IS NEW ZEALAND FACING A BABY BOOMER HOUSING BUST?

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ABSTRACT

The baby boomer generation (1946-1964) represents a population bulge that isn't replicated in the younger generation who might be expected to live in the houses vacated by the baby boomers. Several authors have observed from 2010 there are likely to be more sellers than buyers, hence price reductions. This paper takes a contrary viewpoint. The following reasons are advanced as to why a baby boomer housing bust is unlikely to occur in New Zealand: positive demographic projections, reduced occupancy rates per dwelling, the elasticity of housing market supply, increasing numbers of investor buyers, policies relating to encouraging retirement in place, legislation underpinning the price of second hand houses, real incomes rising and intergenerational transfers. At a national level, demographic projections and housing supply characteristics are the variables most likely to influence future house prices. The paper then goes on to consider the regional implications of a baby boomer housing sell off, by examining possible future changes in housing preferences as well as trends in internal migration and regional economies.

INTRODUCTION

Headlines in 'The Economist' (2008) and 'The Wall Street Journal' (2008) based on research by Myers & Ryu (2007) warned readers of a bust in United States house prices when the baby boomer generation (those born between 1946-1964) begin to sell their houses and move into retirement homes. Kennerley (2008) and Giles (2008) predict a New Zealand baby boomer housing bust will begin in 2010. Gaynor (2008) noted most western countries are likely to face a property cycle influenced by the large post-world war II cohort.

The Myers & Ryu (2007) argument for reductions in house prices is about demographics. They point out the baby boomer generation represents a population bulge that isn't replicated in the younger (baby bust) generation who might be expected to live in the houses vacated by the baby boomers. Myers & Ryu (2007) analyse the rate at which different age groups buy and sell houses and conclude there is likely to be a cross over point in the near future when there are more older sellers than younger buyers, hence price reductions. Furthermore, the generation who might be expected to purchase houses vacated by baby boomers may not be able to afford them.

LITERATURE REVIEW

A review of the literature does not appear to support the "generational house price bubble" predicted by Myers & Ryu (2007). Earlier modelling work by economists Mankiw & Weil (1989) had predicted US housing demand would decrease when the baby bust generation entered the market in the 1990. They concluded (p.255) "housing prices will fall to levels lower than observed at any time in recent history." With the benefit of hindsight, Krainer (2005, p27) noted just how wrong the Mankiw & Weil (1989) predictions turned out to be. Instead of real house prices in the US falling by 3 percent per year from 1987 to 2007, "in fact real house prices grew by an average of 3½ percent per year from1987 to 2004".

Of course, predicting what is going to happen in the future is always going to be difficult and Woodward (1991) observed the relationship between demographics and house prices is complicated by a number of other variables. These include the elasticity of supply of housing, transaction costs and housing market relative inefficiency. Engelhardt & Poterba (1991) used Canadian data from 1950 to 1989 to show the relationship between demographic change and house prices was statistically insignificant and in some cases negative. Reed (2000, p.8) concluded that in the Australian context "the advancing baby boom generation presented more questions than answers" and "it appears few are realistically expecting the possibility of a downturn". Hendershott & Weicher (2002, p.10) noted that "it is not too hard to forecast broad demographic changes, it is a little trickier to deduce their economic consequences". They noted inflation, real interest rates, new mortgage products, real household income levels, taxation policies and energy prices all influence house prices.

