

Implications of Population Ageing for Different Markets

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Introduction

This chapter overviews the kinds of impacts that population ageing may have on the operation of markets in the New Zealand economy. As age structures of populations change, markets need to adapt to meet structural changes in demand. Structural changes in demand will occur because consumer demand changes with age. Young people, working-age people and older people have different needs, different expectations and different tastes.

Population age structures also have potential implications for the supply side of markets, particularly in terms of inputs to production. Age matters, for instance, in work-related decisions. It also matters for savings decisions, so affects the level of wealth and availability of capital in an economy. As such, ageing can impact on the ability of markets to change to meet the changing demands of an ageing society.

The approach has been to survey and synthesise existing research on population ageing and the implications of population ageing for markets. In this, the international literature is better developed than the New Zealand literature and so heavy reliance has been placed on international research, supplemented by observations about the applicability of overseas research to the New Zealand situation. This is not to say that the growing and invaluable body of New Zealand work that exists on the subject of ageing and population ageing has been neglected.

While the focus is on the implications of ageing for New Zealand, attention is also given to population age profiles around the world. New Zealand is a small, open economy that relies on trading in international markets for capital and for goods and services. Hence, to understand the implications of ageing for New Zealand markets it is also necessary to understand the implications for global markets. The chapter begins by sketching population ageing as a global phenomenon as context for the rest of the chapter.

This appraisal of the implications for markets resulting from population ageing is divided between capital markets and markets for goods and services. Little consideration is given to markets for specific goods and services or to the market for labour as these require more detailed treatment than can be offered here (see Chapter 7).

Throughout this chapter attention is given to the potential changes to demand and supply conditions in markets due to population ageing and potential implications for the efficient and effective functioning of these markets. Consideration is also given to the implications for markets and the New Zealand economy between 2006 and 2030, with a particular emphasis on market conditions in 2030.

Ageing in the global context

Population ageing is occurring at various speeds around the world. Some countries are experiencing relatively gradual population ageing due, in the main, to increased longevity. Other countries, particularly developed countries, are experiencing much more rapid ageing as declining fertility and increasing longevity are exacerbated by policy-induced imbalances in population age structures and demographic events such as the so-called 'baby boom'. This variability in age structures of populations around the world is important for understanding the implications of population ageing for New Zealand markets operating in an increasingly interconnected world.

In their analysis of the impacts of global ageing on financial markets McMorrow and Roeger (2005) summarise rates of ageing around the world by breaking down countries into five groups. Economically large nations and nation groups (the European Union, Japan and the United States (US)) are treated independently. All other nations are divided into two groups, fast-ageing and slow-ageing countries. These categories belie substantial within-group variation between fast-ageing and slow-ageing countries but are useful in illustrating some of the substantial variability in the dynamics of ageing around the world.

Table 6.1 shows that even within the developed world there is considerable variation in the pace of population ageing. In Japan, the transition to an older population has already taken place. The US, on the other hand, is projected to maintain a much younger population profile over time compared with Japan and the European Union.

Countries falling into the fast-ageing group of countries in Table 6.1 include members of the OECD, such as New Zealand, as well as developing countries such as China, Singapore and Thailand.

Table 6.1: Global population projections of total population in each age group, 2000 and 2050

| Age group | European Union | | United States | | Japan | | Fast-ageing countries | | Slow-ageing countries | |
|------------------------|----------------|------|---------------|------|-------|------|-----------------------|-------|-----------------------|-------|
| | 2000 | 2050 | 2000 | 2050 | 2000 | 2050 | 2000 | 2050 | 2000 | 2050 |
| | (%) | | | | | | | | | |
| 0-14 | 17 | 14 | 21 | 20 | 15 | 13 | 23 | 16 | 36 | 23 |
| 15-64 | 67 | 58 | 66 | 60 | 68 | 51 | 69 | 61 | 60 | 65 |
| 65+ | 16 | 28 | 13 | 20 | 17 | 36 | 8 | 23 | 4 | 12 |
| Total (n) (million) | 376 | 365 | 275 | 404 | 127 | 109 | 1,765 | 1,915 | 3,505 | 6,561 |

Source: McMorrow and Roeger, 2005.

Other things being equal, ageing populations imply a smaller working-age population and slower economic growth as a result.¹ In an international context, this has the potential to precipitate a shift in production from developed to developing countries. Developed countries facing a declining workforce and increasing numbers of older people may need to draw on the production of developing countries. This is likely to be offset in the medium term as ageing developed economies contribute an increasing share of world capital (Canton et al., 2004).

Longer term, we might expect the total level of savings accumulated in developed economies to reduce as the number of retirees in their economies increases. Younger economies, with increasing savings levels may then become an increasingly important source of capital in an ageing world.

This all has implications for international flows of goods and capital and consequently for international markets, most of which are not well understood and have received relatively little attention in international research compared with other ageing-related issues, such as savings and public pension policy.

New Zealand relies heavily on international markets for goods and services and capital. Hence we need to develop a deeper understanding of how ageing will impact on these international markets. This will help to further our understanding of how markets in New Zealand might adapt in response to the international demographic changes going on around us.

Capital markets

Capital markets, like other markets, perform important economic functions in facilitating efficient resource allocation through trade. The following section discusses the implications of ageing for demand-side and supply-side aspects of capital markets. It begins with a discussion of long-run demand and supply dynamics, primarily from a macroeconomic perspective to determine whether savings and investment imbalances might occur in the New Zealand economy as a result of population ageing and whether issues of capital adequacy might arise or be exacerbated.

Following this, attention is given to the implications of population ageing for financial markets and the kinds of products and services they provide. A key focus is on the role financial markets play in providing income to people in retirement and whether these markets are well equipped to deal with changes in demand from an ageing population. In that section the potential implications of population ageing for New Zealand's housing market is also discussed, given its importance for the wealth and consequently retirement income of many New Zealand households (see Chapter 9).

For purposes of this discussion the expression 'capital markets' is taken to encompass markets for the buying and selling of physical assets and financial markets. While there are theoretical reasons for differentiating between the two, in today's world there is little difference in practice.

Capital as an input to production

The level or stock of capital in an economy matters because it has important direct and indirect impacts on economic growth and hence on living standards. As an input to production capital directly affects economic growth. Indirectly, the stock of capital in an economy can impact on economic growth by enhancing labour productivity.

