Department of
Building and Housing
Te Tari Kaupapa Whare

New Zealand Housing Report 2009/2010: Structure, Pressures and Issues

Contents

List of Figures and Tables

Figures

Tables

Executive Summary

THE PURPOSE AND SCOPE OF THIS REPORT

This first *New Zealand Housing Report* provides a broad overview of housing market conditions in the building and housing sector. It is the first document to pull together in one place all the information available and look at the overall balance of housing demand and supply. The report provides reference material that all participants in the sector (both public and private) can use to improve their understanding of the housing market and therefore the quality of their decisions.

The report's conclusions must be treated with some caution, both because of the complex nature of the subject and because of some gaps in data. Caution is required in these two areas in particular:

- **Distinction between 'underlying' and 'effective' demand** – The underlying (or population-driven) volume of demand is distinct from effective (or economic) demand, which is the combined effect of consumer-investor aspirations or desire to rent or buy and their financial ability or willingness to do so. Forecasts of demand in this report are based on population-driven analysis; the impact of income limitations and buyer preferences is commented on but not quantified.
- **Numbers of permanently occupied houses** – Significant gaps in the available data mean we cannot be certain what proportion of new dwelling consents translate into permanently occupied houses. Nor do we know what proportion of dwellings that are recorded in Census data as not permanently occupied are vacant and available to be occupied, as some of these will be holiday homes, under repair, or unavailable for some other reason.

THE BROADER IMPACT OF THE BUILDING AND HOUSING SECTOR

The building and housing sector is a key component of our economy and is central to our well-being. Construction activity contributes 4–5% of GDP, while the sector employs 8% of the New Zealand workforce. The nation's housing stock is valued at approximately $600 billion, which is 12 times greater than the capital value of the New Zealand share market (approximately $50 billion).

Housing accounts for 22% of average household expenditure for owner-occupied households, and 28% of average household expenditure for renters. Further, home-ownership is closely linked to household asset accumulation and wealth, with housing's share of total household assets amounting to approximately 75%.[1]

An effective building and housing sector is an important component of successful cities, which in turn contribute to productivity, innovation and economic activity.

Housing contributes to social outcomes in many ways. Homes provide shelter and space for family living; where a person lives influences access to work, schools, shopping centres, leisure facilities and other private services and public activities used regularly by the household.

Housing adds to the health, safety and well-being of individuals and families. Good housing can create positive spill-overs for households, while poor housing can create negative ones. The positive spill-overs can be separated into those areas that are related to good-quality housing, stable housing, neighbourhood effects, and home-ownership.

Conversely, rising house prices and declining rates of home-ownership add to widening wealth and income inequalities. A volatile housing market complicates monetary policy, and there are potential spill-overs to the tradables sector and wider economic performance (through the housing 'wealth effect').

1 See rbnz.govt.nz/statistics/monfin/HHAandL.xls

SIGNIFICANT HOUSING POLICY ISSUES

There are a number of significant housing policy issues confronting the sector, including:

- the implications of declining home-ownership rates
- how to increase the supply of affordable housing and ensure that low-income households can access suitable dwellings
- the need to free-up regulatory constraints on new housing development
- how to turn around declining productivity in the sector at a time when input costs are rising faster than incomes.

KEY FINDINGS IN THIS REPORT

Housing demand

Housing demand in New Zealand is estimated to grow by more than 20,000 households per year (on the basis of forecast population/household growth), with most of that growth occurring in the Auckland region.

House prices have risen faster than incomes, to a current level that is arguably unsustainable. The high house-price-to-income ratio has led to changes in tenure, declining home-ownership rates, and affordability issues for some groups.

The high house-price-to-income ratio is linked to the changes in preference between 'consumption' demand and 'investment' demand for housing.

Housing supply

The current level of new housing construction (approximately 15,500 per year) is below population growth rates and is lower than the Infometrics forecasts used in this report.

Construction volumes are forecast to increase in line with future economic growth rates – but there is a risk that future growth in activity levels will be constrained by the current fragmented structure of the industry and its reliance on high debt levels, with the finance sector expecting higher levels of equity to support lending.

Release of new residential land supply, or more intensive development of existing residential land, may be constrained by current regulatory practices.

The residential construction industry has experienced a period of rapidly increasing construction costs over 2003–08, which is partly explained by low productivity in the industry.

The shortfall between demand and supply

Comparing housing demand (measured by the number of households) with supply (measured by the number of private occupied dwellings) shows a growing shortfall in supply. The shortfall is expected to be 14,772 dwellings over 2011–16, 10,603 dwellings over 2016–21, and 14,054 dwellings over 2021–26. The trend will reverse over 2026–31, with a surplus of 2,322.

At a regional level, the shortfall in the Auckland region is projected to be 90,575 dwellings in the 20 years to 2031.

The effects of low rates of new housing construction and a growing demand/supply shortfall appear to be offset, at present, by lower than expected rates of household formation. More people are remaining at home for longer, rather than flatting and forming new households. The result is that the average household size is increasing, and this is limiting the growth in demand for housing.

House prices

Earlier in the decade there was a surge in demand for housing in New Zealand, which saw house prices accelerate. High prices were driven by high immigration, lower interest rates, increasing availability of credit, a tax system bias that encouraged investment in rental property, and expectations of future increases in house prices.

As a result, prices have increased faster than incomes, shutting out a large segment of first-home buyers from home-ownership.

There has been an increase in demand for housing assistance and a change in the composition of the private rental market, which has shifted towards 'intermediate private renters' – that is, families and older households who are seeking stable tenure and who would previously have been expected to move into home-ownership. These changes point to the need for a growing supply of rental property that provides the greater stability of tenure required by this segment of the rental market. The question is raised whether this will be supplied by private investors.

Chapter 1. Introduction

1.1 THE AIM OF THIS REPORT

This inaugural *Housing Report* records and comments on issues and trends relevant to housing demand and supply in New Zealand.

The broad objective of the report is to inform the housing sector and to facilitate constructive discussion and debate within the sector about housing issues. The report pulls together and presents the available information about current housing demand and supply; in doing so it also highlights gaps in information and research about the sector.

Through regularly producing this report, the Department of Building and Housing aims to improve its knowledge base, and that of the housing sector generally, and to strengthen the Department's networks. This includes improving the Department's understanding of the determinants of supply and demand and of how these shape trends in the housing sector.

1.2 THE ROLE OF THE DEPARTMENT OF BUILDING AND HOUSING

The Department of Building and Housing was set up in November 2004 to improve building quality and housing availability for New Zealanders. It assists everyone involved in buildings, whether they build, own, live or work in them.

The Department has an overview of the entire building and housing sector. It brings together building and housing policy making, regulation and dispute resolution into one organisation. These activities were previously spread across five organisations.

The Department provides advice and sets standards so homes are better built, safer and healthier, without adding to the time and cost of building them. It helps landlords and tenants to work well together, and it is helping New Zealanders affected by the weathertightness problems to get their houses repaired.

Building and housing are important to our economy, as well as to people's daily lives. The Department works closely with others to provide vision and guidance on the major public policy challenges facing New Zealand's building and housing sector.

The Department continues to change and develop and it is stepping into a stronger sector leadership role. It is focussed on adding value for its clients, working in partnership with the sector and delivering value for money for the New Zealand Government

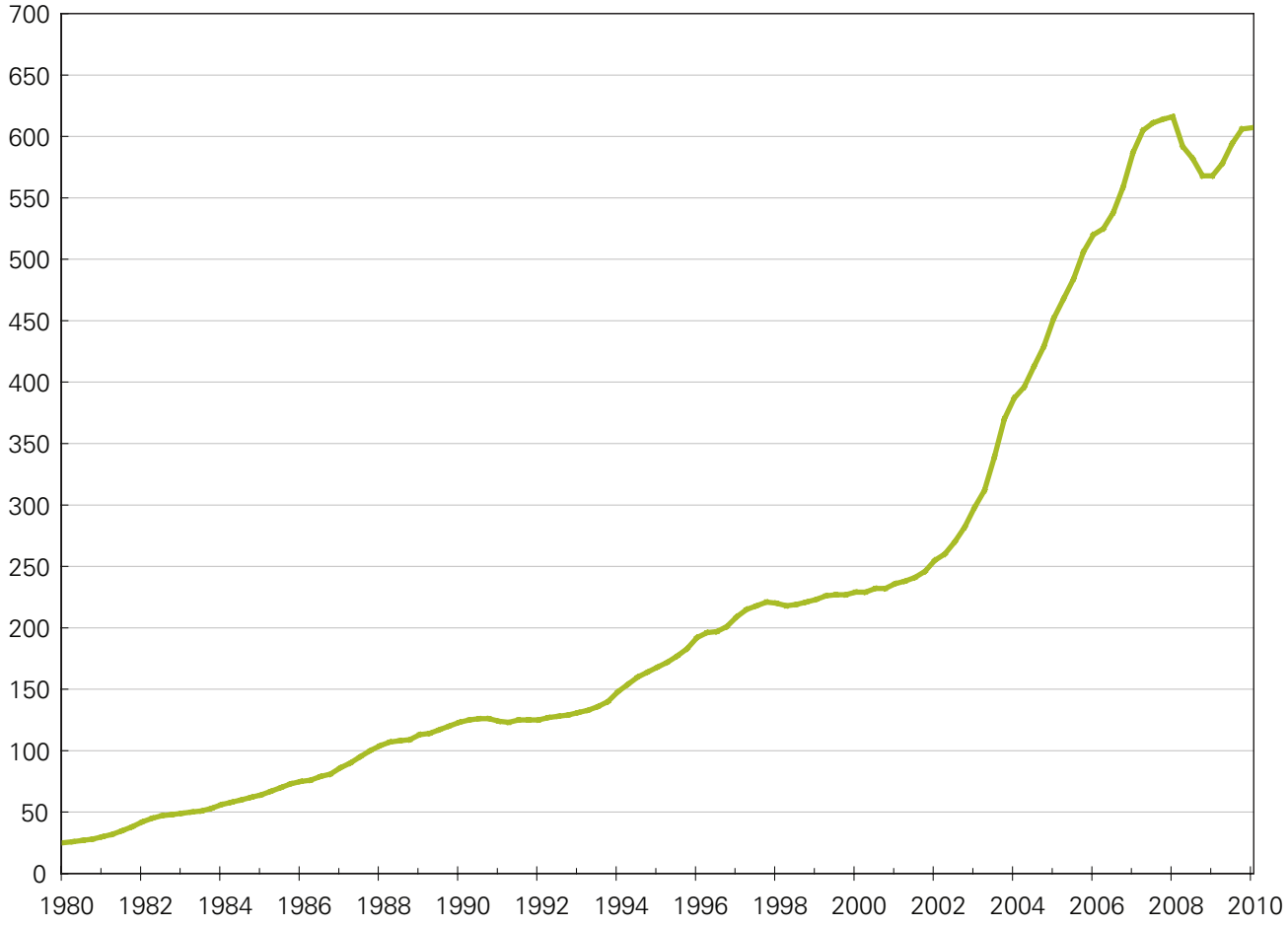
1.3 THE CONTEXT FOR THIS REPORT

Housing is an important sector of the economy and is the major form of asset and wealth accumulation in New Zealand. Conditions in the property market over the last decade have been unprecedented, both in New Zealand and a range of other countries, and the resulting impact on both the real economy and the financial sector has further highlighted the housing sector's importance.

For example, the value of the housing stock was $227 billion in the December 1999 quarter; it then peaked at $616 billion in the first quarter of 2008, dropped to $568 billion a year later in March 2009, and resumed its upward trend to reach $603 billion for the December 2009 quarter. By comparison, the capital value of the share market is only around $50 billion.

Figure 1.1 – Value of housing, 1980–2009

($ billion)



Source: Reserve Bank of New Zealand

Several key trends also emerged over this decade:

- **Housing affordability** – This worsened as a result of house-price increases above the rate of growth in disposable incomes, especially in urban centres and 'sun-belt' parts of the country.
- **Rates of entry into home-ownership** – These continued to decline, both because of the decline in housing affordability and because of an apparent change in preference in favour of renting. This has meant a consequent increase in the importance of the 'intermediate rental housing market' – that is, middle-income couples and families and older households who would normally be expected to achieve stable housing through home-ownership but who are unable to bridge the deposit or mortgage-servicing gaps, or both, given current price levels.
- **Volume of residential construction** – There has been a pronounced slowdown in residential construction in the last 18 to 24 months. While there have been recent increases in activity levels, construction volumes are not yet at a level that would meet longer-term population/household growth projections.