THE NEW ZEALAND SITUATION

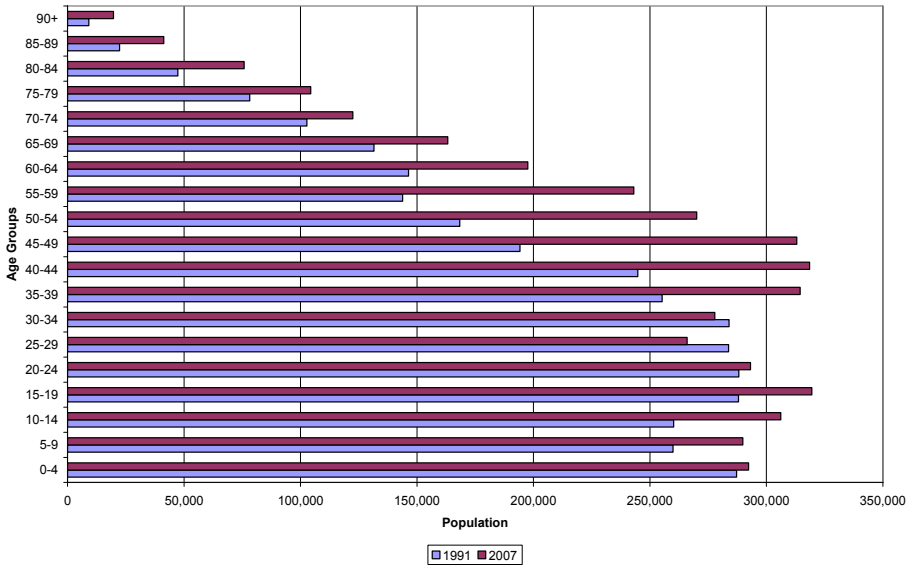
This paper analyses New Zealand data (over the period 1979 to 2007). According to the US Census Bureau (2008), New Zealand has a similar demographic to the US in terms of the age structure of the population and fertility. It also has similar rates of home ownership. The following eight factors are advanced as reasons why a baby boomer housing bust is unlikely to happen in New Zealand in the foreseeable future.

Demographics

Figure 1 utilises data from Statistics NZ (2008) to show the breakdown of the population in 1991 and 2007 in five year age groupings. It is clear New Zealand has an aging population with the first of the baby boomers represented in the 60-64 age bracket and the last of the baby boomers in the 40-45 age bracket. As individuals in the baby boomer population bulge starts to retire, the question is: are there going to be more sellers than buyers over the next decade?

There does not appear to be any particular cause for immediate concern on a national basis as the number of people in the 35-39 age group are the second largest of all age groups and greatly exceed those in the 60-64 age group. Certainly, numbers in the 20-34 age group are of concern if the assumption is made that only younger people are likely to purchase the houses vacated by the baby boomer generation. However such an assumption does not reflect the way the housing market operates.

Figure 1: Population by age groups (1991 and 2007)

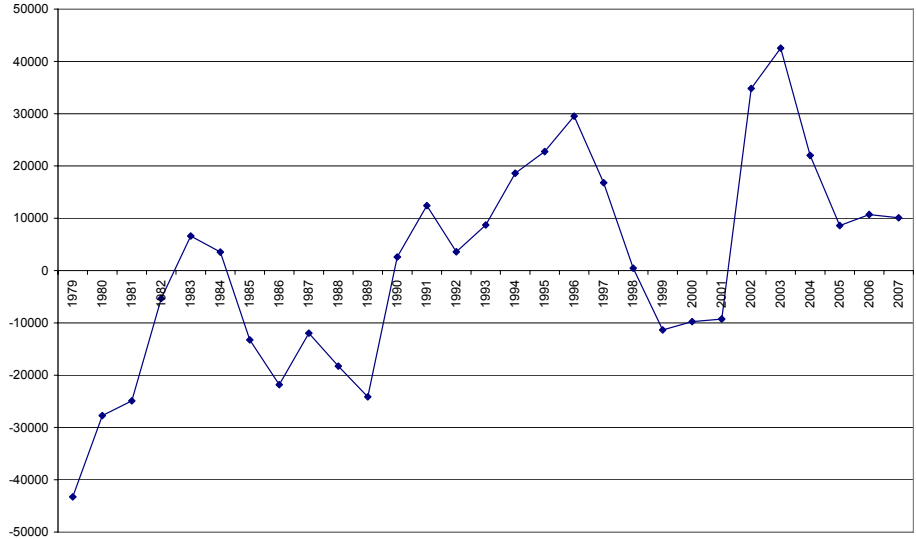


Source: Statistics NZ

Thus in general terms as long as the population of New Zealand continues to increase, so will the number of house buyers. Statistics NZ (2008) population estimates show the population (currently 4.25 million) will reach 5 million in the late 2020's and is increasing at the rate of around one percent per year. Statistics NZ (2007a) estimates show deaths are expected to exceed births around 2050, but the total population is expected to continue to increase due to positive net migration. Net migration is a key variable in the New Zealand context because it is such a volatile statistic and in some years has exceeded the natural rate of population increase. Figure 2 shows New Zealand net migration data over the period 1979-2007. Coleman & Landon-Lane (2007) show net migration is highly correlated to changes in house prices over time. They found a sudden increase in annual net migration, equating to 1% of the total population, which resulted in an 8-12% change in house prices after one year and a slightly larger effect after three years. The volatility

of net migration is driven by government policy settings and the economic conditions in New Zealand compared with other countries. For example, inward migration can be controlled by tightening or relaxing English language test scores, threshold job skills, or financial criteria.