Population ageing can affect the level or stock of capital in an economy through two distinct channels. The first is through changes to national and international savings affecting the availability and cost of capital. The second is changes to demand for capital (investment demand) through changes in, for example, labour supply or aggregate domestic demand.

In terms of the supply of capital for economic growth, New Zealand has, for some time now, maintained a substantial difference between what we receive from the rest of the world compared to what we lend to the rest of the world (leading to a deficit in the balance of our national capital account). The principal reason for this difference is New Zealand's relatively low rate of savings at the macroeconomic level.

The New Zealand Institute of Economic Research (NZIER) estimates total national savings in New Zealand has averaged around 3.7% of gross domestic product (GDP) since 1995. This level of saving has not been sufficient to fund domestic investment and New Zealand's indebtedness has grown as a result (Claus and Scobie, 2002). Moreover, this positive rate of savings has been funded by business and government. New Zealand households, on the other hand, have not saved. Household saving is estimated to have averaged -3.0% of GDP over the same period.

Some researchers argue that government savings offset private savings. That is, government savings are often deemed to be a substitute for household savings. There is some evidence to support this, although the offset is estimated to be less than one for one (Mello et al., 2004).

The large proportion of national saving in New Zealand that is funded by government has implications for national savings in the face of an ageing population. As our population ages we can expect some pressure on government spending particularly on large expenditure items such as health and increased transfers through New Zealand Superannuation (NZS) (Bryant, 2003; Bryant et al., 2004; Creedy and Scobie, 2002; McCulloch and Frances, 2001). This suggests that as our population ages, government saving may no longer be available to offset a deficit in household saving. If households or firms do not increase their savings rates, then New Zealand's level of indebtedness could grow significantly.

Theory suggests that increased indebtedness would increase the risk premium on investing in New Zealand, and could reduce New Zealand's ability to source investment capital from offshore. Ultimately, this would have a negative impact on economic growth.

Hence, of principal concern in considering the capital market implications of population ageing is whether we need to actively increase savings in response to the prospect of population ageing.

This might be necessary if we want to avoid further deterioration in our debt position and potentially higher capital costs that could inhibit the availability of capital in the New Zealand economy.

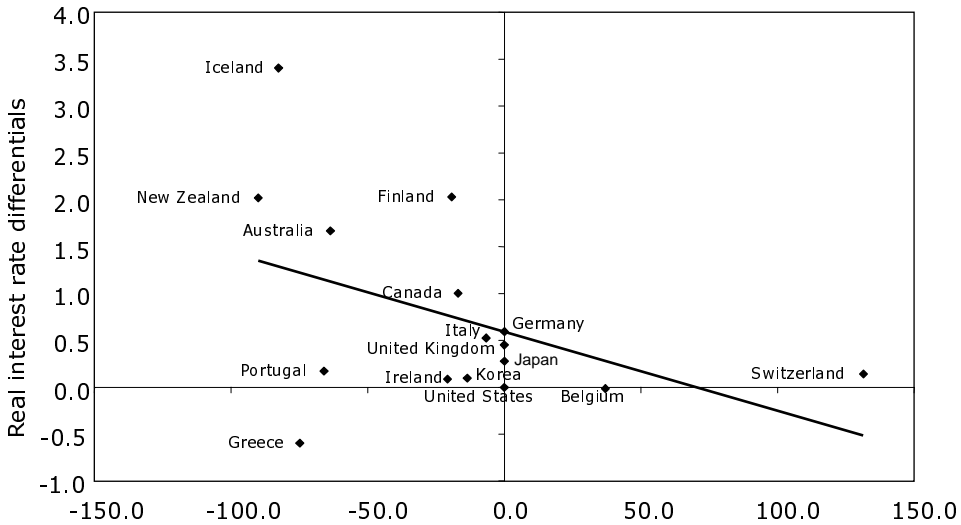
On the other hand, a potential worsening in New Zealand's debt position could be considered of secondary concern when compared with the status quo. That is, New Zealand's current level of external debt might prove less sustainable in the long run as creditor nations age.

Some researchers argue that savings–investment imbalances do not matter for a small country such as New Zealand, because we face an infinitely inelastic supply of capital at the world interest rate. In other words, at any given level of

world interest rates, New Zealand can access an ‘endless supply’ of capital. However, evidence suggests that this ‘endless supply’ comes at a premium as our debtor status increases.

This kind of reasoning is supported by cross-country data suggesting a negative relationship between real interest rate differentials and dependence on foreign capital, especially for small countries, as illustrated by the fitted line in Figure 6.1. This runs counter to the idea that small countries face an infinitely inelastic supply of capital at the world interest rate. As the net international investment position deteriorates, it appears the risk premium for that country rises. Therefore, although the pool of capital is large for a country like New Zealand, the affordability of that capital may constrain our growth.

Figure 6.1: Real interest rate differentials and international investment position



Net international investment position as a percent of gross domestic product

Notes

- 1 Real interest rate differentials are the average difference in interest rates compared with the United States for calendar years 2004 and 2005.
- 2 The international investment position figures are the averages for calendar years 2003 and 2004 divided by respective calendar year gross domestic products.

Source: OECD, International Monetary Fund, United Nations Conference on Trade and Development, NZIER.

This evidence that debt makes a difference means we need to consider the global market for capital and the potential for prices (interest rates) to rise to levels that are prohibitive for producers in the New Zealand economy.

At present, New Zealand has little trouble accessing foreign capital and there is no strong evidence to suggest its interest rate premium constrains investment to any significant degree. However, developed countries that are major sources of lending for New Zealand are likely to become net borrowers themselves in the next 20 years. Other things being equal, we would expect a lift in global interest rates as a result, unless, of course, alternate sources of capital can be found.

If capital is relatively mobile throughout the world, then population ageing in the developed world simply implies a shift in capital funding from developed nations to developing nations with higher savings rates. However, a substantial amount of international research suggests that international capital is not very mobile – at least not between developed and developing nations (Helliwell, 2004). This suggests that, in the absence of sufficient domestic savings, access to capital may be hindered and international lending and borrowing rates may rise.

The same can be said to be true for larger countries, suggesting that the cost of capital may rise in the future. This has important, but unavoidable, consequences for New Zealand's economic growth as the population ages and the workforce declines. That is, if capital becomes relatively expensive at a time when labour is also scarce, this will put pressure on economic growth.