The House Prices Unit in the Department of the Prime Minister and Cabinet[2] conducted a 2007 housing study that contributed to the understanding of:

- the housing market as a national system
- the relative importance of the influences on house-price inflation
- what it would take to slow house-price inflation and thereby lessen the volatility of New Zealand's house-price cycles, or alternatively what it would take to better manage the effects of those cycles

2 The final report of this study by the House Prices Unit, *House Price Increases and Housing in New Zealand*, was published in March 2008.

- the consequences that adjusting policy settings would have for the macro-economy, economic growth and social outcomes.

Other than that one-off House Prices Unit report, there has been no systematic process of comprehensively collecting, aggregating and presenting information about the building and housing sector in New Zealand.

By comparison, other OECD countries such as Ireland, Australia and the UK (and specifically Scotland) have conducted reviews of their housing sectors. Most recently, the National Housing Supply Council (NHSC) in Australia produced its second annual State of Supply Report (2010), which analyses and forecasts the adequacy of land supply and construction activity over a 20-year forecast period.

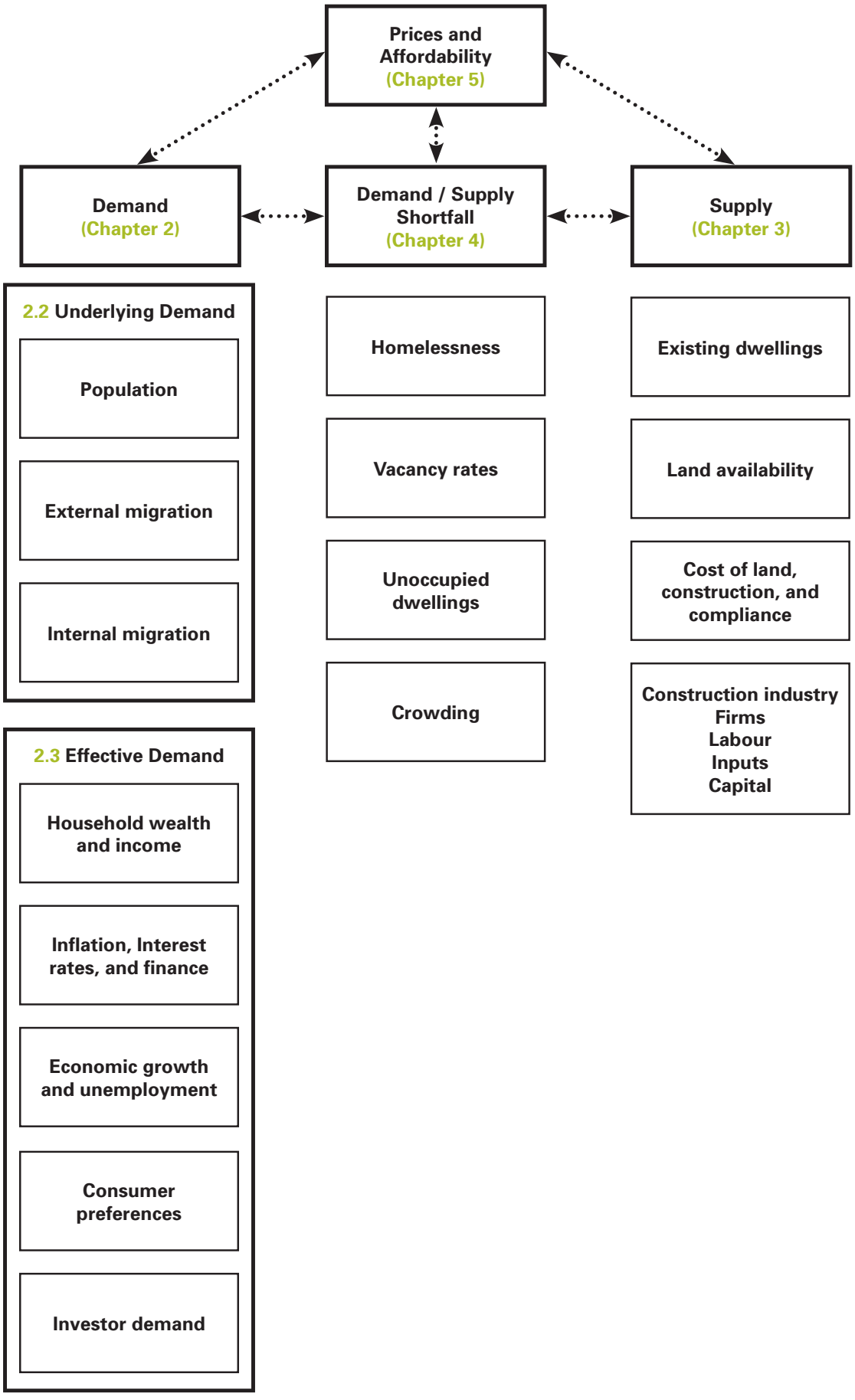
While a number of organisations undertake project-based research on housing (such as Motu Economic and Public Policy Research, BRANZ, and the Centre for Housing Research Aotearoa New Zealand (CHRANZ)), it is important that this research is regularly analysed and that there is ongoing collection, reporting, monitoring and evaluation of knowledge about housing trends.

This Housing Report is intended to provide a broad overview of housing market conditions and to gather the key facts in one place. It provides reference material that all participants in the sector, both public and private, can draw on to improve their understanding of the housing market and the quality of their decisions as they address current issues.

1.4 THE METHODOLOGY AND STRUCTURE OF THIS REPORT

This report is structured around the demand/supply framework that was adopted by the Australian National Housing Supply Council in its State of Supply Report (2008) (see Figure 1.2 below). This 'housing system' approach is intended to identify the key drivers of the factors that influence housing-market outcomes, and also to identify the inter-relationships between those factors.

Figure 1.2 – Factors influencing housing demand, supply and affordability



Source: Adapted from the Australian National Housing Supply Council's State of Supply Report (2008)

Chapter breakdown

- **Chapter 2** presents relevant data on housing demand – both current and projected demand – and looks at the drivers of underlying and effective demand.
- **Chapter 3** presents relevant data on housing supply and discusses several issues relating to the current supply.
- **Chapter 4** puts together data on population/household demand and new housing supply, and compares them to derive an estimated surplus or shortfall. It also discusses other ways of measuring housing shortfalls.
- **Chapter 5** discusses house prices, the various ways of measuring them, and the impact of prices on housing affordability (both ownership and rental).

Chapter 2. Demand

KEY POINTS

Demand for housing in New Zealand was estimated at 1.619 million households in June 2009. By 2011 that number is expected to increase to 1.664 million households, and to 2.087 million by 2031. Projections suggest that the largest growth in demand will be in the Auckland region.

There have also been changes to the mix between consumption and investment demand, with a drop in the percentage of home-owners. This is linked to the high house-price-to-income ratio: house prices have risen faster than incomes, to a level that is arguably unsustainable. This, in turn, has led to changes in tenure, declining home-ownership rates, and affordability issues. Other changes in housing demand will be dictated by the ageing population – which will affect the type, size and location of housing being sought.

2.1 AN OVERVIEW OF HOUSING DEMAND IN NEW ZEALAND

Housing demand is determined by the willingness of households to pay for somewhere to live. There are many ways to analyse the determinants of housing demand – for example, by looking at demand-to-own versus demand-to-rent, consumption versus investment preferences, or demand for apartments versus demand for stand-alone houses.

Further, some of these determinants of demand are linked and some overlap. For example, an increase in demand to invest in housing could result in an increase in the supply of rental housing, which in turn could be met by demand from private renting households or from those who qualify for social housing assistance.

In the annual State of Supply reports released by the Australian National Housing Supply Council (NHSC), their analysis is based on a distinction between 'underlying' demand and 'effective' demand. Underlying demand is a measure of the number of houses needed based on population growth rates and forecasts, and is based on assumptions – generally static – about household formation. Effective demand, by contrast, is a market-based concept, centred on the conception of a willing buyer who has access to sufficient income or finance to complete a transaction with a willing seller.

This Housing Report also distinguishes between underlying and effective demand. However, it should be noted that underlying and effective demand are not entirely independent, in that the propensity to form a household (to move from living with parents to independent living, or from 'flatting' to sole-person or couple households) depends to some extent on economic means.

2.2 UNDERLYING DEMAND

Key points in this section

- Forecast household growth is more than 20,000 per year.
- Approximately half of that growth is forecast to be in the Auckland region.
- Household formation – and therefore housing demand – may be constrained by housing prices and affordability.

'Underlying demand' refers to the number of houses needed to accommodate households in the population. Population increase in the age range of 20–40 (which is when people tend to form independent households) leads to smaller household sizes and more single-person households. Further, positive net migration increases underlying demand for housing. A 'household' means either one person who usually lives alone, or two or more people who usually live together and share facilities in a private dwelling.[3]

3 A 'dwelling' is any building or structure, or part of one, that is used for the purpose of human habitation. It can be permanent or temporary.

Natural population growth rates, internal migration, housing preferences and household formation rates all tend to change relatively slowly, and therefore changes in underlying demand caused by these factors are reasonably predictable. By contrast, the level of external migration depends on policy rules and incentives, as well as on wider domestic and international economic conditions, and it therefore tends to have a more volatile, less predictable impact on underlying housing demand.

2.2.1 Population

Natural population growth in New Zealand has for many years been trending at just over population replacement rates. It is the change in household formation rates that accounts for most of the change in underlying demand for housing.

Two other forces affect household numbers and household size, and introduce some volatility into underlying demand in the short term:

- **Fluctuation in net migration and resulting changes in household size and numbers** – For example, the recent global recession has affected annual net migration to New Zealand, which soared from only 3,569 for the year to November 2008, to 20,021 for the year to November 2009. In the previous cycle, net migration to New Zealand ranged from the trough of -12,600 in March 2001 to the peak of +42,541 in May 2003. Net migration also affects household size, especially in the short run when the supply of houses is not able to respond to demand.
- **Economic and social conditions that have altered household sizes** – For example, there are recent suggestions that older children are living with their parents for longer, instead of going flatting, and that the number of people per flat is increasing. These factors increase household size rather than changing the number of households, thereby disguising the increase in housing pressure. The composition of external migration is also relevant, with (extended) migrant families demanding an entirely different type and location of housing compared to overseas students or New Zealanders returning home. For example, new migrants tend to settle first in greater numbers in the Auckland area, while returning New Zealanders may spread themselves more throughout the country.

To calculate underlying demand, this report uses household-size estimates from recent Census data and from Statistics New Zealand's projections of household size. Although there are short-term fluctuations in household size and also fluctuations between sub-segments of the housing market as noted above, no information exists on these fluctuations between each Census.

2.2.2 External migration

While the natural population increase in New Zealand is relatively stable, net migration varies greatly and can turn around quickly.

The New Zealand Department of Labour (2009) notes that net migration inflows often decline during a domestic downturn, as New Zealanders head overseas to look for job opportunities. In the 1966/67 recession, annual net migration went from an inflow of 18,000 to an outflow of 6,000. Similarly, the economic slowdown in the late 1970s saw net migration go from an inflow of 20,000 to an outflow of 43,000.

A global downturn can also produce the opposite effect, as experienced during the early 1980s and early 1990s when both the UK and Australia were in recession. In both instances there was a large rise in the unemployment rate here as New Zealanders returned home. Similarly, in the most recent global recession, annual net migration to New Zealand increased from 3,814 in 2008 to 21,253 in 2009, with most of that increase resulting from returning New Zealanders.

The volatility of net migration over shorter time intervals between the peak and the trough of each migration cycle (noted in 2.2.1 above) should be taken into account when one considers Statistics New Zealand's

assumption of an annual average of 10,000 net migration gain when it makes its household projections. Based on the assumed household size of 2.6, every +/- 10,000 change in net migration numbers can lead to a change of +/ 3,846 new dwellings required per year.

Several aspects of net migration need to be examined further:

- the disaggregation of the net numbers into arrivals and departures
- the profile of migrants by, for example, their age and type (such as students or families)
- numbers of returning New Zealanders.

Analysing those factors would provide better information on trends in household formation and demand. This is one of the areas of further work that the next Housing Report will seek to address.