Figure 2: Net migration (June years)



Source: Statistics NZ

On the other hand, outward migration is much less subject to government influence and is dominated by greater job opportunities and higher wages rates in Australia and beyond. On balance, will people want to continue to migrate to New Zealand? The demographers at Statistics NZ (2007a) have produced a range of expected outcomes for the average rate of future net migration. These range from a low average of 5000 per year to a high average of 15000 per year with a mid point of 10000 per year. When living conditions in New Zealand are compared with those in some of the more crowded Asian and European countries, it seems very likely future net migration will remain positive.

From a political perspective, positive net migration helps to ensure the economy keeps growing and helps to take care of the developing shortage of skills across a wide range of disciplines. In addition, new migrants typically bring new capital into the country.

Occupancy rates

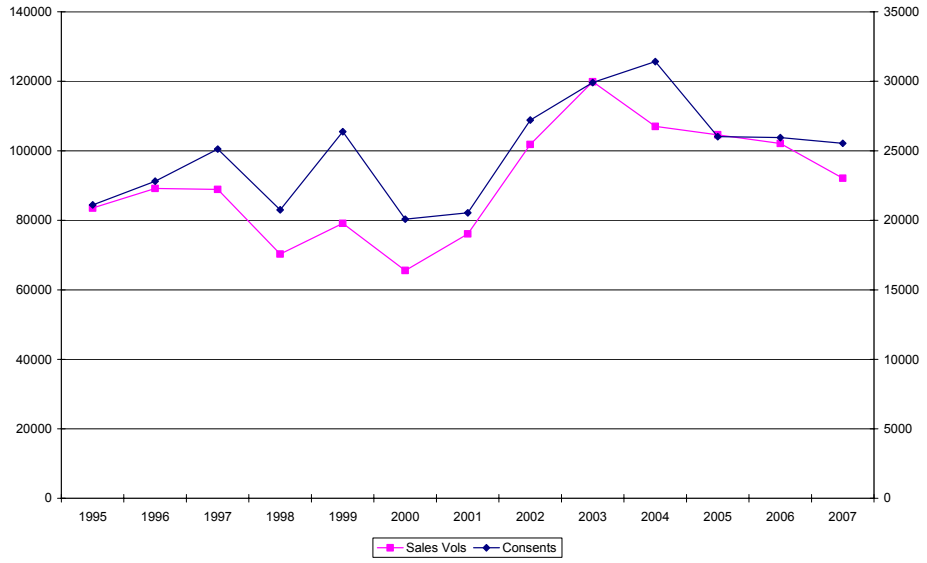
Even if the New Zealand population remains static, more houses will be needed since with more solo parents, childless couples and single person households the average occupancy per household continues to reduce. This is a trend in a number of western countries. Statistic NZ (2006) Census data shows the average occupancy per household unit was 2.84 persons in 1991 and this had decreased to 2.73 by 2006. This translates to demand for around 4000 additional houses per year to accommodate smaller households.

Housing market supply

While demographic projections provide a good picture of future housing demand, the supply side of the housing equation is of equal importance in setting future prices. Woodward (1991, p.533) observed that housing supply is "fairly elastic" in the long run and changes "in demand should manifest themselves primarily in the stock of houses, and much less so in the price of housing". Thus the market reaction to a reduced demand for housing is simply to stop building so many new houses. Myers & Ryu (2007) acknowledge the ability of the US housing construction industry to scale back production, but note firms strive to stay in business so they can retain key staff. They argue the market is likely to be swamped by baby boomers selling their houses. The flaw in this analysis relates to the inability of firms in the construction industry to survive for very long by selling new houses at a loss. Overall, the second hand housing market has much more flexibility in adjusting prices to meet the market compared to the housing construction industry. This is because most genuine home sellers have substantial equity in their houses, have owned the property for at least five years and are unlikely to have to sell for less than they paid for the house. An analysis of house sales in New Zealand over the period 1995 to 2007 shows on average 73% of sales were second hand dwellings and 27% new houses and apartments. Figure 3 uses data from the Real Estate Institute (2008) and Statistics NZ (2008) to show the trend in residential building consents in New Zealand from 1995 to 2007 on the right axis and the total volume of house sales over the same period on the left hand axis. The correlation coefficient between these two sets of data is 85.6% and the standard deviation in the ratio of consents to house sales 2.56%. Figure 3 also demonstrates the ability of the New Zealand housing construction industry to adjust to changes in demand and the elasticity of housing supply. Over the last decade, the annual volume of new dwellings fluctuated by more than 10,000 (50%) between the years 2000 and 2004.

