of one form or another for the more alert and innovative market participants, including in the financial planning industry. I wish you well in your deliberations here today, and in your future efforts to serve the community.