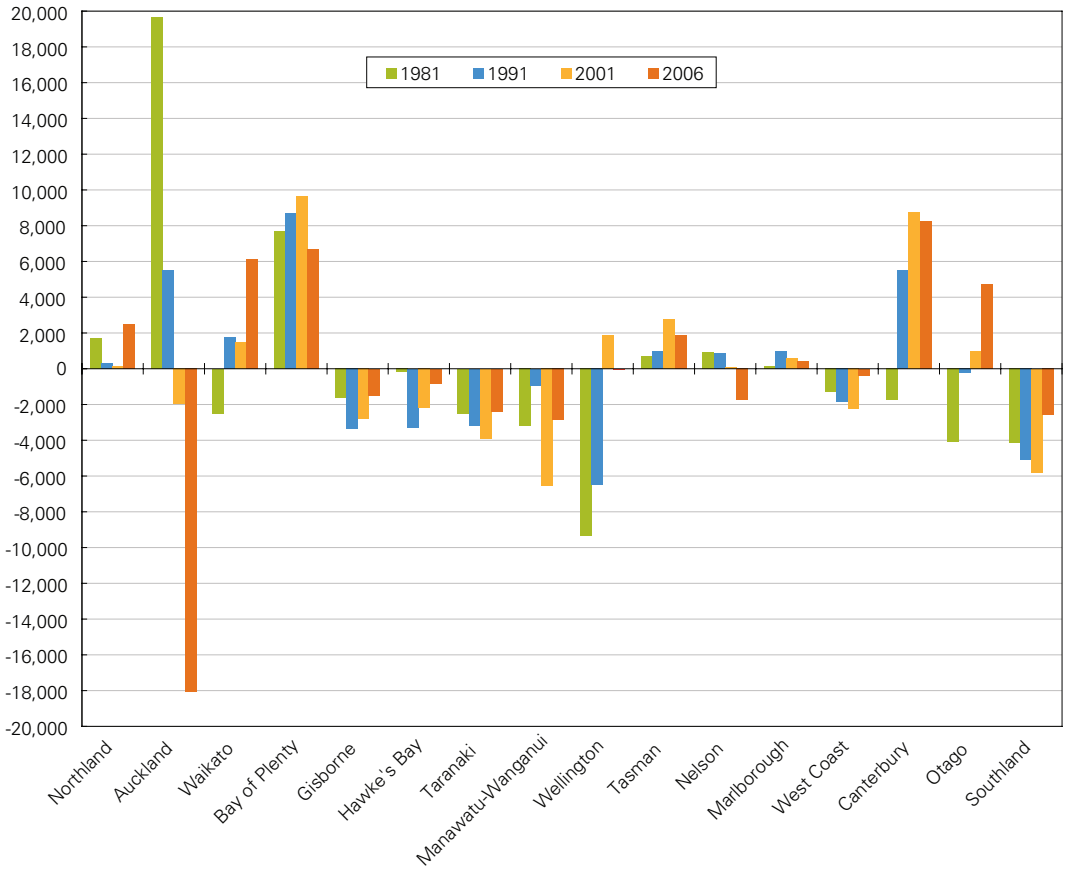
Another topic for future consideration is the impact on the housing market of volatility in net migration numbers, given the long lead times in the housing supply chain.

2.2.3 Internal migration

The historical pattern of internal migration has been from rural to urban areas and from south to north – but this is now changing. For most regions, inflows and outflows of residents have been moderate. However, some regions have experienced sustained inflows – the Bay of Plenty for example – or even a reversal from a strong inflow to a strong outflow. In recent years, Auckland has switched from net gains to net losses.

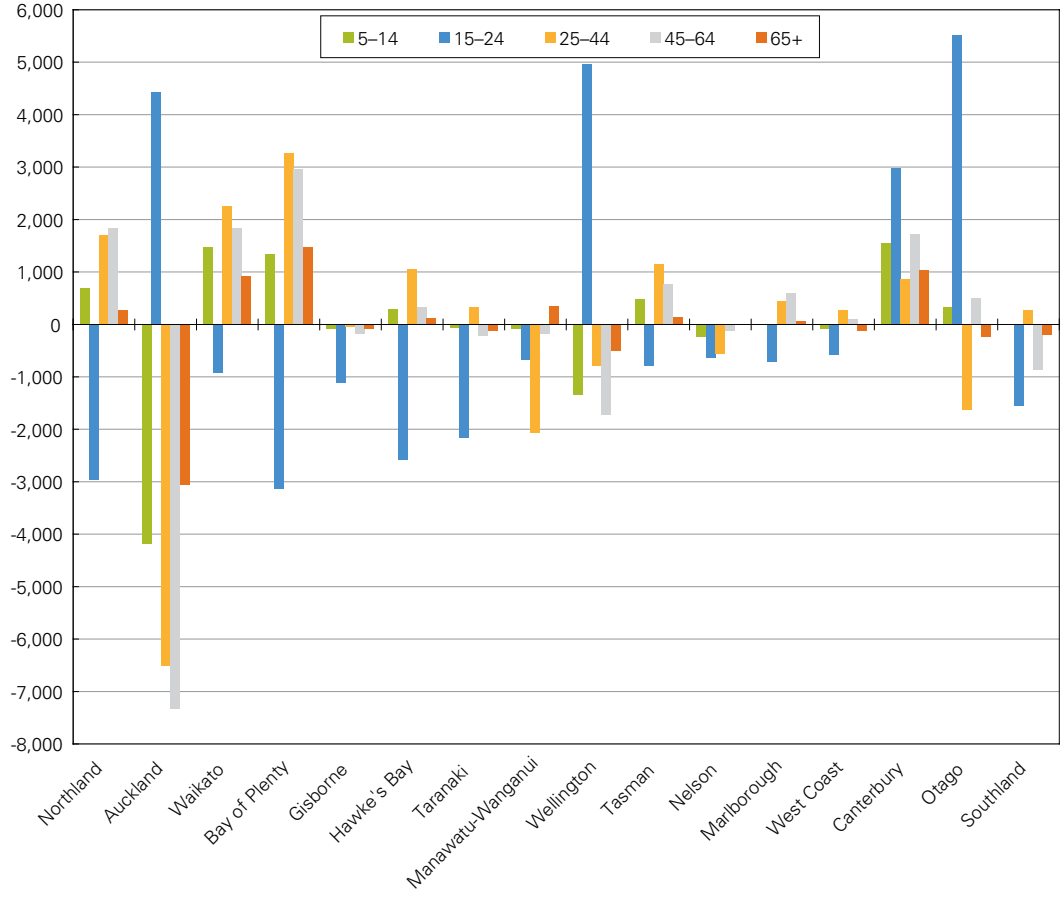
Using data from the Census, Figure 2.1 shows that Auckland experienced an inflow of almost 20,000 people from other regions within New Zealand in the five years to 1981. Most of the migration appeared to be from south to north, but this trend was less obvious in the 2001 Census and almost completely reversed in the 2006 Census, when Auckland experienced a net loss of 18,069 people compared with 2001.

Figure 2.1 – Net migration between regions



Source: Statistics New Zealand

Figure 2.2 – Regional net migration by age, 2001–06



Source: Statistics New Zealand

Census data from 2006 also reveals that the main urban centres Auckland, Wellington, Christchurch and Dunedin experienced large inflows of people aged 15 to 24, compared with 2001 (see Figure 2.2). This appears to have consisted of new graduates moving to seek work opportunities, and people moving to pursue tertiary education. For example, total enrolments at the University of Auckland, the Auckland University of Technology and the Manukau Institute of Technology increased by 24.8% between 2001 and 2008, from 59,650 to 74,472.

Young families are moving away from Auckland, but remaining within the northern part of the country. Net migration for those aged 5–14 and 25–44 has been positive in Northland, Waikato and the Bay of Plenty.

Similarly, those aged between 45 and 64 have been moving away from Auckland to neighbouring areas and to areas where rural land has been converted into lifestyle blocks. People aged 65 and over have migrated to areas that have promoted themselves as retirement-friendly, such as the Coromandel, Taupo and Tauranga.

Statistics New Zealand projects that the population aged over 65 will increase from 550,000 in 2009 to more than 1 million in 2031 and for the first time will exceed the number of children aged 0–14. One in five New Zealanders will be over 65 in 2031, compared with one in eight in 2009.[4] Furthermore, the population aged 85 and over is expected to increase from 67,000 in 2009 to 144,000 in 2031. The extent to which an ageing population 'ages in place' or instead seeks to move to sun-belt areas or to different housing types will have a significant impact on the level and location of future housing demand.

2.2.4 Stocktake of current housing demand

Change in underlying housing demand is calculated on the basis of the change in population (which includes natural population growth and net migration). A change in population in a given period is converted into new household numbers, and the total number of households is used to estimate housing demand.

Housing demand is calculated on the basis of estimates of the number of households in the current population (the 'stock') and of the increase in the number of households in regular time intervals in the future (the 'flow'). In estimating and forecasting housing demand, we have adopted the assumptions used by Statistics New Zealand to calculate and project household numbers.

Actual population and household counts from the most recent Census (2006) provide a basis for estimating household numbers.[5]Population projections based on the 2006 Census provided a means of updating the current data to June 2009 and estimating future demand, as shown in Table 2.1.

Table 2.1 – Population and household estimates, 2000–09 (June year)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009P
Estimated population ('000)	3,857.8	3,880.5	3,948.5	4,027.2	4,087.5	4,133.9	4,184.6	4,228.3	4,268.9	4,315.8
Population change		22,700	68,000	78,700	60,300	46,400	50,700	43,700	40,600	46,900
Natural increase	30,308	29,353	25,911	27,178	29,736	29,549	30,952	33,150	35,455	34,003
Net migration to NZ	-9,760	-9,266	32,815	42,517	22,008	8,593	10,688	10,078	4,732	12,515
Estimated number of households ('000)	1,410.4	1,425.2	1,444.6	1,470.2	1,498.4	1,528.0	1,552.6	1,577.1	1,601.2	1,618.6
Household change		14,800	19,400	25,600	28,200	29,600	24,600	24,500	24,100	17,400
Owner-occupied ('000)	962.0	965.7	976.0	990.6	1,006.7	1,023.7	1,038.1	1,054.4	1,070.6	1,082.2
Rented ('000)	402.7	413.9	419.0	425.9	433.6	441.6	448.3	455.3	462.3	467.3
Provided free ('000)	45.7	45.6	49.5	53.7	58.2	62.8	66.2	67.3	68.3	69.1

Note: The numbers for population change are derived by taking the difference between estimated population numbers of two consecutive years, which are subject to rounding errors. This explains why the totals for natural increase and net migration do not add up to population change.

P = Projected

Source: Statistics New Zealand

4 From the National Population Projections: 2009 (base) – 2061, released 27 October 2009; www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/NationalPoplulationProjections_HOTP09base-61.aspx

5 A household is defined as one person usually living alone, or two or more people usually living together and sharing facilities (such as eating facilities, cooking facilities, bathroom and toilet facilities and a living area) in a dwelling.

The 2006 Census dwelling count – when adjusted for households that were temporarily absent within New Zealand, net Census undercount, and households overseas – was estimated to be 1.553 million households in June 2006, with the projection for June 2009 being 1.619 million. Statistics New Zealand does not publish the June 2009 population estimate at a sub-national level, and this limits our analysis of the current level of regional housing demand in this report. Future reports will consider possible ways of estimating up-to-date regional demand.

2.2.5 Projections for national housing demand

Statistics New Zealand provides three different projections of the number of households based on the 2006 Census, namely 'low', 'medium' and 'high' scenarios. Each scenario uses different assumptions for fertility, mortality and migration. The low scenario assumes lower fertility and migration, and higher mortality, than the medium and high scenarios. Statistics New Zealand recommends the medium scenario as a base-case forecast.

Under the medium scenario, the number of households in New Zealand is expected to increase by 111,000 to 1.664 million in 2011 (or by an average of 22,200 households per year), and then to increase by another 423,800 to 2.087 million households in 2031 (that is, 21,190 households per year).

Table 2.2 – Household estimates and projections, 2006–31

Year ending 30 June	Low (Series 1B)	Medium (Series 5B)	High (Series 9B)
2006		1,552,600	
2009		1,618,600	
2011	1,654,000	1,663,600	1,673,000
2016	1,752,000	1,776,400	1,800,000
2021	1,843,000	1,884,400	1,925,000
2026	1,927,000	1,988,400	2,049,000
2031	2,000,000	2,087,400	2,174,000

Source: Statistics New Zealand

All three scenarios assume the following changes in living arrangements at a national level between 2006 and 2031:

- an increasing number of couples without children (including both older 'empty nesters' as a result of an ageing population, and fewer couples having children)
- a decreasing number of two-parent families
- an increasing number of one-parent families
- moderate growth in the number of 'multi-person households' (that is, younger 'flatters')
- an increasing number of one-person households (as a result of an ageing population, increased rates of marriage dissolution, decreasing rates of people forming partnerships, and lower fertility rates).

The Department of Building and Housing acknowledges the constraints of adopting long-term household projections as estimates of demand (see also section 4.1). Despite that caution, household projections under Statistics New Zealand's 'medium' base scenario (Series 5B) provide the most robust evidence currently available of the likely future direction of underlying demand, and they are regularly updated on the basis of periodic Census data.