Most international research suggests that this dynamic is likely to wax and wane given different rates of ageing among developed nations and other nations around the world. This has led some to speculate that there will be major changes in relative returns to capital internationally that could induce speculative capital flows and unstable financial markets (McMorrow and Roeger, 2005). However, it is unclear the extent to which this is a departure from existing capital market conditions.

Nonetheless, from a New Zealand perspective the crux of the matter comes back to New Zealand's ability to fund its own investment (through savings) and, therefore, its potential to avoid savings and investment imbalances and insulate the macroeconomy from high interest rates.

In addition, some researchers have suggested that domestically sourced capital is more productive than externally sourced capital because domestic investors have a better knowledge of the local economy (Gordon and Bovernberg, 1996). This implies increased dependence on foreign savings could

lower New Zealand's potential for economic growth, although there is no evidence of this in the New Zealand context.

From a purely domestic perspective, capital market conditions and investment demand are driven by saving and consumption. This is because consumption, which is the objective of economic behaviour from a macroeconomic perspective, is simply the inverse of savings and savings is the determinant of investment. This makes savings rates and saving–consumption trade-offs the most fundamental aspects of capital markets and investment demand in economic terms.

The link between saving and consumption and demographic change is unclear. Saving increases as income increases and an individual's income generally increases with age up to the point of retirement. In retirement, incomes decline. Therefore, so do savings. In the case of an ageing population, understanding patterns of consumption–saving behaviour at older ages becomes vital to understanding how national savings will change.

Theoretical perspectives on individual ageing and savings behaviour are a useful starting point. The most cited theory is that individuals smooth consumption over their lifetime causing fluctuations in saving over a lifetime – the life-cycle income hypothesis. In younger years, when income is low, people borrow to fund consumption. As income increases with age people save and then in old age saving becomes negative as accumulated wealth is used to fund consumption in retirement.

The life-cycle income hypothesis is intuitively appealing because it explains the 'hump' shape observed in saving behaviour over a lifetime. However, unmodified versions of this theory have the result that people will consume all of their wealth in retirement. An implication of this is that an increase in the proportion of people of prime earning years in the population will increase economy-wide savings, but savings will then decline as the proportion of retirees in the population increases. This result can lead to the erroneous conclusion that savings will decline to 'suboptimal' rates (where unsustainable savings and investment imbalances occur) as populations age when, in fact, the data do not support this.

Empirical research and simple observation suggest people do not necessarily consume all of their wealth in retirement. Indeed, people save for a variety of reasons other than consumption smoothing such as status, bequest motives or for unexpected ('rainy-day') events. Analysis of saving survey data also suggests propensities to save in retirement are positively correlated with wealth (Mirer, 1980). This has the implication that savings by a small number of wealthy retired individuals, with high propensities to save, could offset reduced

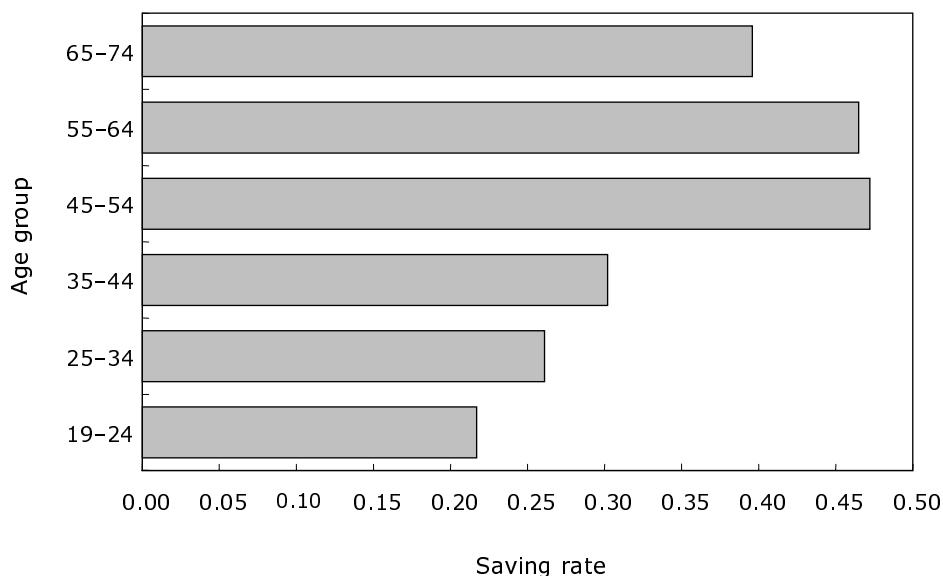
savings among large numbers of less wealthy individuals – thereby bolstering aggregate household savings.

No single motivating factor is sufficient to explain what we actually see in savings behaviour. However, taken together these theories or motivating factors appear to explain a great deal of observed savings behaviour.

In the New Zealand context, estimates by Gibson and Scobie (2001) of saving rates by age group suggest that saving follows a ‘humped’ shape through the life cycle, but that saving rates at older ages are relatively high. Saving peaks at ages between 55 and 60 and tends to decline thereafter, but it does not become negative.²

These estimates need to be treated with caution because they are based on a survey not designed to measure saving. However, good information on saving at the household level is not available in New Zealand. Furthermore, confidence in these estimates is enhanced by the similarity between the shape of household saving by age group in Figure 6.2 and that in similar research for other economies (Bosworth et al., 2004; Disney, 1996; Mirer, 1980).

Figure 6.2: Household saving rate by age group, saving rate (ratio of saving to consumption)



Source: Gibson and Scobie, 2001.

These results suggest that a shift in New Zealand’s population age structure will not, on its own, lead to unsustainable savings–investment imbalances. To

determine if savings, in aggregate, will be sufficient to meet New Zealand's demand for capital, we need to determine what level of savings (that is, investment) might be optimal.

The effects of an ageing society on demand for capital stem from changes in the size of the labour force relative to the rest of the population. A declining labour force means, most simply, a reduction in demand for capital that is used by workers (relative to other types of demand in the economy). Capital and labour are both substitutes and complements in production. If a firm has difficulty finding employees, it may be feasible for it to invest in a machine or some other substitute to take the place of people. However, often capital augments, rather than substitutes, labour inputs.