Clearly there is a strong linkage between the new and second hand housing market. While the current downturn in consents is not good news for many builders and developers, it is not as bad as might be expected due to the other non residential opportunities in a tight labour market. For example, in previous downturns there has been an exodus of New Zealand builders to Australia. In addition, there is a back log of large infrastructure projects in New Zealand.

Figure 3: Annual building consents and house sales volumes



Source: Statistics NZ & Real Estate Institute of NZ

Of course, building consent data leads building completions and housing supply cannot react instantly to reduced demand as once a new building is started the developer is usually contracted to complete it. Conversely, if demand increases due to new migration policies developers may take up to a year to respond due to delays in obtaining council approvals, the construction period and shortages of material and labour.

Thus housing supply is influenced by the number of second hand house on the market as well as new housing supply. Typically in a downturn and period of uncertainty, a proportion of sellers take their properties off the market and wait for conditions to improve. For example, the Real Estate Institute (2008, p.1) sales statistics show very low sales volumes and editorial comment that: "People are generally deciding to stay put and deferring decisions on buying and selling until a clearer trend emerges."

The rationale for withdrawing properties from the market is that vendors have certain expectations about what their house is worth and are reluctant to sell at a lower price. Baby boomers usually have more flexibility with timing house sales than people moving jobs or towns. The increase in total sales volume by 82% from 2000 to 2003 further confirms the elastic nature of housing supply response to price signals.

The relationship between the replacement cost of the house and its market value is such that over the long run, replacement cost sets the upper price limit that buyers will pay for houses. In the short run, if there are more sellers than buyers in the market, the price of near new second hand housing will be significantly below replacement cost. The main cost of new housing is labour. This is because labour is an important component of every aspect of the pre-construction supply chain as it is for the actual on-site construction costs. While wage rates may stay the same for periods of time, they seldom reduce. At this point, developers of new housing units will be faced with declining profitability and will need to either cut back on production, or exit the New Zealand market.

The New Zealand building consent and home sales data confirms Woodward's (1991) contention about the "fairly elastic" nature of housing supply in response to changes in demand. The Department of Prime Minister and Cabinet (2008) reported an historical annual average of around 20,000 new dwellings and a current stock of 1.651 million dwellings. This showed annual additions to the housing stock at less than 2% of total housing stock. However, the important point here is house prices at the margin are driven by the supply and demand considerations relating to houses actually on the market and not by total housing stock considerations.

Banks have the ability to restructure home loans so that repayment pressure is eased. This can be done by suspending principal repayments, lengthening the loan term or temporarily 'parking debt'. In New Zealand, the Reserve Bank (2008) anticipated the potential liquidity strain on Banks by arranging to purchase Residential Mortgage Backed Securities from the mortgage issuing Banks. Mortgagors with negative equities are more likely to default on loan payments because they have less to lose than those with positive equities. The subprime home loan financial crisis in the US has forced lenders around the world to review permissive lending policies, particularly when loans are securitised. New Zealand based banks do not securitise their loans and the responsibility for bad lending decisions typically stays with the bank originating the loan.

Lenders can also exert a certain amount of control over developers and builders who rely on borrowed funds to implement their projects. The usual effect of this control is to slow down the construction of "speculative" new houses, apartments and land subdivision by requiring higher equity to loan ratios and a higher percentage of pre sales.