2.2.6 Projections for regional housing demand

The assumptions used for projecting national housing demand (see section 2.2.5 above) were also used for regional household projections under the low, medium and high series in Table 2.3.

Table 2.3 – Regional household projections, 2011–31

Region	Low (Series 1)		Medium (Series 5)		High (Series 9)	
	2011	2031	2011	2031	2011	2031
Northland	60,900	67,700	62,200	75,000	63,600	83,100
Auckland	503,600	665,600	514,200	726,000	524,700	790,600
Waikato	153,800	173,900	157,300	193,200	160,700	214,600
Bay of Plenty	106,500	125,300	109,000	138,500	111,400	152,700
Gisborne	16,800	16,700	17,300	19,100	17,700	21,800
Hawke's Bay	58,900	60,800	60,300	67,700	61,600	75,400
Taranaki	42,800	41,600	43,800	46,500	44,700	51,900
Manawatu-Wanganui	90,900	92,300	92,800	103,000	94,800	114,500
Wellington	185,500	207,100	189,000	226,500	192,500	247,500
Tasman	18,600	20,900	19,100	23,500	19,600	26,400
Nelson	18,700	19,900	19,200	22,500	19,700	25,500
Marlborough	18,400	19,900	18,800	22,000	19,300	24,700
West Coast	13,500	12,800	13,800	14,200	14,100	15,800
Canterbury	220,700	251,400	225,200	275,100	229,600	301,000
Otago	81,100	84,600	83,300	96,100	85,500	108,700
Southland	37,200	32,800	38,200	38,200	39,200	44,100
New Zealand	**1,654,000**	**2,000,000**	**1,663,600**	**2,087,400**	**1,673,000**	**2,174,000**

Source: Statistics New Zealand

Statistics New Zealand's medium-scenario projections indicate that the number of households is expected to grow in all regions except Southland, where the projection is for no change. Increases are also projected for all regions under the low and high scenarios, except for the "low" projections for Gisborne, Taranaki, West Coast and Southland:
they are expected to experience an increase in the number of households from 2006 to 2011, then a fall from 2011
to 2031.

The largest increase is expected to be in the Auckland region, where under the medium scenario the number of households will rise from 466,000 in 2006, to 726,000 in 2031 (or by 10,400 per year). This increase will lift

the Auckland region's share of households from 30% in 2006 to 35% in 2031. The Bay of Plenty is another region expected to see growth in household numbers higher than the national average over that period.

Sixty-three of the more than 70 territorial authority areas in New Zealand are projected to experience an increase in the number of households from 2006 to 2031. Nine of them are projected to experience an average annual growth in household numbers of more than 1.6%, namely: Queenstown-Lakes District (2.3%); Manukau City and Selwyn District (2.1%); Rodney, Waimakariri and Franklin Districts (1.9%); Tauranga and Waitakere Cities (1.8%); and Auckland City (1.7%). These areas are also projected to have the highest rates of population growth.

The greatest numerical growth in households from 2006 to 2031 is projected to be in the four (current) cities in the Auckland region (Auckland City, with 81,000 new households requiring housing; Manukau City, with 70,000; North Shore and Waitakere Cities, both with 36,000) and in Christchurch City (40,000).

2.3 EFFECTIVE DEMAND

Key points in this section

- New Zealand's household wealth is mainly held in real estate rather than in financial assets.
- Current house price levels appear to be the result of demand for housing as an investment good, rather than being the result of growth in household incomes or being justified by current and expected rental yields.
- Low levels of activity and confidence in the housing market may contribute to reduced consumer spending, as households seek to reduce their debt levels.
- A disparity between growth in house prices and growth in incomes reduces home-ownership rates by excluding potential first-home buyers.
- Reduced rental investment could contribute to pressures on rents and a growing housing shortage.

Effective housing demand is the combined effect of both 1) the desire to rent or buy a house, and 2) the financial ability to rent or buy a house. This aspect of demand is what shows up in the housing market statistics for sales, prices and construction. It also largely accounts for the changes in housing and tenure choices over time.

The New Zealand housing market has not only experienced increased underlying demand from population growth and higher net immigration; it has also (until the recent global financial crisis) experienced an increase in effective demand as a result of higher incomes, lower unemployment, cheaper and easier access to credit, and the preference of New Zealanders, for various reasons, to invest in housing over other forms of investment.

The difference between underlying and effective demand is a function of:

- buyer wealth and income
- the cost and availability of finance
- the state of the economy
- individual consumer preferences (for example, location, or between renting and owning)
- the attractiveness of housing as an investment good.

This report does not attempt to forecast effective demand. Instead, it sets out some of the key elements that would need to be factored into a model for estimating effective demand, and it comments on current trends in those variables.

2.3.1 Household wealth and income

While housing provides shelter and a stable base from which households can engage in community life, increases in housing value or equity act as a significant form of saving and wealth accumulation.

Housing in New Zealand has been considered an attractive investment for a number of reasons:

- Investing in a tangible asset – in 'bricks and mortar' – is seen to be safe.
- Demand for housing is reliable, because housing meets the basic need for shelter.
- Financial investments are seen as intangible, more complicated, and less easily understood.
- The New Zealand financial market is smaller, more volatile and more vulnerable to global events compared with other developed economies like Australia and the US.
- Both the global financial crisis and the recent string of financial corporate collapses have damaged individual investor confidence in financial markets.
- There are tax advantages to investing in housing, namely; the ability to deduct investment losses against other income and many investors not being liable for tax on capital gains.
- Housing investments generally provide high returns during periods of strong investor demand.

Too much investment in housing can create economic imbalances and a misallocation of resources. It can also introduce distortions and perverse incentives. For example, a rise in equity prices can signal an increase in an economy's productive potential, and therefore of higher future incomes; but a rise in house prices tends to signal increased demand with no corresponding increase in the services the house provides (OECD, 2004).

Just like financial assets, house prices can become over-inflated as investors enter the market to make short-term gains. This drives prices up further, increasing the volatility of the market and creating or contributing to a boom-bust cycle.

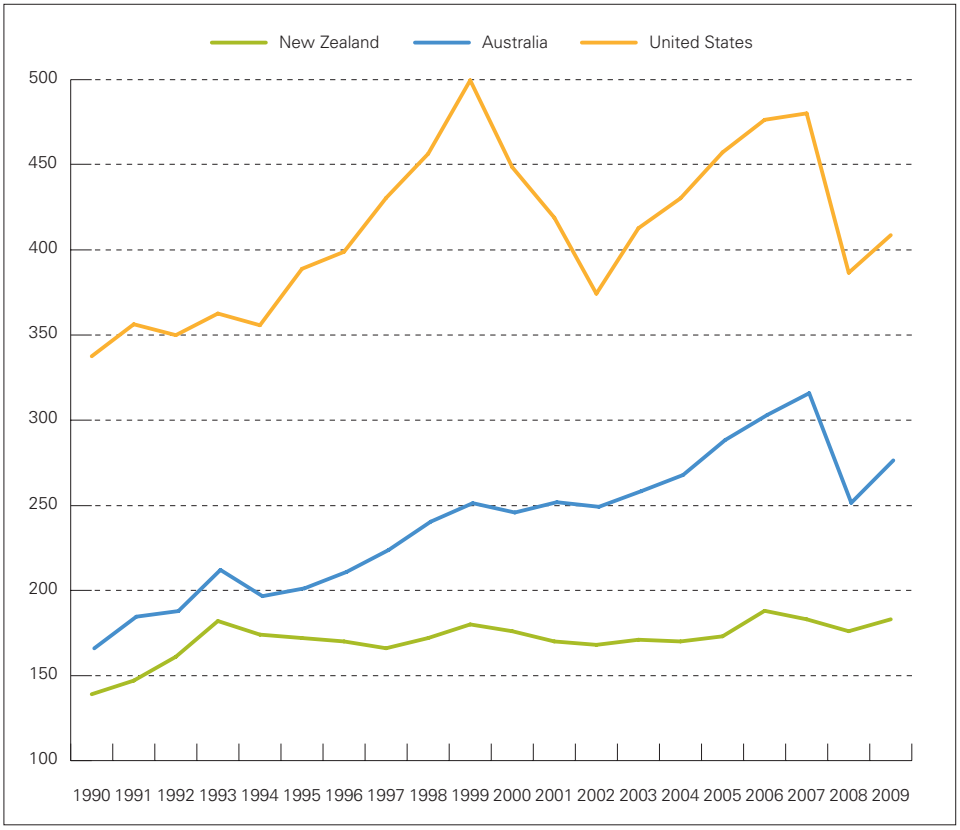
Housing investment motivated by tax incentives and shorter-term prospects of capital gains contribute to a high turnover rate in real estate. It also contributes to lower investment levels in more stable long-term assets that expand the economy's productive capacity (that is, investment in business and infrastructure).

Similarly, when house prices are not accurately aligned with incomes and population growth rates, inflated values encourage home-owners to withdraw equity from their home to fund other consumption. The deregulation of credit markets over the past few decades and the increase in financial innovation and competition from non-bank financial institutions have combined to make withdrawing home equity an easy and cheap way for home-owners to obtain funds, whether this is done to pay off consumer debt, invest in other assets, or to fund consumption.

House-price inflation has outstripped growth in household income over the past several years. Given this, there has been considerable debate around New Zealand households' overwhelming preference for investing in housing rather than financial assets and whether this should be a concern (Bollard, 2006; IMF, 2007; OECD, 2007; and Snively, 2009). Figures 2.3 and 2.4 confirm that New Zealand households do appear to prefer investing in real estate over financial assets, and provide a comparison with households in Australia and the US. Figure 2.4 shows that New Zealand households have overtaken Australia in their proportions of real-estate wealth since 2004.

Figure 2.3 – Financial assets

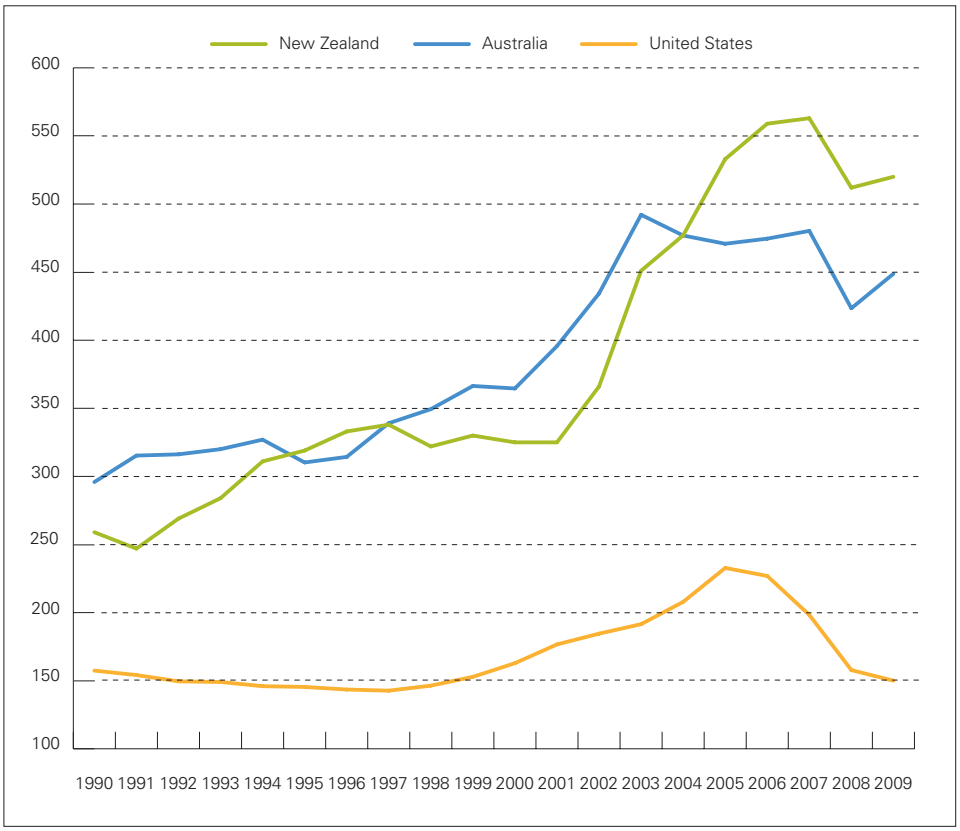
(% of disposable income)



Source: Reserve Bank of New Zealand, Reserve Bank of Australia, US Federal Reserve Bank

Figure 2.4 – Real estate wealth

(% of disposable income)