The result that investment demand will decline, relative to other demand in GDP, as a result of a diminished workforce is supported by macroeconomic research into the implications of population ageing. Cutler et al. (1990) modelled the effect of population ageing on aggregate economic activity in the US and found that optimal investment (and hence savings) reduces as the population ages because of declining labour force growth. This reduction in optimal investment helps support consumption growth by reducing the proportion of saving out of current income needed to maintain economic growth and living standards.

This result is supported in the New Zealand context by research by Guest et al. (2004) who used the approach of Cutler et al. (1990) to assess the implications of population ageing on optimal rates of saving in New Zealand. Their model of population ageing and its impacts on living standards suggests modest increases in labour productivity are likely to be sufficient to offset increases in the number of consumers to workers and ensure living standards (in terms of consumption) are as high as they can be given a diminished workforce.

This all suggests that existing conditions of demand and supply are unlikely to change significantly as a result of population ageing. While we might expect some changes in international capital flows and fluctuations in the cost of capital, the magnitude of these effects is far from certain.

It is unlikely policy has any role in mitigating the effects of these changes before the fact. Given that changes to the demand for and supply of capital from population ageing are likely to occur slowly, policy need only remain prudent to ensure the government has the flexibility to deal with adverse shocks should they arise.

Financial markets and investment income

Financial markets are distinct from other markets because they trade claims (or financial contracts) on goods and services rather than actual goods and services. The most economically important part of these claims is that they allow sellers to defer actions and buyers to bring forward actions.

This is important in the context of ageing because it allows retired people to lay claims on current production. To keep consuming when not working, people must draw on the current production of those who are working. In the absence of government intervention, the only feasible way of laying claim to a portion of current production is to have saved during working life and then exchange accumulated wealth for goods and services.³

Trade in financial contracts also helps allocate savings towards productive uses that produce returns. This is a more efficient means of storing wealth than, say, hiding money under the bed, because wealth stored as money generally loses value over time because of inflation.

Financial markets also operate as markets for risk (that is, insurance markets). This function is important in the context of ageing, largely because of uncertainty about longevity and therefore risks around how much to save for retirement. While one individual cannot reliably predict how long he or she will live, it is much easier to predict how long a group of people will live on average. Hence, financial markets can minimise uncertainty around retirement saving by pooling longevity risk among many individuals.

Financial markets require a series of conditions to function efficiently, many of which are necessary for all well-functioning markets. They are as follows.

- Depth and liquidity – the pool of capital available to the market and the number of buyers and sellers in the market. Generally, more is better. Ideally there should be sufficient buyers and sellers to maintain a level of activity in the market such that contracts are available on demand. This is particularly important if the number of people funding consumption from investment income increases.
- Diversity of instruments – the variety of wholesale and retail financial assets and services. Optimising returns and resource allocation requires a range of high risk (high return) to low risk (low return) financial assets.
- Timely and accurate information and clear pricing signals.

These conditions are unlikely to be significantly affected in an adverse way by changes in the age structure of the New Zealand population. In general, population ageing is a fairly slow and predictable process and financial markets are generally quite flexible. Thus we might expect financial markets to continue to operate effectively given current regulatory structures.

However, financial markets will need to adapt to the ageing population, because “Population ageing may increase demand for [financial] products that facilitate the preservation or draw down of wealth, rather than the accumulation of assets” (Poterba, 2004, p. 3). This suggests financial markets should be monitored to determine whether they are meeting this change in demand.

The literature on financial markets and retirement income focuses on whether financial markets provide a sufficient range and number of financial instruments that can provide a stable income stream in retirement that is protected against the uncertainty of how long a person will live and, ideally, is adjusted to prevent inflation reducing the purchasing power of retirement income.

No one instrument provides the perfect formula for retirement income. However, the sorts of instruments that are useful include:

- government bonds, which are low return but also low risk;
- inflation-indexed government bonds, which have the added advantage of protecting purchasing power;
- annuities, which provide certainty around not out-living retirement income; and
- defined benefit pension schemes, which often offer both certainty of income and protection against loss of purchasing power.

Much of the attention in the literature falls on annuities, which are a perennial favourite in economic theory but less common in reality (Bosworth et al., 2004). Indeed, Schich (2004), suggests that there is, internationally, a dearth of annuity-type instruments as well as other fixed income and inflation-adjusted instruments that can provide retirees with secure sources of income.

Annuities are financial instruments that provide an income stream rather than a lump sum payment of capital gains. They are typically provided by insurance companies and provide an income stream that is fixed. The risk around the annuity is shared by the individual and the provider, with the individual having paid more than the value of the annuity (up front) if they die before a certain age, and the insurance company having to pay more to the individual than they receive from the recipient if that person lives beyond that age. Defined benefit pension schemes offer a similar kind of service. However, as populations are ageing defined benefit schemes are becoming less common.⁴

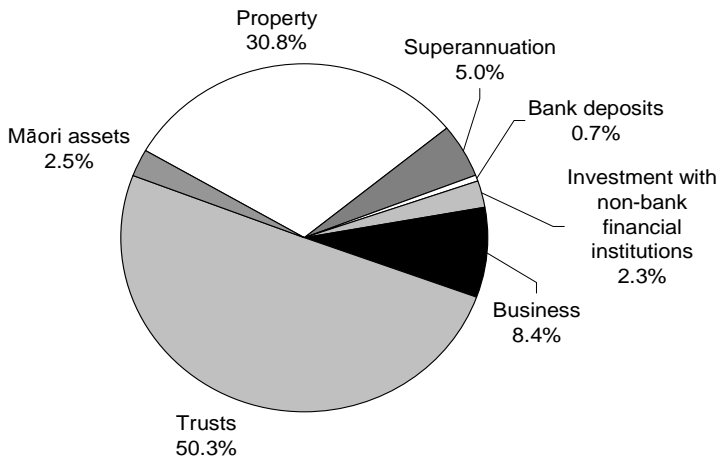
The OECD argues that financial markets need to further deepen their provision of annuities and provide means for illiquid assets to be converted into retirement income through services such as reverse mortgages (Martins et al., 2005).