Investor buyers and the filtering process

First home buyers are not the only buyers for the houses that the baby boomers are likely to vacate. Existing home owners still climbing the property ladder are potential purchasers as are families purchasing rental houses for investment purposes. About 80% of rental accommodation is provided by the private sector landlords and this grouping will continue to increase as according to DTZ (2007), the percentage of owner occupied housing is forecast to continue to decline. The Department of Prime Minister & Cabinet (2008, p2) reported: "In the last 15 years the private rental sector has expanded from

about 20% to 28% of the housing stock." Bollard (2006) noted New Zealanders have a positive bias towards property, generally preferring rental housing investment to equities, businesses bank deposits and other financial instruments. Hargreaves & Shi (2006) developed a total returns index for investor housing showing that on average investor housing achieved an unleveraged pre tax return of 12 percent over the period 1993-2004. Many residential property investors have taken advantage of the Loss Attributing Qualifying Company (LAQC) ownership structure to further increase their returns. In essence, investors gear their rental properties to make a tax loss and the LAQC enables them to offset property losses against other income (such as salaries and professional fees) thereby reducing the amount of tax paid. Existing taxation legislation also favours housing because there is no capital gains tax on genuine property investors. Hargreaves (2008) argues the favourable taxation treatment afforded to investor housing tends to get capitalised into house prices, thereby making it difficult for first time buyers to compete with investor purchasers.

According to Hoyt (1933), there is a so called "filtering process" operating in housing markets. This means that when houses owned by the affluent are located in the older part of cities, they eventually become unfashionable and are vacated by the wealthy. These houses tend to be purchased by middle income families before finally filtering down again to less affluent buyers, as the neighbourhood becomes run down. At this stage investor buyers may also be active in this market and divide a large house into two or more rental flats. The filtering process means that because the baby boomers are at a stage of life where they have accumulated wealth they are more likely to live in relatively expensive houses. The Retirement Commissioners (2001) research showed the net worth for New Zealand couples peaked at age 55-59 and the largest single asset was the family home.

Retirement in place

Changes in the overall health and well being of the baby boomer generation means that retirement at age 65 is no longer compulsory. Indeed, the legislation in New Zealand precludes discrimination on the basis of age. In practice, if people are still in good health then a significant number are likely to continue in some type of employment (paid or volunteer) well beyond age 65. Most of these people will retain a family home, some of them may downsize into a home unit, townhouse or apartment. Usually this will be in the localities where they have long term contacts and family connections. Davey et al (2004) points out that it is much less expensive to the taxpayer and in line with OECD policies if older people are encouraged to "age in place". Furthermore, "a very small proportion of older people aged under 80 live in residential care". From a property perspective, a baby boomer couple retiring in 2011 at age 65 may not vacate the family home for another 15 to 20 years, particularly if the female is the surviving spouse.

The Retirement Commissioner (2008) provides advice regarding how reverse annuity mortgages have made it possible for baby boomers to help finance their retirement by drawing down some of the equity built up in the family home. Other options described by

Daley (2007) include selling the family home to institutional investors such as pension funds and retaining a lease allowing lifetime occupancy. In this case, the institution buys the house at a discounted price reflecting the life expectancy of the occupants and benefits from the capital gain over time. The leaseback option frees up considerably more capital than a reverse annuity mortgage but really does raise the possibility of "spending the children's inheritance".

The effect of aging in place policies are likely to result in a steady stream, rather than a rapid flood, of baby boomer houses being sold over the next 20 years. This means the building industry will have sufficient time to adjust the supply of new houses to meet the demand.

Legislation

The Ministry of Environment (2004) provided a summary of the complexities of the Resource Management Act 1991. The purpose of this legislation is to achieve "sustainable management" of New Zealand's resources. In practice, the Resource Management Act tends to restrict the amount of land available for residential development and adds layers of administrative costs to the subdivision process. While this may have desirable outcomes in terms of restraining urban sprawl, it has meant land costs increase at a much faster rate than building costs. Planners also do not always appreciate the unintended consequences of their actions. For example, Motu (2006) showed that releasing land for urban development in the Marlborough area resulted in large lot subdivisions and expensive houses rather than the desired outcome of smaller affordable homes on standard sized sections. Furthermore, Evans (2004) pointed out developers may be quite rational in land banking and drip feeding sections onto the market so that prices can remain high.

The Department of Building and Housing (2008) administer the Building Act 2004. This legislation was introduced in response to the leaky building crisis and the short comings in the Building Act 1991. The Building Act 2004 has seen a change back to a much more prescriptive approach to building regulations and added further layers of costs to builders. The flow on effects of this legislation into the second hand market has acted to under-pin the value of the existing housing stock. The combination of higher land costs and higher building costs leaves very little room for builders to reduce their profit margins and remain competitive when buyers compare the prices of new and second hand houses.