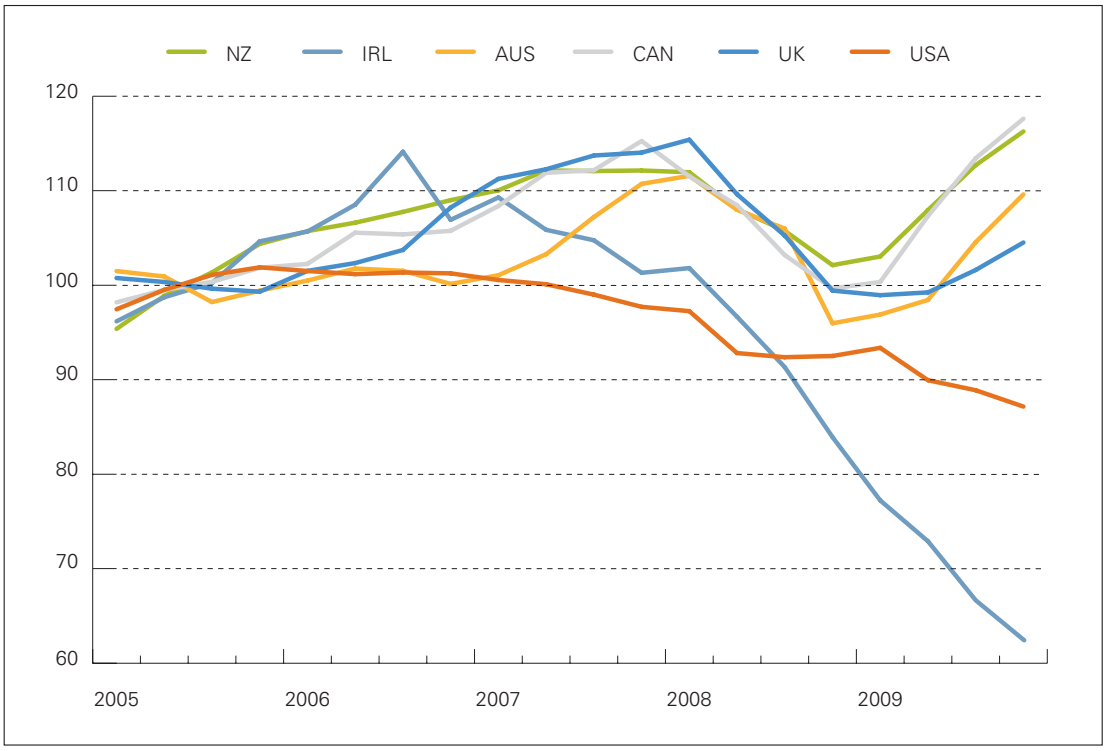


Source: Reserve Bank of New Zealand, Reserve Bank of Australia, US Federal Reserve Bank

OECD data in Figure 2.5 shows relative movements in the house-price-to-income ratio from a common index point in 2005. This reveals not only that the ratio continues to be higher in New Zealand than other countries, but that it has reached a new peak.

Figure 2.5 – Ratio of house prices to income

(Index 2005 = 100)



Source: OECD data to 2009Q4

2.3.2 Inflation, interest rates, and access to finance

Interest rates in 2010 are well below their double-digit peaks of the 1980s. Lower interest rates, easier access to credit, and an inflation-targeting central bank have enabled greater household borrowing. Households have been able to service larger mortgages and thereby pay higher prices for housing.

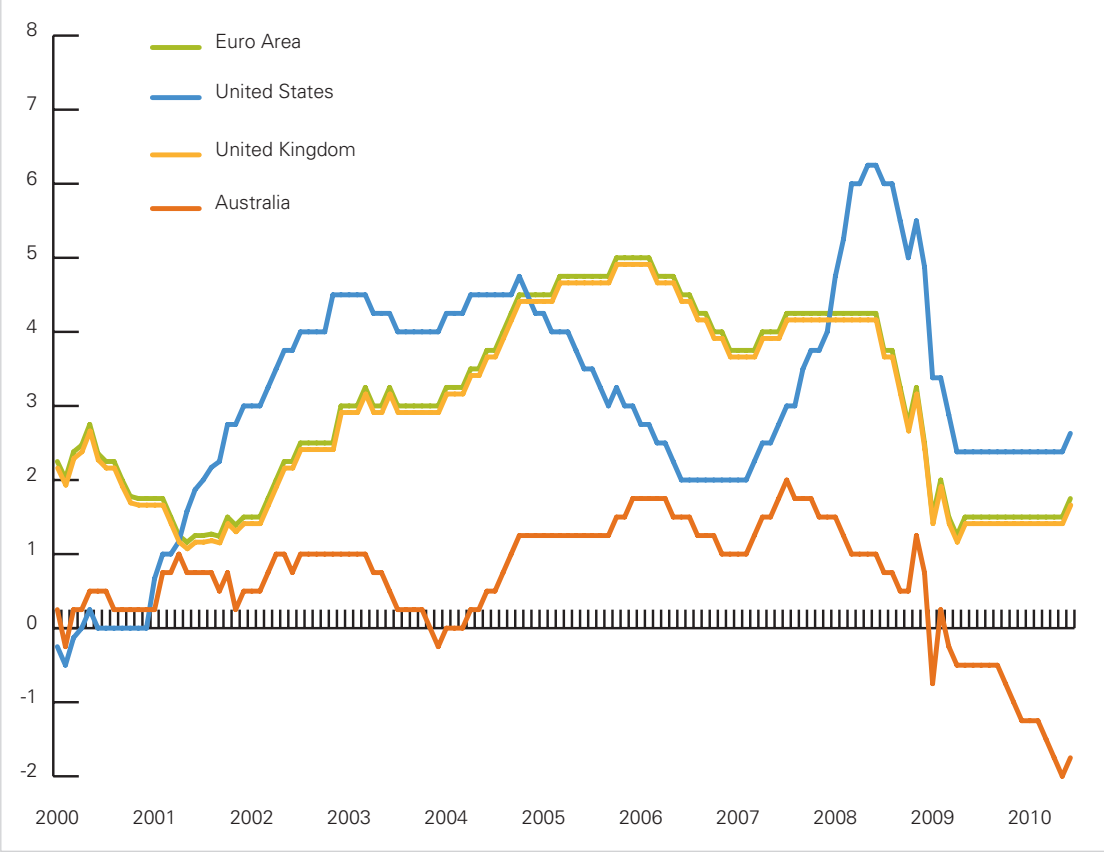
While New Zealand borrowers face historically low mortgage rates, New Zealand interest rates have been consistently higher than in Australia, the US, the UK and the Euro area over the past decade, as shown in Figure 2.7. This has attracted overseas funds into the New Zealand banking system, to take advantage of the higher rates of interest.

Figure 2.6 – Floating mortgage interest rate

Source: Reserve Bank of New Zealand

Figure 2.7 – New Zealand policy rate differential

(OCR minus foreign policy rates in percentage points)



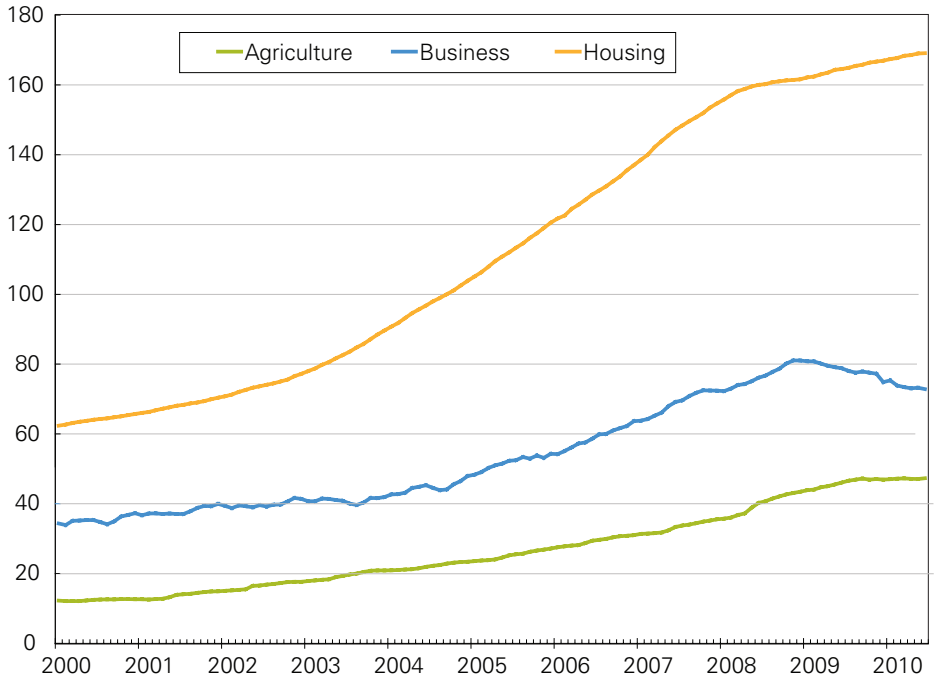
Sources: Reserve Bank of New Zealand, Reserve Bank of Australia, European Central Bank, Bank of Canada, Bank of England

Being a small and open economy with a low domestic-saving rate, a persistent current account deficit, and, more recently, government budget deficits, we rely heavily on capital inflows.

International banking agreements encourage banks to lend to sectors that are seen as lower risk and therefore require lower banking equity, such as residential mortgages. Figure 2.8 shows that a large portion of the funds from overseas were channelled into mortgage lending. Even during the financial crisis, lending to households for housing (that is, excluding consumer lending) increased 5% from about $160.2 billion in July 2008 to almost $168.3 billion in March 2010.

Figure 2.8 – Lending by banks and non-bank financial institutions, by sector

($ billions)



Source: Reserve Bank of New Zealand

Recent events have raised the question of the role of monetary policy in correcting imbalances in asset prices. There is now wide international discussion on whether central banks can or should use their prudential supervision function to influence the volume of lending to particular sectors.

This recession provides a particular challenge to central banks in that, regardless of how much the policy interest rate is lowered, it is uncertain whether there will be a continuation of the historical pattern of lower interest rates leading to higher volumes of house-building, and in turn contributing to leading the economy out of its decline. Lack of liquidity in the construction sector, the tightening of credit conditions, and general economic uncertainty mean that neither consumers nor businesses are choosing to borrow money for the levels of consumption and investment that might stimulate economic recovery.

2.3.3 Economic growth and unemployment

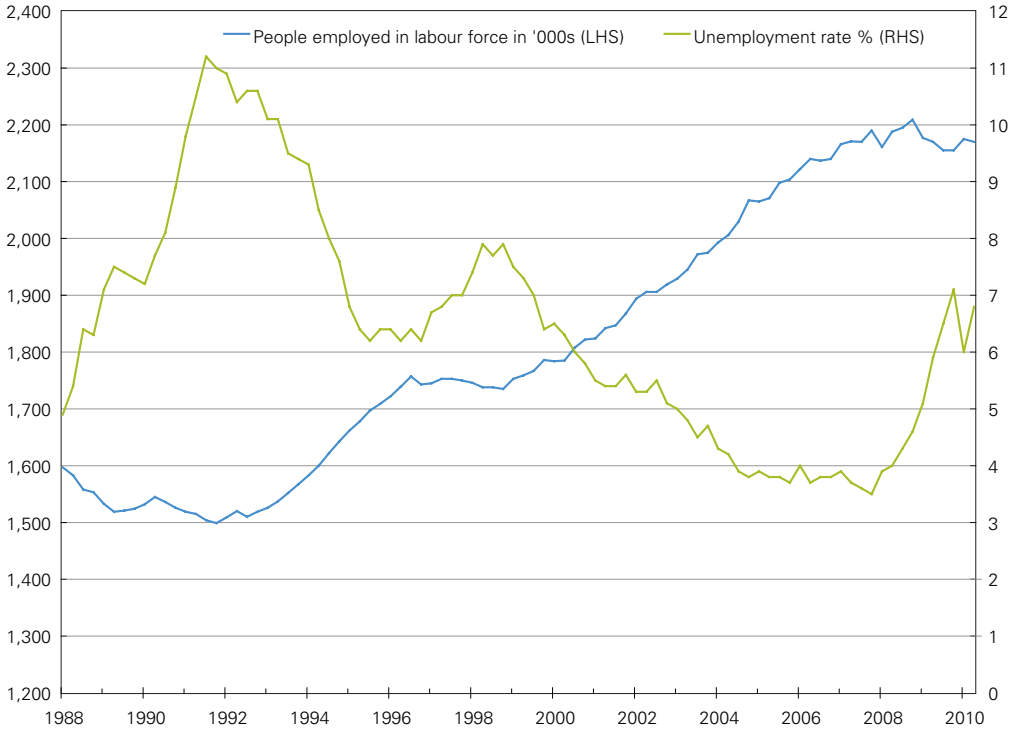
The state of the economy is a major determinant of housing demand. All other things being equal, periods of economic growth and low interest rates will increase housing demand – because higher incomes and a lower cost of borrowing enable more households to either buy a home, make alterations to existing homes, or enter the rental market.