In New Zealand, Susan St John has done considerable work on retirement incomes and annuities. She has found that the annuities market in New Zealand is getting smaller. St John (2003) shows that annuity policies and their value declined in the late 1990s and the total value of annuities in force peaked at around \$39 million in the mid 1990s before reducing to around \$27 million by 2003. The reason for this decline is argued to be the unfavourable tax treatment of these instruments that has made insurance companies wary of offering them to clients. As a consequence the number of annuity providers in New Zealand declined from nine companies in 1993 to three companies in 2003.

It is, however, difficult to separate the effects of the supply of financial instruments from the effects of the demand for financial instruments. The shallowness of the annuities market in New Zealand may reflect the preference of New Zealand households as well as the tax treatment of these products.

If we take observed gross asset holdings as an indication of the preferences of New Zealand households, the current holding of wealth by New Zealanders (see Figure 6.3) has two major implications for financial and asset markets and, consequently, retirement incomes.⁵ The first is that very little wealth is held in liquid forms and very few New Zealanders hold the kinds of pension assets that can provide certainty of income in retirement.

Figure 6.3: Household asset holdings, percentage of total gross assets of couples, 2001



Source: Statistics New Zealand 2001 Household Savings Survey.

OECD data show New Zealand pension fund assets are around 5.7% of GDP compared with a weighted OECD average of 61.2%. If the share of pension fund assets were to remain a constant proportion of GDP until 2035,

with growth arising only from the increased value of the New Zealand Superannuation Fund (the fund being accumulated by the government to pre-fund New Zealand universal superannuation), we estimate pension fund assets would lift to 36.0% of GDP by 2040, significantly less than the current OECD average.

The relatively low level of pension fund assets in New Zealand in part reflects a reliance in New Zealand on government universal superannuation funded out of current taxation.⁶

Reliance on NZS is not, in and of itself, a bad thing. Gibson et al. (2004) show that 17% of couples and 38% of individuals in New Zealand could maintain pre-retirement consumption levels by relying on NZS alone.⁷ It is, however, problematic in so far as the shape NZS will take in the future is far from certain. Moreover, NZS is unlikely to ever offer much more than a minimal retirement income.

Reliance on NZS also crowds out private savings, so potentially crowds out demand for other forms of retirement income (Attanasio, 1998; Treasury, 2000).⁸ This in turn reduces market demand for financial instruments that deliver secure income flows in retirement such as annuities. This reduces the breadth of the market for these instruments and in so doing undermines the ability of financial and insurance markets to pool risk effectively. Without the ability to spread risk across many different customers, the price of these instruments is likely to increase or the range of financial instruments available to customers is likely to be limited.

It is unclear whether lack of demand is a significant limiting factor on the provision of a range of private retirement savings products in New Zealand. It may well be that supply-side constraints such as unfavourable tax treatment have a much greater impact. However, the impact of demand-side factors (consumer preferences) warrants further examination.

The second aspect of household asset holdings with implications for an ageing population is that a disproportionate amount of New Zealand wealth is held in property. New Zealand households hold a little under 90% of their net financial wealth in residential property. This is very high compared with less than 40% of net financial assets held in residential property in the US and approximately 75% in Australia (Bollard, 2004).

Property is fundamentally linked to demographic change and is non-tradable, so will feel the full brunt of any changes to the domestic economy arising from population ageing.

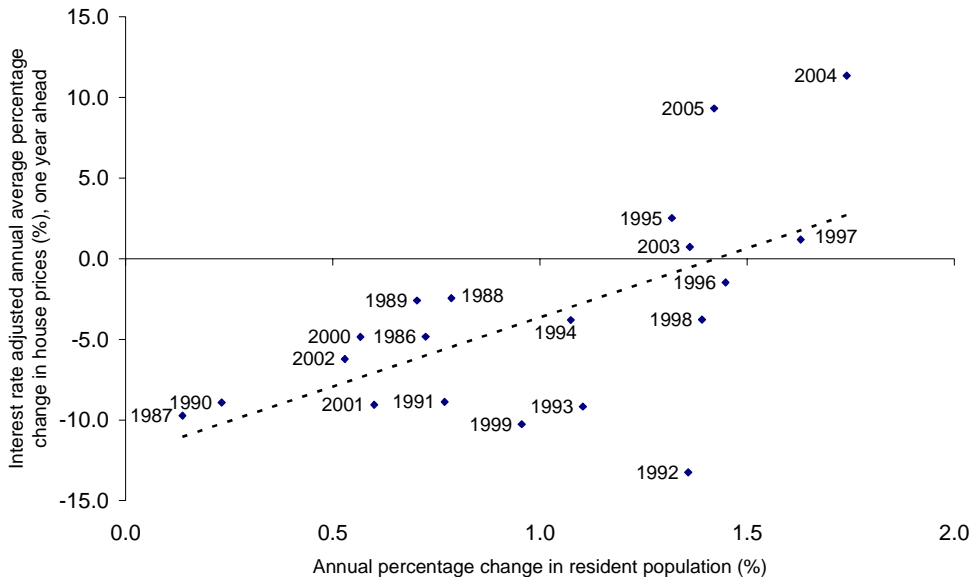
House prices are fundamental to the incomes of many New Zealanders, and will determine the income of many New Zealanders in retirement (whether

through reverse mortgages or other means). However, it is difficult predict, in economic terms, the impact that population ageing will have on the housing market.

International evidence suggests population ageing will have a negative impact on real estate prices (Bergantino, 1988; Ermisch, 1996; Mankiw and Weil, 1989). However, these findings are not generally limited to housing but rather apply to all classes of asset. As such, it is likely that their results may not apply in the New Zealand context given a well-established preference for housing over other classes of asset. This suggests a New Zealand-specific analysis of house prices and their determinants needs to be conducted with specific reference to population ageing if we are to better understand the potential implications of population ageing for house prices, household wealth and retirement incomes.

Historically, house prices in New Zealand have been driven by aggregate growth in population (Figure 6.4). This is seen most strongly in the recent housing market boom that has been driven by historically large net migration inflows between 2001 and 2003 and consequent rapid population growth.