Real incomes rising

Bollard & Jones (2007) noted a decline in the real prices of many consumer items over the last few years due to the low wage structure and manufacturing prowess in China. Chinese manufacturing expertise is being replicated in India by excellence in computer software products. This, coupled with the boom in soft commodity prices (particularly milk products), has helped to increase the wealth of New Zealanders. Consequently some

of this wealth will flow through to the 'baby bust' generation in the form of higher wages and salaries and make housing more affordable for them.

Intergenerational transfers

The Myers & Ryu (2007) argument that significant numbers of potential first home buyers from the baby bust generation will not be able to afford to purchase the homes vacated by the baby boomers has some logic. The doubling of house prices from 2002 to 2007 made housing increasingly unaffordable. How then are the children of the baby boomers managing to buy houses? Anecdotal evidence suggests a proportion of Mum and Dad baby boomers are helping their baby bust children into housing by paying all or part of the deposit, perhaps taking a share of the ownership and in some cases acting as a guarantor for the mortgage payments. Statistics on this type of wealth transference are not readily available, but it is clear the baby bust generation are getting help from somewhere and it is not just through government subsidies such as found in the "welcome home scheme" and the "equity sharing scheme".

Another way the baby boomers are transferring wealth to their baby bust generation children is by establishing family trusts. Statistics NZ (2006) census data shows approximately 10% of dwellings are owned by family trusts. Typically the family home is put into a trust with the children being the beneficiaries of the trust and the parents gradually gifting their interests to the trust. The trust is usually arranged so the parents have lifetime occupancy of the family home.

Regional winners and losers

This paper has argued that the eight reasons discussed in the previous section make it unlikely there will be a national baby boomer housing bust. The eight reasons were:

1. Demographics
2. Occupancy Rates
3. Housing Market Supply
4. Investor Buyers and the Filtering Process
5. Retirement in Place
6. Legislation
7. Real Incomes Rising
8. Intergenerational Transfers

Demographic projections and the likely housing market response are the two most important factors at a national level. At a local level, housing markets are strongly influenced by the performance of the regional economy. This means there will be regional winners and losers.

There is a long term trend with internal migration in New Zealand for people to move north and east towards the sun. This results in a movement of people to Auckland and

east coast cities in the North Island. There is also a trend away from country towns to the cities. Statistics NZ (2007b) provides useful estimates of likely sub-national population changes from 2006-2031. They concluded about half the territorial local authorities will lose population by 2031. The highest positive regional growth will occur in Auckland and Bay of Plenty and the highest negative growth in Southland and the West Coast. To some extent, the historical internal population movements are reflected in the Quotable Value NZ (2002) house price indices. Table 1 shows the 10 territorial local authorities with the highest index number at the end of 2002. Where demographics tend to diverge from house prices is where there are a coastal holiday home destinations such as in the Thames/Coromandel areas.

Table 1: Top ten territorial local authorities index (December 2002)

Auckland	2109
Thames/Coromandel	1956
Nelson	1874
Tauranga	1820
Napier	1811
Marlborough	1805
North Shore	1793
Hastings	1773
Wellington	1742
Gisborne	1739
Waitakere	1732
Index based at 1000 in 1989	

Source: Quotable Value, House Price Index

Interestingly when the index in Table 1 was rebased to 1000 in December 2003, the results were completely different showing the most rapid increase in property values were typically in rural areas showing slow or even negative population growth (Quotable Value NZ, 2007). Part of the explanation for this result, which is shown in Table 2, is most likely related to the nationwide property boom which first occurred in the cities and then spread to the towns and rural areas. Also as a consequence of the recent boom in "soft commodity" (food) prices, New Zealand has seen very substantial rural investment aimed at increasing agricultural and horticultural production. The growth in the dairy industry in recent years is the most notable example with the off farm infrastructure and contract work force typically based in the rural towns.

Table 2: Top ten territorial local authorities (June 2007)

Ruapahu	2526
Stratford	2510
Waitomo	2359
South Waikato	2349
Gisborne	2326
Grey	2278
Wairoa	2246
Rangitikei	2227
Wanganui	2188
South Taranaki	2186
Index based at 1000 in December 2003	

Source: Quotable Value, House Price Index

Grimes et al (2003) modelled regional changes in real house prices across New Zealand and concluded that a 1 percent increase in regional economic activity boosts real house prices by 1.05%, while a 1% increase in the housing stock lowers house prices by almost 0.6 percent. Regional economic activity covers the full range and is largely independent of the baby boomers.