The New Zealand economy contracted for over a year up until the June quarter in 2009, when production-based GDP grew by 0.1%. The economy then grew by a more solid 0.3% in the September quarter, and by a robust 0.8% in the December quarter.

The labour market has taken longer to recover. The unemployment rate jumped from 6.5% in the September 2009 quarter to 7.1% in the December 2009 quarter, before falling back down to 6% in the March 2010 quarter and then rising to 6.8% in the June 2010 quarter.

Part-time employment is often a useful predictive indicator for the labour market and overall economy. Usually during recessions, firms will initially lay off full-time workers and then, once there are tentative signs of a recovery, hire part-time workers. This was generally the case in New Zealand during periods of slow growth in the early 1990s and during the recession in the late 1990s, as shown by Figure 2.10. Part-time employment has so far failed to show signs of picking up, with employment growth continuing to fall year-over-year.

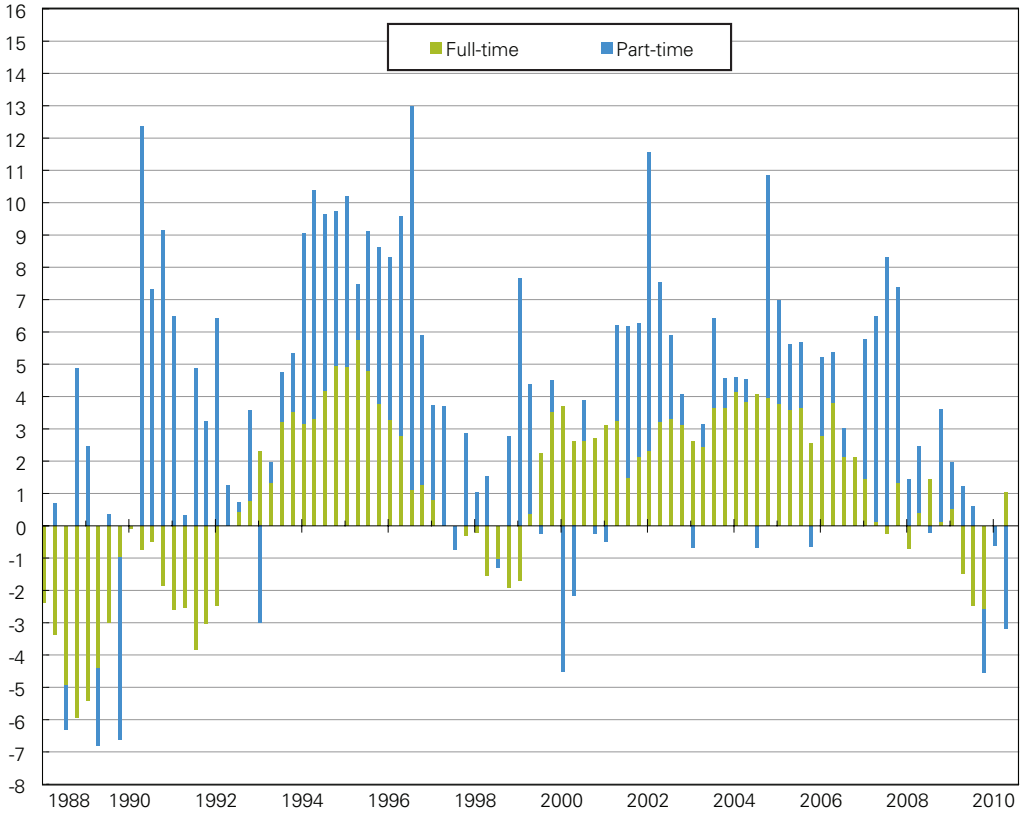
Figure 2.9 – Employment and unemployment



Source: Statistics New Zealand

Figure 2.10 – Full-time and part-time employment

(Year-over-year % change)



Source: Statistics New Zealand

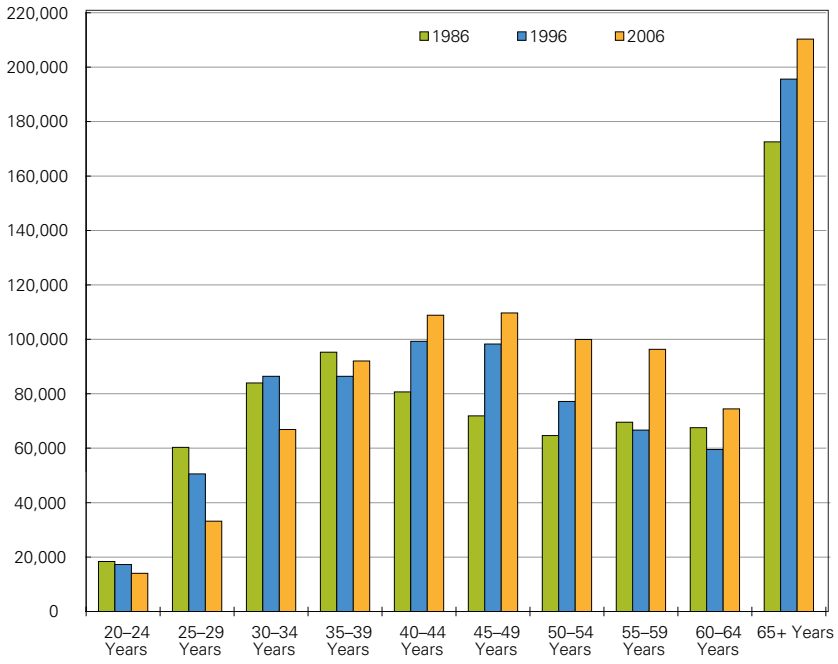
2.3.4 Consumer preferences

Demand from home-owners

The home-ownership rate has declined by 3.8% to 66.9% in the 10 years to 2006, from an earlier peak of 73.8% in 1991. Home-ownership is projected to fall further to 61.9% by 2016, as younger households who cannot afford home-ownership get older (Department of Building and Housing, 2008c).

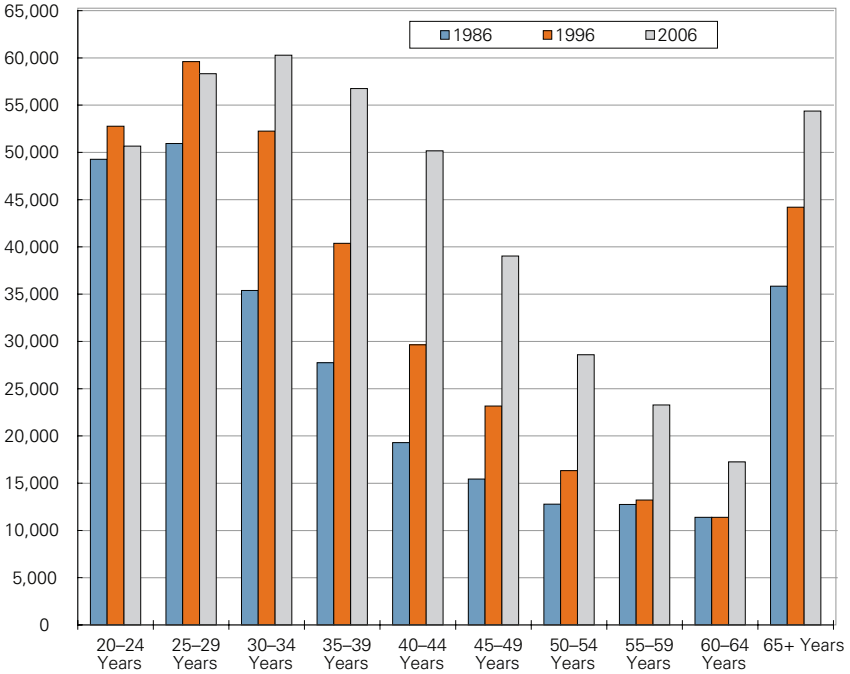
Figure 2.11 highlights the extent to which home-ownership has fallen over the past two decades for those aged 20–34, and to a lesser extent for those aged 35–39. Figure 2.12 shows the growth among these age groups for renters. The relatively small increases in renters aged 20–24 and 25–29 may indicate the growing trend of young people choosing to stay at home while pursuing tertiary education or while they have a sizeable student debt.[6]

Figure 2.11 – Owner-occupiers by age group, in 1986, 1996, 2006



Source: Statistics New Zealand

Figure 2.12 – Renters by age group, in 1986, 1996, 2006



Source: Statistics New Zealand

6 See Hillcoat-Nallétamby and Dharmalingam (2003). 'Mid-Life Parental Support for Adult Children in New Zealand', Journal of Sociology, Vol 39, No 3, pp 271–290.

Changes in the relative spilt among the three tenure groups – home-owners, private renters, and social renters – to a large extent reflect the underlying social and economic conditions, as well as housing affordability.

Table 2.4 – Tenure groups by Census year

Tenure/Year	1996		2001		2006	
Owners	860,760	68%	868,656	65%	911,874	63%
Renters:	290,124	23%	358,890	27%	388,272	27%
Private renters	196,188	15%	264,501	20%	299,607	21%
Social renters	75,819	6%	73,050	5%	66,588	5%
Others	18,114	1%	21,342	2%	22,077	2%
Rental arrangements not further defined/ No rent payment but dwelling is not owned	66,939	5%	53,307	4%	63,690	4%
Tenure not further defined	50,271	4%	63,411	5%	90,336	6%
Total	**1,268,094**	**100%**	**1,344,264**	**100%**	**1,454,172**	**100%**

Source: Census 1996, 2001 and 2006, Statistics New Zealand

Among these three groups, the proportion of owners and social renters decreased in the 10 years to 2006, while the proportion of private renters increased.

In light of this, the *Review of Housing Statistics* undertaken by Statistics New Zealand recommended that:

The Department of Building and Housing and Housing New Zealand undertake research into potential data sources (including administrative data) that will help to inform the demand for housing from first-time homebuyers.

The incidence of home-ownership increases with age, and first-home ownership has historically been associated with the household formation age range of 25–45. Recent declines in home-ownership rates are mainly the result of reduced numbers of younger households becoming first-home owners.

The declining rate of home-ownership and the relationship between home-ownership and the age of owners suggests the need for further study of this trend – particularly its impact on the accumulation of wealth, debt and retirement income – and also of the ability to weather financial shocks through different life-stages. These issues are discussed further in Chapter 5, 'House Prices'.

Private renters and the intermediate housing market

The type of households in private rental housing has evolved over time. In the past, rental housing was dominated by young, mobile 'flatters', but as home-ownership rates have declined an 'intermediate' housing segment has emerged. This intermediate segment is characterised by older and more stable households, including households with children and older people who are now renting. The Department of Building and Housing commissioned research into the private rental market, and some of the findings are presented in this section (Department of Building and Housing, 2008c).

Households in the intermediate market are defined as those who rent in the private market and have at least one household member in paid employment. These households cannot afford to buy a house at the lower-quartile house price under standard bank lending criteria (assumed to be a 10% deposit, and up to 20% of the household's gross income paid to mortgage expenses, and the mortgage lent at the one-year fixed-mortgage interest rate).

The previous Censuses in 1996, 2001 and 2006 recorded the following about the private rental market. In the five years from 1996 to 2001:

- the size of the private rental market, measured by the number of rental dwellings, increased by 53%

- the absolute size of the intermediate housing market remained relatively constant
- house prices and the number of households in the private rental market increased, but household incomes also increased and interest rates fell
- the proportion of intermediate renters in the private renter market fell from 43% to 26%.

In the five years to 2006:

- the size of the private rental market increased by 15%
- increases in house prices and interest rates were not sufficiently offset by the increase in household income, and this resulted in a significant decline in housing affordability
- the proportion of intermediate renters in the private renter market more than doubled, increasing to 58%.

The trend of an increasing number of intermediate renters is forecast to continue. There were 187,300 in 2006, and this number is projected to grow to 200,880 in 2011 and to 261,160 in 2031. The fall in house prices and mortgage interest rates since 2008 has eased housing affordability levels and may increase home-ownership rates. However, house prices picked up more recently in late 2009, and mortgage interest rates are expected to increase in the second half of 2010, suggesting continued demand pressures on the private rental market.

The discussion of tenure choice and affordability will continue in Chapter 5.