Figure 6.4: Housing returns and population growth, 1986–2005

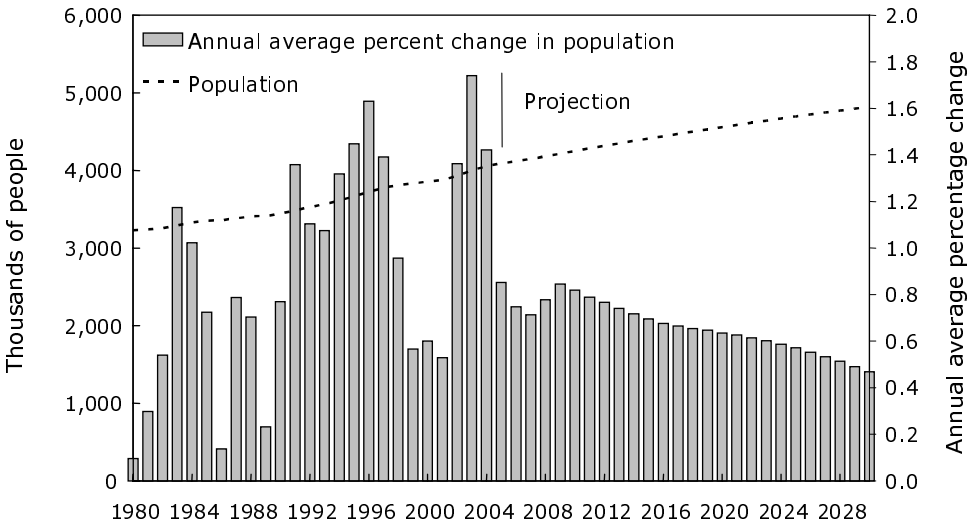


Source: NZIER, Statistics New Zealand, Quotable Value New Zealand.

Projections of New Zealand’s population going forward suggest a slowing of growth between 2005 and 2030 (Figure 6.5). One inference that might be

drawn from this is that growth in house prices will flatten over the next 25 years to 2030. However, while it would be reasonable to conclude that past gains in house prices are not likely to be repeated (absent any unexpected increases in population growth), if population growth slows and even if it becomes negative, it is not clear house prices will decline.

Figure 6.5: Projected population growth, 1980–2028



Source: Statistics New Zealand.

With slowing population growth it is most likely that residential investment will decline. This will see softer growth in prices, but also less speculative volatility in the New Zealand housing market. In this way, house prices might be expected to de-link from population growth and become more closely aligned with conventional economic determinants of house prices, namely economic growth and growth in household incomes.

A change in the determinants of house prices towards income levels, rather than population growth, would likely result in continued strong growth in house prices above the level of overall economic growth. As the growth in the labour force declines we would expect wages to increase as labour becomes more scarce. This would induce a lift in wage incomes, which feed through into higher house prices, assuming there is no over-investment in the building of new houses. In this way, population ageing may have a minimal impact on the housing market.

Irrespective of the impact of population ageing on the capital values of residential property, the use of housing wealth as a vehicle for retirement income raises potential problems for savers who wish to access the equity they have in their homes.

People who need to access their housing wealth for retirement income can either trade down or find a means to release home equity via financial contracts such as reverse mortgages.

As mentioned earlier, the OECD has suggested home equity release products are an important aspect of financial market adaptation in the face of population ageing. It also notes that these products are generally underdeveloped in most OECD countries. New Zealand is no exception in this regard, despite the preponderance of housing in household assets in New Zealand.

Davey (2005) scopes the potential for home equity release products in New Zealand and offers some suggestions as to why these products are few and far between and what might be done to create a more favourable environment for their development.

A major conclusion of Davey's research is that the scarcity of equity release products in New Zealand is due to attitudinal barriers. Consumers have a limited understanding of home equity release and are generally suspicious of how it might work. Potential suppliers (particularly large banks) question the viability of providing such products given the negative consumer sentiment. Davey suggests initiatives that encourage public discussion of home equity release could help to reduce suspicion and increase the demand and supply of these products.

St John (2004) and Davey (2005) argue that equity release can introduce risks for individuals that might be mitigated by government policy. These risks relate mainly to individuals living longer than anticipated and finding themselves with negative equity and no income protection in the late stages of life.

Davey (2005) suggests a high level of consumer protection is required to ensure the risks of home equity release do not constrain growth in the market and produce adverse outcomes for retirees. The development of an equity release code is already occurring, with providers of equity release taking a stake in the code's development in partnership with the government.

St John (2004) takes the view that equity release presents only a partial solution to retirement income provision for retirees. Annuities, it is argued, provide the most appropriate means for the sharing of longevity risk and ensuring reliable income streams to meet costs of retirement, particularly old

age care. In this respect, St John argues quite convincingly that the government needs to review the tax status of annuities so as not to hinder growth in the market for these retirement income products.

Markets for goods and services

There is every reason to believe markets for goods and services will be affected by population ageing. Older people have demonstrably different tastes from younger people, so changes to the population age structure will impact on aggregate levels of demand in markets for goods and services.

That said, in most instances, the impacts of population ageing will be imperceptible to the consumer. While some products may be demanded in greater (or smaller) quantities in the future, there is unlikely to be any significant changes to how these markets function. If anything, prices may adjust to reflect changed demand, but this is no different from how the market acts today.

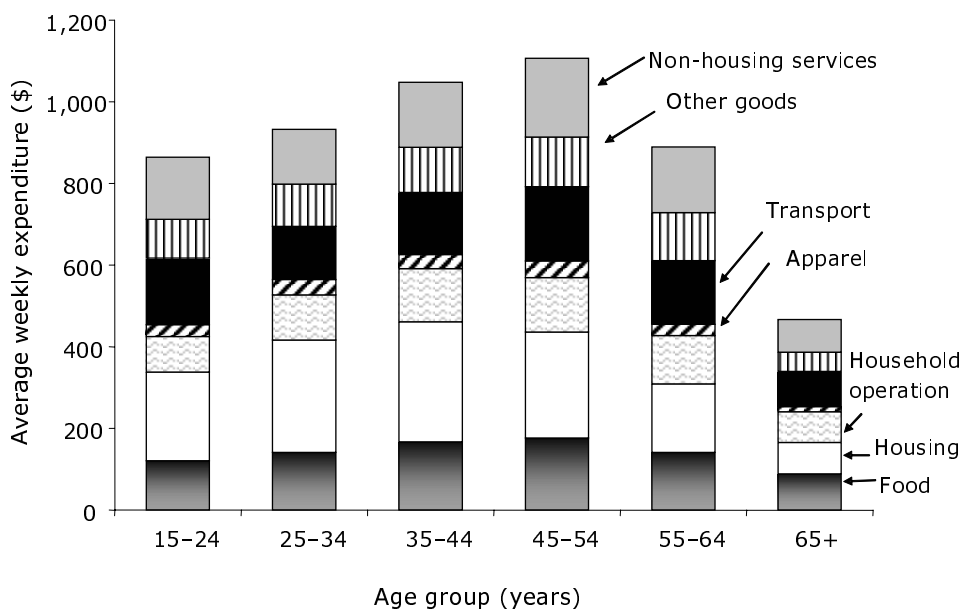
The only instances where issues may arise is in the functioning of markets for products that face binding constraints on supply as a result of population ageing. These markets are most likely to be those where the products are non-tradable or production relies on non-tradable inputs, particularly labour inputs, which are non-tradable under some conditions.⁹