Changing housing preferences

There may also be a change in housing preferences over time. Currently the trend in New Zealand is for stand alone single family houses to become larger and more elaborate over time. Statistics NZ (2006) show the average size of a new house in 1991 was 139m^2 and by 2006 this had increased by 37% to 191m^2. A proportion of older baby boomers are at a stage in the lives where they have accumulated wealth and are in a position to build large and expensive new houses, the so called "McMansions". Currently there is a certain amount of status accruing to the owners of such houses because they are regularly featured on television and in fashionable magazines. However a combination of factors may mitigate against this trend. These include the higher energy and maintenance costs associated with large houses, smaller families, the need to constrain urban sprawl, time wasted in commuting from the fringe of cities, buyers affordability considerations and a possible social stigma towards people perceived to be over using scarce resources.

SUMMARY AND CONCLUSIONS

The relationship between demographics and house prices is complex. Attempts by economists to model this process do not appear to have taken sufficient account of population growth and the elasticity of housing supply volumes, particularly new construction. While new housing is a small part of the total housing stock on average, over the period 1995-2007, it comprised 27 percent of the annual houses transacted. The data used in Figure 3 shows the number of new dwellings built annually can vary by as much as 50 percent over a period of 3 to 4 years. Existing home owners dominate the

housing market activity and past evidence suggests they have the ability to restrict supply and hold prices up by simply sitting on the side lines during periods of cyclical market downturns. Since the withdrawal of baby boomers from the housing market will occur over the next 20 years, there appears to be ample time for the housing market to adjust to any potential over supply situations.

Logically, if the total population is increasing at the rate of 1% per year then more than 42,000 additional people need to be housed each year and this will require around 16,000 new dwellings. Add to the equation decreasing occupancy rates, demolition of old houses and it seems there will continue to be a demand by the baby bust generation, property investors, and other people climbing the property ladder for the houses vacated by the baby boomers. Admittedly the population projections rely on a long term average of 5,000 net migrants. It could be argued that 5,000 is likely to be conservative because of the crowded living conditions, air pollution and resource constraints in some European and South East Asian countries.

The price of second hand baby boomer housing is likely to be underpinned by the increasing cost of new houses, particularly the land component. Labour shortages are very likely to result in increasing wage rates for the baby bust generation.

The future outlook for baby boomer housing will vary across regions within New Zealand. Those regions showing strong economic and job growth are likely to benefit. Most likely this will be in the Auckland and Bay of Plenty regions while the emptying out of the rural areas and country towns will continue. Exceptions to this generalisation will include localities such as the Queenstown and Southern Lakes region where there is a strong presence of overseas ownership and holiday homes. The intensification of rural land uses will continue will offer growth opportunities for some country towns offering rural servicing facilities.

REFERENCES

Bollard, A. (2006). 'Kiwis Like Buying Houses More Than Buying Businesses', Speech by Alan Bollard to Pricewaterhouse Coopers Annual Tax Conference, November, www.rbnz.nz/speeches.

Bollard, A. & Jones M. (2007). 'Commodities, Dairy Prices and the New Zealand Economy'. Speech by Alan Bollard to Waikato Grasshoppers, June, www.rbnz.govt.nz/speeches.

Coleman A. & Landon-Lane, J. (2007). 'Housing Markets and Migration in New Zealand 1962-2006', Reserve Bank of New Zealand, Discussion Paper 2007/12.

Daley, J. (2007). 'A guide to releasing cash from your home', 27 October, www.independent.co.uk/money.

Department of Building & Housing,. (2008). 'The Building Act 2004', www.dbh.govt.nz/blc-building.act.

Department of Prime Minister and Cabinet, (2008). 'Final Report of the House Prices Unit: House Price Increases & Housing in New Zealand – March 2008' www.dpmc.govt.nz.

Davey, J., de Joux, V., Nana, E. & Arcus, M. (2004). 'Accommodation Options for Older People in New Zealand', Centre for Housing Research, www.chranz.co.nz.publications.html.

DTZ (2004). 'Changes in the Structure of the New Zealand Housing Market - Volume I', Report for Centre for Housing Research, www.chranz.co.nz.publications.html.