Demand for apartments, and transient student populations

In March 2010, Statistics New Zealand released a report profiling apartment dwellers, using data from the 2006 Census.[7]The report compares characteristics of inner-city and non-inner-city apartment dwellers within each of the three main cities, and analyses particular aspects of the apartments themselves. Information is also used from an earlier Statistics New Zealand report, *Downtown Dwellers 2005: New Zealand's CBD Residents*.

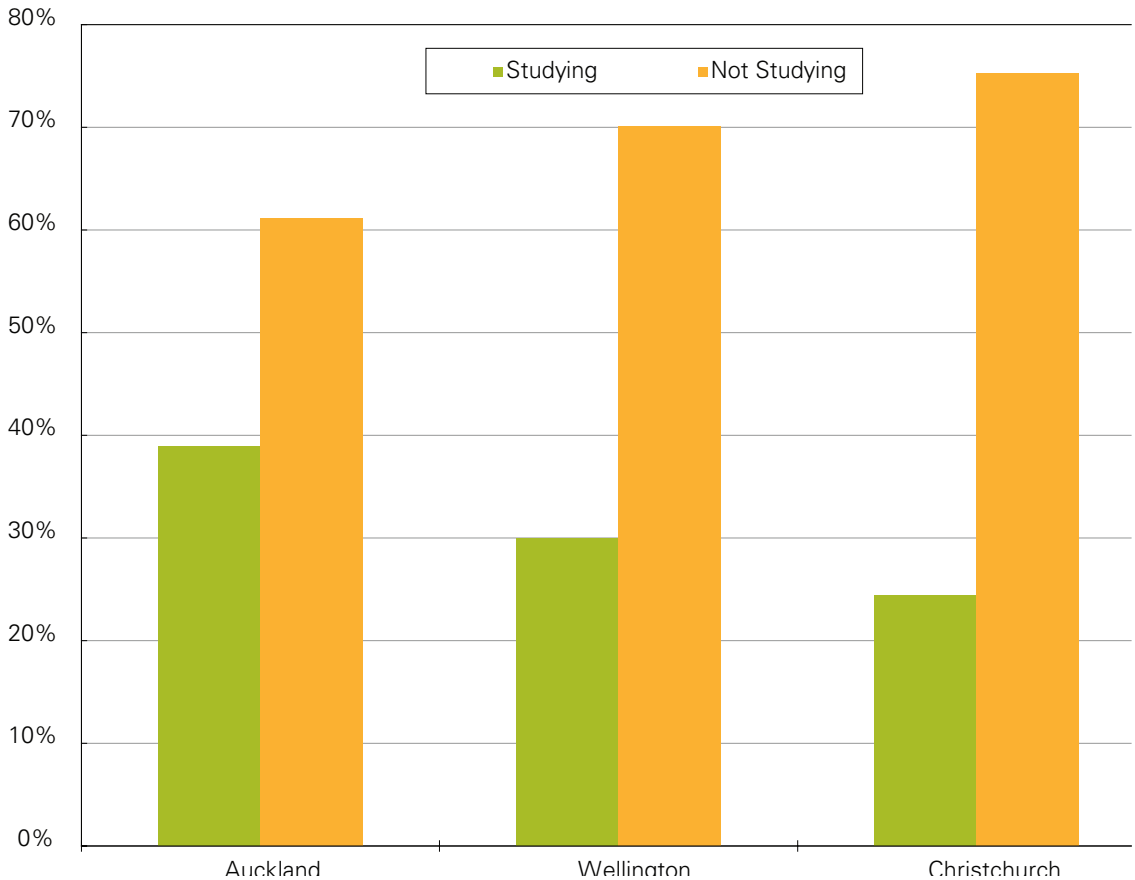
The report found that the number of people living in inner-city apartments in Auckland, Wellington and Christchurch almost quadrupled between 1996 and 2006, increasing from 4,974 to 19,020. In Wellington, most apartment dwellers were young urban professionals, while in Christchurch they were mainly older. Fifteen percent of city apartment dwellers in Christchurch were over 65, compared with just 2% in Auckland and 4% in Wellington.

Across all age groups, around 70% of the total growth occurred in Auckland City, where the number of people living in inner-city apartments increased from 2,805 in 1996 to 13,311 in 2006. Auckland has a higher proportion of students than Wellington and Christchurch. Ministry of Education data reveals that in 2008 there were 74,472 students enrolled at the University of Auckland, the Auckland University of Technology and the Manukau Institute of Technology, a 24.8% increase from 59,650 student enrolments in 2001.

7 The report and supporting data is available at: www.stats.govt.nz/publications/standardofliving/apartmentdwellers.aspx

Figure 2.13 – Proportion of inner-city apartment dwellers studying

(Includes part-time and full-time)



Source: Statistics New Zealand

2.3.5 Investor demand

There is little data freely available on the demand for housing investment. Currently banks are not required to report to the Reserve Bank on numbers or amounts borrowed by either investors or first-home buyers.

Scobie, Le and Gibson (2007) used data from a Statistics New Zealand panel survey, the Survey of Family, Income and Employment (SoFIE), to analyse household saving rates, the characteristics of property owners and investors, and the effects of home equity withdrawal on saving rates. They found that 15.4% of households own a residential investment property, which includes holiday homes, rental properties, time-shares, and overseas property. Investment property owners tend to be pre-retirement age, with most between the ages of 45 and 64.

Table 2.5 – Ownership of investment property, by type

Investment type	Ownership Rate (%)	Mean Value ($)	Median Value ($)
Holiday homes in NZ	2.8	220,200	169,300
Rental property in NZ	7.9	305,800	224,000
Other property in NZ	5.0	216,000	140,100
Timeshares in NZ	1.0	13,100	5,000
Overseas property	1.0	392,700	150,000
Any investment property	15.4	255,400	172,000

Note: Values of property have been adjusted for the household's share when a property is owned by multiple households.

Source: Scobie, Le and Gibson (2007), Table 2, p 4

The highest ownership rates for investment properties were for rental properties in the 45–54 and 55–64 age groups, with 12.3% and 11.9% respectively. The mean (average) value of the rental properties was highest for those aged 65–74, at $349,100. However, the highest median value was recorded for the 18–24 age group, at $304,100, as shown in Table 2.6. The 'Total' ownership rate of 7.9% in the final row of Table 2.6 corresponds to the 'Rental property in NZ' category in the second row of Table 2.5.

Table 2.6 – Ownership of rental property, by age

Age	Ownership Rate (%)	Mean Value ($)	Median Value ($)
18-24	0.8	316,800	304,100
25-34	5.3	224,000	161,800
35-44	9.6	279,900	210,800
45-54	12.3	330,100	246,100
55-64	11.9	349,000	241,000
65-74	5.2	349,100	212,200
75+	1.8	238,400	183,600
Total	**7.9**	**305,800**	**224,000**

Source: Scobie, Le and Gibson (2007), Appendix Table 2, p 29

In the absence of accessible and current real-time statistics, it is useful to look to research studies that use surveys as a means of filling the gap, even if they provide only a snapshot at a particular point in time. Snively (2009) cites two surveys that analyse the profiles and preferences of property investors.

The ANZ Property Investors Survey (ANZ, 2007) reported that investors were typically high-income earners with an average income of $80,000 to $90,000. About 37% of investors had an annual income over $100,000. The National Landlord Survey in 2003 from the Centre for Research, Evaluation, and Social Assessment (CRESA) found that:

- 38% of landlords cited capital gain as the main benefit of owning a rental property
- 32% cited the regular income stream
- 25% cited retirement investment and income
- 9% cited tax
- 8% referred to rent as providing a means for repaying mortgages.

The survey also reported that over 20% of landlords had been landlords for less than one year, and over 50% for less than eight years.[8]

The *Review of Housing Statistics* undertaken by Statistics New Zealand recommended that:

The Department of Building and Housing and the Housing New Zealand Corporation analyse and publish Tenancy Bond data on the characteristics and distribution of private landlords.

Tax system

The Government's 2010/11 Budget, announced on 20 May 2010, included the following tax changes that are likely to affect the housing market:

- a reduction (to 0%) in the depreciation rates that investors are able to claim for buildings with an expected life of 50 years or more, to take effect from the start of the 2011/12 income year
- a tax on Loss Attributing Qualifying Companies (LAQCs) as limited partnerships from 1 April 2011, with profits and losses assessed at the investor's marginal tax rate
- an increase in GST to 15% from 1 October 2010.

These tax changes will take place against the backdrop of a relatively weak housing market, with consents for new dwellings currently well below historical averages, leading to a likely shortfall in additional supply relative to population growth.

The change in depreciation rules is likely to have the greatest impact, resulting in investors who currently claim depreciation as a deductible expense having a higher taxable income (or lower loss) from their property investment.
A reduction in the depreciation to 0% will reduce the cashflow surplus from rental investment.

Property investors responding to these tax changes are likely to:

- want to increase rents to make up for losses resulting from the new depreciation rules
- reduce investment levels or exit the property market because of the reduced returns
- reduce the volume of future rental investment
- improve their rental yields by paying lower prices for any future property purchases.

Tenants responding to new tax changes are likely to:

- be unwilling to pay higher rentals because their disposable income will have increased only marginally as a result of the combined effects of lower personal tax rates and higher GST
- trade down in property quality to a lower price bracket of rental property, if their rents increase
- delay forming households, which will increase the average household size
- switch their form of tenure from rental to first-home ownership if the difference in the cost of renting and owning narrows.

The extent to which the property tax changes will lead to rising rental values and lower property values is uncertain. The ability for investors to increase rents will be constrained by resistance from tenants, who may have seen only a marginal improvement in their income. If rents rise, the groups most affected will be lower-income renting families and older singles and couples – these are the people who benefit less from the net impact of income tax and GST changes, and who are least able to afford home-ownership, reconfigure their household characteristics, or 'trade down' to lower-cost housing options.

If rents increase, this would result in an increase in fiscal costs for HNZC's Income Related Rent (IRR) subsidy and the Accommodation Supplement (AS) for households that are currently receiving this assistance, as well as an increase in the number of households demanding housing assistance.

8 An analysis of the data from the 2003 National Landlord Survey can be found in Saville-Smith and Fraser (2004).

If property values fall as a result of the new tax changes reducing investors' profit margins, that fall is likely to flow through to all dwelling values. The effects are likely to be more pronounced at the bottom end of the market, where properties are more likely to move between ownership and rental use.

The increase in GST will increase input costs for property developers and builders. However, this is likely to have a one-off impact, and the effect is expected to be minimal on final property prices.

Chapter 3: Supply

KEY POINTS

The annual new dwelling consent numbers (from which the projected dwelling stock is derived) were relatively low in mid-2010, at about 16,000 dwellings. However, New Zealand's housing stock is expected to grow as we recover from the recent recession.

There is little information available on the overall quality of New Zealand's housing stock. BRANZ conducted House Condition Surveys in 1994, 2000 and 2005. Overall, the average condition of houses surveyed in 1994 and 1999 was similar, with some improvement in the condition of older houses. The 2005 survey showed an improvement in the average condition of houses, mainly because of the number of newer houses in the sample.

The current rate of new housing construction is below the rates of population and household growth. To meet the needs of its growing population, New Zealand will need to either release new supplies of residential land, or make more intensive use of existing residential land. Residential construction costs increased rapidly from 2003 to 2008, partly due to low productivity in the industry. Currently the residential construction industry is fragmented, with most residential construction firms being too small to take advantage of economies of scale. The question of which model to adopt for funding infrastructure development needs to be considered carefully, as this will directly affect the price of land and houses.

Data on housing supply and land supply is inadequate. Land passes through various stages of development and there is a long lead-time before building can begin; currently there is no detailed breakdown of building consents for new dwellings and of land supply by development stages. The lack of data has limited the analysis of this area.

3.1 AN OVERVIEW OF HOUSING SUPPLY IN NEW ZEALAND

This chapter presents the Department's estimate of the current housing stock and its projections of future housing supply. The chapter includes information on:

- the current estimated housing supply
- characteristics of the current stock
- projections for new dwelling construction rates
- trends in the composition and features of dwellings
- the development process for residential land use and construction of dwellings
- trends in construction and regulatory costs
- the structure of the construction industry.

3.2 SUPPLY PROJECTIONS

Key points in this section

- The current rate of new housing construction is below the rates of population and household growth.
- New funding structures are needed to replace the finance-company funding model. The lack of funding for construction may constrain recovery in the building sector while conditions in the wider economy improve.