Figure 6.6 summarises household expenditure in 2004, according to Statistics New Zealand's Household Economic Survey, by expenditure item groups. Expenditure is broken down according to the reference person spoken to for each household during the survey. The age of the reference person is not necessarily the same as the average age of everyone in the household. However, for households where the reference person is aged 65 and over or under 25, the age of the reference person is representative of all those in the household (that is, the old tend to live together and the young tend to live together, while there is greater variability in the age composition of other households where the representative person is aged 25–64).

To try to understand the implications of changes in the population's age structure on household demand we have used Statistics New Zealand's population projections to project expenditure according to the current expenditure patterns by age. To do this, we have assumed everything except population growth and age structure remains constant. That is, we assume, among other things, the mix of ages within different households, the average number of people per household, and the preferences for expenditure remain

constant. These are significant assumptions and the results should be considered merely illustrative.

Figure 6.6: Household expenditure by age, 2004



Source: Statistics New Zealand’s Household Economic Survey.

Comparing expenditure in 2004 with projected expenditure in 2030 under the changed age structure we find that expenditure growth is less than population growth over this period (20.8% expenditure growth against 22% population growth). This reflects the fact that average expenditure declines at older ages. For example, if we project expenditures based on the same population growth (22%), but keep the 2004 population age structure, we find that expenditures grow by 26%, some 4% greater than population growth as a result of the current population age structure being fairly concentrated in groups with higher levels of expenditure.

The major changes to expenditure are highly predictable. These are depicted at the expenditure group level in Figures 6.7 and 6.8. Expenditure reduces dramatically for products and services associated with younger people (for example, mortgage payments, rent and children’s clothing). Expenditure increases in the areas of health services and medical goods.

The lift in health-related expenditure is not unexpected. It does, however, raise some interesting issues for the operation of this market. This sector, as much as, if not more than, any other, is highly reliant on labour and typically is

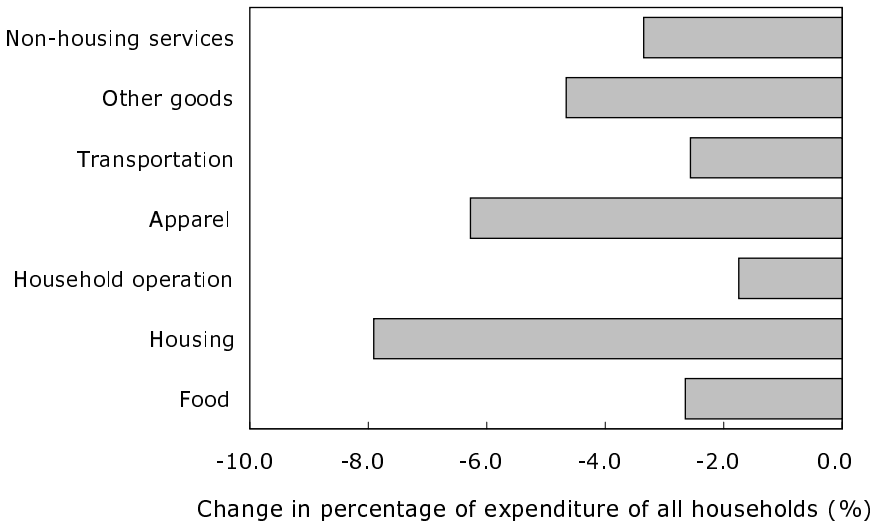
not tradable (physically and by regulation). This leads us to the usual finding that health services will face the most pressure under an ageing population.

Figure 6.7: Changes in household expenditure group shares, 2004–30



Source: NZIER, Statistics New Zealand.

Figure 6.8: Difference in expenditure group shares in 2030 between ageing scenario and static age structure



Source: NZIER, Statistics New Zealand.

Whether health services will be able to adjust to this changing demand is far from clear. Much of the research into health services and ageing populations focuses on rising prices and a declining workforce. On the face of it, rising prices are not a market failure, but rather a necessary rationing function of a market.

However, rising unit costs of health care pose a serious challenge for an ageing population. The escalation in the unit cost of health care is a potentially more significant factor for the aggregate cost of health care than demographic change. Indeed, Treasury projections of health expenditure suggest pressures on health spending are more sensitive to these non-demographic pressures than ageing (Bryant et al., 2004). The major challenge here lies in the fact that if price and costs for health care continue to inflate at their current rate, above that of general inflation, the incomes of the old aged may not be able to keep pace.

One might also expect transitional challenges for the health sector arising from a difficulty finding skilled labour. Unskilled labour is unlikely to be a particular issue. Our household expenditure analysis shows, albeit crudely, that there will be substantially less consumption in other sectors and relative to other services that are similarly labour intensive. Consequently, we would expect a shift in the industry composition of employment.

Conventional price signals guiding labour supply decisions may, however, not operate effectively in a domestic market dominated by government such as health care services (that is, which is not as responsive or efficient in delivering price signals). Consequently, a shortage of skilled labour may arise.

The NZIER (2004) shows that demand for labour in health and disability services is likely to grow by 40%–69% by 2021. This implies growth in the health and disability services workforce 2.5%–4.3% greater than projected population growth, which may lead to an excess of demand over supply. This suggests close monitoring of labour supply in this sector is in order and strategies need to be put in place to mitigate against potential supply shortages (see Chapter 11 for more discussion).

Another service-specific market likely to face challenges from an ageing population is the market for accommodation services, primarily those that focus on provision for the elderly.