DTZ (2007). 'Census 2006 & Housing in New Zealand', Report for Centre for Housing Research, www.chranz.co.nz.publications.html.

Economist (2008). 'Baby Boom and Bust'. The Economist, Jan 17.

Evans, A. W. (2004). 'Economics, real estate development and the supply of land', Blackwell Publishing.

Engelhardt, G. V. & Poterba, J. M. (1991). 'House Prices & Demographic Change: Canadian Evidence', Regional Science & Urban Economics 21, 539-546.

Gaynor, B. (2008). 'Housing downturn a problem of aging', July 12, www.nzherald.co.nz

Giles, R. (2008). 'The housing market has a new problem: aging Kiwis'. www.babyboomersguide.co.nz

Grimes, A., Kerr, S. & Aitken, A. (2003). 'Housing and Structural Adjustment', Report for Centre for Housing Research, www.chranz.co.nz.publications.html.

Hargreaves, D. (2008). 'The tax system and housing demand in New Zealand'. Reserve Bank Discussion paper, DP 2008/06.

Hargreaves, R. V. & Shi, S. (2006). 'A total returns index for investor housing in New Zealand'. Paper presented to Pacific Rim Real Estate Society conference, Auckland, www.prres.net.

Hendershott, P. H. & Weicher, J. C. (2002). 'Forecasting Housing Markets: Lessons Learned', Real Estate Economics, 30, 1, pp 1-11.

Hoyt,H. (1933) "One Hundred Years of Land Values in Chicago", University of Chicago Press

Kennerley, G. (2008). 'The House Price Crash of 2010'. www.babyboomersguide.co.nz

Krainer, J. (2005). 'Housing Markets and Demographics' Federal Reserve Bank of San Francisco – Economic Letter, 2005-21.

Mankiw, G. & Weil, D. (1989). 'The Baby Boom, The Baby Bust & the Housing Market, Regional Science & Urban Economics, 19, 235-258.

Ministry of Environment (2004) 'Your guide to the Resource Management Act'. www.mfe.govt.nz

Motu, (2006). 'Affordable Housing in Nelson, Tasman and Marlborough – taking action', Report for Centre for Housing Research, www.chranz.co.nz.publications.html.

Myers, D. & Ryu, S. H. (2007). 'Aging Baby Boomers and the Generational Housing Bubble: Foresight and Mitigation of an Epic Transition', Journal of the American Planning Association, Winter, 74, pp 1-17.

Quotable Value (2002). 'Urban Property Sales Statistics Half Year Ended December 2002', Quotable Value, Wellington.

Quotable Value (2007). 'NZ Real Estate Market – Half Year Ended June 2007', Quotable Value, Wellington.

Real Estate Institute of New Zealand, (2008) "Housing Facts", REINZ, www.reinz.co.nz

Reed, R. (2000). 'Baby Boomers and Property Busts'. Paper delivered at the 10th Biennial Conference of the Australia Population Association, Melbourne.

Reserve Bank (2008), 'Financial Stability Report' May. www.rbnz.govt.nz

Retirement Commissioner (2001), 'The worth of New Zealanders: a report on their assets and debts.' www.retirement.org.nz

Retirement Commissioner (2008), 'Quick Reverse Mortgage Calculator'. www.retirement.org.nz

Statistics New Zealand (2006). 'Census 2006'. Hot off the Press, Statistics NZ, www.stats.govt.nz

Statistics New Zealand (2007a). 'National Population Projections: 2006 (base – 2061)'. Hot off the Press, Statistics NZ, www.stats.govt.nz.

Statistics New Zealand (2007b). 'Sub-national Population Projections 2006 (base – 2031)'. Hot off the Press, Statistics NZ, www.stats.govt.nz.

Statistics New Zealand (2008). 'Estimated resident population of New Zealand'. Statistics NZ Population Clock, www.stats.govt.nz.

United States Census Bureau (2008). ' US Census Bureau International Data Base, Country Population Summaries" http://www.census.gov/

Wall Street Journal (2008). 'Why Baby Boomers May Bust the Housing Market', Wall Street Journal, Jan 16.

Woodward, S. E. (1991). 'Economists' prejudices: Why the Mankiw-Weil story is not credible', Regional Science & Urban Economics, 21, 531-537.