Davey et al. (2004) suggest that the ageing of the New Zealand population, particularly among those aged 85 and over, combined with policy promoting ‘ageing in place’ (that is, assisting people to remain in their respective communities or family homes in old age rather than relocating), will put increased demands on rental accommodation and residential care, particularly if levels of home ownership decline.

Other things being equal, the market for the private provision of accommodation and care services to older people will be taken up by private providers. However, some older people do not have the means to access this kind of care, so rely on government service provision. As the number of people in the population at older ages increases, the government will be faced with increased demand for these services. Davey et al. (2004) argue that ensuring adequate accommodation for older people has public benefits in terms of increasing older people's wellbeing and reducing demands on expenditure in the health system. They suggest the government looks more closely at how the existing stock of public housing and long-term care facilities can be managed or expanded to cope with this increased demand.

The provision of accommodation services to an ageing population is an issue that is illustrative of the general effects of population ageing on markets. It shows that the major challenges are in the provision of public or social services, rather than within markets per se. On the face of it there is nothing to suggest that markets do not have the flexibility to react to changing demand from an ageing population. Rather the challenges lie in government service provision in markets where intervention has already been deemed necessary to meet social and community objectives.

Conclusion

Population ageing is occurring slowly and is unlikely to have significant impacts on how capital markets or markets for goods and services operate. We expect these markets to adjust successfully to population ageing and see little role for policy to mitigate any adverse impacts of population ageing before the fact. There are, however, a few aspects of capital and product markets that may need to be monitored or selected for further research.

Population ageing around the world could lead to a tightening in international supply of capital, feeding through into higher global interest rates. This may create problems for New Zealand in accessing sufficient capital to maintain sound economic growth.

New Zealand does not save enough to meet its investment needs and an ageing population is likely to put downward pressure on both government and household saving rates. This could put additional upward pressure on the cost of capital.

However, there is no strong evidence justifying a role for policy that would seek to increase saving rates on the basis that our population is ageing. That is, population ageing, in and of itself, does not necessitate higher saving rates.

Policy need only remain prudent to ensure the government has the flexibility to deal with adverse shocks should they arise.

Financial markets, which are generally quite flexible, are unlikely to be adversely effected by changes to market conditions due to population ageing. However, patterns of asset holdings among New Zealand households hold potential implications for financial markets and retirement income among retirees in New Zealand.

New Zealand holds relatively low levels of pension fund assets compared with other developed countries. Even with the New Zealand Superannuation Fund, pension holdings in 30 years are likely to be below the current OECD average. Furthermore, annuity-type financial instruments are scarce in New Zealand. As such, older people may face difficulties accessing stable income streams in retirement that are protected against risks from inflation and uncertainties about longevity. Evidence suggests the tax treatment of annuities reduces the supply of these products and a review of this may be in order.

However, on the demand side, the presence of universal state-funded superannuation is likely to be reducing demand for financial instruments associated with retirement incomes. Research suggests household savings, inclusive of NZS, are currently adequate to fund retirement incomes for most New Zealand households. In the absence of changes to NZS it is unclear whether there is much in the way of latent demand for annuities. This, in our view, requires further examination.

The dominance of housing in household wealth in New Zealand also holds implications for the way older people access their wealth in retirement. While we see no major implications for the capital value of housing from an ageing population our analysis is superficial. We believe there is value in more detailed research on the implications of demographic change for house prices in New Zealand.

There also appears to be a limited supply of equity withdrawal products in the New Zealand market. This poses problems for households with a large proportion of their wealth held in property. As for annuities, it is unclear whether limited supply is a result of supply-side or demand-side dynamics. On balance, there is evidence that consumers are cautious about equity withdrawal and there may be scope for a consumer information campaign that raises the reputation of these products.

In markets for goods and services, while the structure of demand will change due to population ageing, the effects are likely to be predictable and most markets will adjust sufficiently to cope with these changes.

Implications of Population Ageing: Opportunities and Risks

Health services is the only area where significant difficulties are likely due to constraints relating to the supply skilled labour. There is scope here for the government to anticipate potential increases in demand and to mitigate labour supply shortages through targeted subsidies to training in this sector.

The government also needs to closely monitor and control unit costs of health services. If prices for health care continue to inflate at their current rate, above that of general inflation, then the incomes of the old aged may not be able to keep pace.

Notes

- 1 This prediction of slower economic growth does not necessarily equate to low economic growth. Research suggests real incomes will rise considerably over the next 50 years to 2055. The finding that growth will slow merely reflects less growth compared with a counterfactual of growth without population ageing. In the New Zealand context, Guest et al. (2004) estimate that population ageing is likely to reduce growth in real incomes by 12% over the next 50 years compared with a scenario of no population ageing. However, they also estimate that living standards (measured by real incomes) will approximately double over this time, despite population ageing.
- 2 At older ages, ages 75 and over, savings rates tend to rise again. This appears to be due to wealthy people living longer than poorer people and the incomes of the wealthy declining more slowly than consumption declines late in life.
- 3 Unless, of course, wealth is acquired as a gift.
- 4 Defined benefit schemes are characterised by the 'promise' of a pre-defined, typically inflation or wage adjusted, level of income in retirement. The alternative is a defined contribution, where the level of payment is linked to contributions and the resulting income stream is not adjusted for inflation or relative wages. In this case the inflation risk around the value of the income stream sits entirely with the recipient of the income.
- 5 Proportions of gross assets (shown in Figure 6.3) are a simplistic way to illustrate stores of household wealth by asset class. Arguably net asset value, which takes account of debt, is a better measure. We prefer to use unadjusted or gross asset value for simplicity sake. However, more advanced analysis ought to focus on net asset value because it better reflects wealth.
- 6 The New Zealand Superannuation Fund is intended to fund only a portion of NZS after 2021.
- 7 Whether pre-retirement consumption and income levels are 'adequate' is another issue.
- 8 Obviously, for some people NZS is unavoidably the main source of retirement income. In these instances it is not necessarily the case that NZS crowds out private demand for retirement savings products. However, the universality of NZS means it is likely to crowd out savings among a portion of the population.
- 9 Labour can be tradable and non-tradable, depending on the industry and the type of labour input. For example, skilled labour inputs into professional services such as legal

services are able to be traded long distances, while unskilled inputs into construction services are not tradable.

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