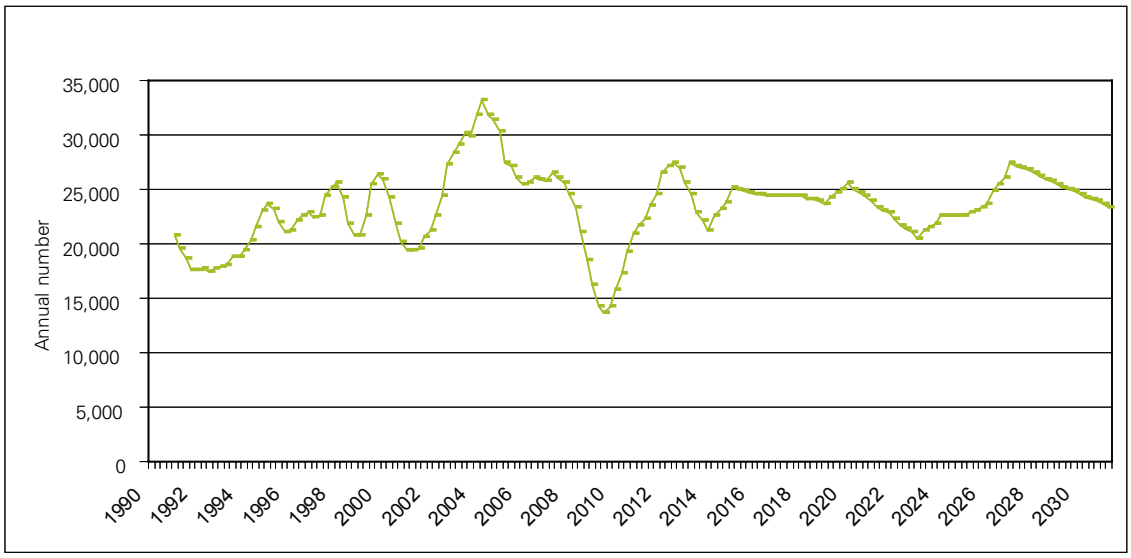
The projection of new dwelling supply is based on the current level of housing stock and the forecasts of future new dwelling consents.

Infometrics have provided forecasts of new dwelling consent numbers up to 2061.[9] For the purposes of this report we have used Infometrics' projection of new dwelling consent numbers up to 2031, so that it matches the timeframe for other demand and supply data. This allows us to compare demand and supply projections in the next chapter.[10]

9 See www.infometrics.co.nz.

10 The detailed methodology can be found in Appendix B of this report.

Figure 3.1 – Projections of new dwelling consents, 2010–31



Source: Infometrics forecast, November 2009

Infometrics' underlying assumption in Figure 3.1 above is that building consent numbers will grow in line with economic growth as we recover from the recent recession (that is, over the period 2010–12). However, this assumption depends on there being no structural industry constraints on increasing construction volumes as the economy improves. As discussed further below, the collapse of the traditional highly-geared entrepreneurial development model, funded through finance companies, may have introduced a constraint on recovery that is specific to the industry. It is not yet clear how the sector will adjust to the need for new development and funding structures. As at the end of March 2010, annual new dwelling consent numbers were tracking below the projected numbers above, at slightly more than 14,000 per year.

3.2.1 National supply projections

The estimates of changes in housing supply between 2006–31 are based on actual new dwelling consent numbers from Statistics New Zealand for the period 2006–09 and on Infometrics' forecasts for the period 2010–31. These new dwelling consent numbers are adjusted to account for a proportion of consents that will not be completed and to account for demolished dwellings and holiday homes. The adjustment factor is estimated by comparing the historical housing stock at Census intervals and the number of new dwelling consents issued over the same period.

Table 3.1 – Projected (permanently occupied) new dwelling numbers to 2031

Year ending June	Annual new dwelling consents	Number of new permanently occupied dwellings (that is, consents adjusted for demolitions, holiday home construction and non-completions)
2009	14,175	-
2010	17,294	12,588
2011	22,285	15,832
2012	27,106	19,756
2013	24,558	20,666
2014	22,546	18,842
2015	24,946	18,997
2016	24,471	19,767
2017	24,359	19,532
2018	24,160	19,408
2019	24,310	19,388
2020	25,009	19,728
2021	23,345	19,342
2022	21,681	18,010
2023	21,169	17,140
2024	22,543	17,485
2025	22,940	18,193
2026	24,856	19,118
2027	27,106	20,785
2028	26,143	21,300
2029	25,127	20,508
2030	24,180	19,723
2031	23,338	19,007

Source: Estimates by Infometrics and the Department of Building and Housing

There are several obstacles to estimating housing supply, including:

- the inability to estimate new dwelling consents independently of demand factors such as household formation assumptions and occupancy rates
- the lack of data on demolition rates for dwellings
- the lack of data on occupancy rates for dwellings
- the lack of data on how many dwelling consents are not completed.

The key assumption made in projecting dwelling stock is a 20% discount from consent volumes in order to account for additional new holiday homes, dwelling consents that are not completed, and replacements for demolished houses. This discount represents a very approximate estimate based on observations of past numbers of new dwelling consents and of increases in the dwelling stock. More rigorous work and data are needed to establish and refine the size of the discount percentage in future reports.

3.2.2 Regional supply projections

Regional housing supply was estimated using a similar approach as for the national housing supply described in section 3.1.[11] The comparison of estimated supply and demand in the future will be analysed in the next chapter.

11 Regional dwelling statistics published in the 2006 Census have been randomly rounded to protect confidentiality. Individual figures may not add up to the totals in the national figure.

Table 3.2A
Projected number of new dwelling consents and dwelling supply by region, to 2031 – North Island

	Northland		Auckland		Waikato	
June year	**Consents**	**Potential new housing supply**	**Consents**	**Potential new housing supply**	**Consents**	**Potential new housing supply**
2009	829		3,212		1,761	
2010	835	665	4,460	3,069	2,313	1,630
2011	**1,107**	**777**	**6,277**	**4,295**	**2,719**	**2,013**
2012	1,338	978	8,007	5,714	3,182	2,360
2013	1,209	1,019	7,429	6,175	2,862	2,417
2014	1,124	934	6,997	5,771	2,707	2,228
2015	1,243	947	7,844	5,937	3,009	2,287
2016	1,216	984	7,719	6,225	2,928	2,375
2017	1,210	970	7,703	6,169	2,930	2,343
2018	1,204	966	7,681	6,154	2,936	2,347
2019	1,214	967	7,748	6,171	2,966	2,361
2020	1,243	983	7,965	6,285	3,030	2,398
2021	1,154	959	7,416	6,153	2,787	2,327
2022	1,069	889	6,867	5,713	2,561	2,139
2023	1,046	846	6,708	5,430	2,511	2,029
2024	1,112	863	7,154	5,545	2,677	2,075
2025	1,129	897	7,269	5,769	2,699	2,150
2026	1,223	941	7,862	6,052	2,908	2,243
2027	1,328	1,020	8,566	6,572	3,148	2,423
2028	1,274	1,041	8,236	6,721	2,992	2,456
2029	1,224	999	7,903	6,455	2,872	2,346
2030	1,185	964	7,632	6,214	2,802	2,269
2031	**1,144**	**932**	**7,373**	**6,002**	**2,692**	**2,197**

	Bay of Plenty		Gisborne		Hawke's Bay	
June year	Consents	Potential new housing supply	Consents	Potential new housing supply	Consents	Potential new housing supply
2009	961		112		499	
2010	1,094	822	87	80	492	396
2011	**1,379**	**989**	**111**	**79**	**568**	**424**
2012	1,673	1,221	133	97	687	502
2013	1,504	1,271	121	101	619	522
2014	1,411	1,166	111	93	571	476
2015	1,558	1,188	123	94	635	483
2016	1,528	1,235	120	97	622	503
2017	1,522	1,220	120	96	618	496
2018	1,516	1,215	119	96	615	493
2019	1,533	1,220	120	96	619	494
2020	1,569	1,241	123	97	637	503
2021	1,458	1,211	115	95	593	492
2022	1,349	1,123	107	89	549	457
2023	1,325	1,070	104	84	535	434
2024	1,410	1,094	111	86	571	443
2025	1,433	1,137	113	90	580	461
2026	1,558	1,196	122	94	627	483
2027	1,690	1,299	132	102	685	525
2028	1,621	1,324	127	104	658	537
2029	1,556	1,271	122	100	631	516
2030	1,506	1,225	118	96	610	497
2031	**1,452**	**1,183**	**114**	**93**	**589**	**480**

	Taranaki		Manawatu-Wanganui		Wellington	
June year	**Consents**	**Potential new housing supply**	**Consents**	**Potential new housing supply**	**Consents**	**Potential new housing supply**
2009	396		484		1,554	
2010	597	397	639	449	1,489	1,217
2011	**712**	**524**	**726**	**546**	**2,319**	**1,523**
2012	808	608	841	627	2,869	2,075
2013	691	600	739	632	2,581	2,180
2014	611	521	658	559	2,065	1,859
2015	653	506	722	552	2,187	1,701
2016	619	509	727	580	2,187	1,749
2017	600	488	715	577	2,167	1,741
2018	585	474	709	570	2,061	1,691
2019	579	466	718	571	2,034	1,638
2020	586	466	741	584	2,151	1,674
2021	539	450	703	578	2,094	1,698
2022	494	413	661	545	2,022	1,646
2023	479	389	642	521	1,954	1,590
2024	508	395	679	529	2,067	1,608
2025	514	409	702	553	2,153	1,688
2026	554	427	773	590	2,372	1,810
2027	601	462	846	647	2,639	2,004
2028	576	471	821	667	2,653	2,117
2029	551	451	787	643	2,588	2,096
2030	532	433	754	616	2,394	1,993
2031	**513**	**418**	**739**	**597**	**2,307**	**1,880**

Source: Estimates by Infometrics and the Department of Building and Housing

Note: After being adjusted for non-completions, holiday homes and replacements for demolished housings, the annual new dwelling consent numbers are added to the level of dwelling stock at a given time.

Table 3.2B
Projected number of new dwelling consents and dwelling supply by region, to 2031 – South Island

	Tasman		Nelson		Marlborough		West Coast	
June year	Consents	Potential new housing supply	Consents	Potential new housing supply	Consents	Potential new housing supply	Consents	Potential new housing supply
2009	235		211		277		171	
2010	306	216	215	170	326	241	171	137
2011	**429**	**294**	**290**	**202**	**401**	**291**	**185**	**143**
2012	455	354	349	256	483	354	217	161
2013	399	342	316	266	431	366	195	165
2014	369	307	294	244	395	331	182	151
2015	377	298	324	247	441	334	201	153
2016	367	297	317	257	431	349	196	159
2017	362	292	316	253	427	343	196	157
2018	355	287	314	252	424	341	195	156
2019	352	283	317	253	428	341	197	157
2020	356	283	325	257	441	348	201	159
2021	336	277	302	251	413	342	187	155
2022	319	262	280	233	383	318	173	144
2023	316	254	275	222	373	302	170	137
2024	332	259	292	227	399	309	180	140
2025	341	269	297	236	407	323	183	145
2026	377	287	322	248	441	339	198	153
2027	404	312	349	269	483	369	215	165
2028	392	319	336	274	467	380	206	168
2029	386	311	322	263	446	365	198	161
2030	374	304	311	253	429	350	192	156
2031	**353**	**291**	**301**	**245**	**417**	**338**	**185**	**151**

Source: Estimates by Infometrics and the Department of Building and Housing

	Canterbury		Otago		Southland	
June year	**Consents**	**Potential new housing supply**	**Consents**	**Potential new housing supply**	**Consents**	**Potential new housing supply**
2009	2,242		888		343	
2010	2,839	2,033	971	743	460	321
2011	**3,280**	**2,448**	**1,182**	**861**	**599**	**423**
2012	3,933	2,885	1,402	1,034	727	530
2013	3,557	2,996	1,254	1,063	651	551
2014	3,305	2,745	1,145	959	599	500
2015	3,697	2,801	1,261	962	670	508
2016	3,612	2,924	1,227	995	655	530
2017	3,611	2,889	1,210	975	651	522
2018	3,601	2,885	1,195	962	649	520
2019	3,635	2,895	1,196	956	651	520
2020	3,746	2,953	1,222	967	673	530
2021	3,487	2,893	1,134	942	626	519
2022	3,225	2,685	1,045	871	579	482
2023	3,154	2,552	1,013	823	563	457
2024	3,375	2,612	1,073	834	602	466
2025	3,424	2,720	1,085	863	611	485
2026	3,694	2,847	1,167	901	659	508
2027	4,034	3,091	1,264	972	722	552
2028	3,880	3,165	1,210	990	694	567
2029	3,721	3,040	1,153	945	666	544
2030	3,596	2,927	1,103	902	643	524
2031	**3,476**	**2,829**	**1,062**	**866**	**621**	**506**

Source: Estimates by Infometrics and the Department of Building and Housing

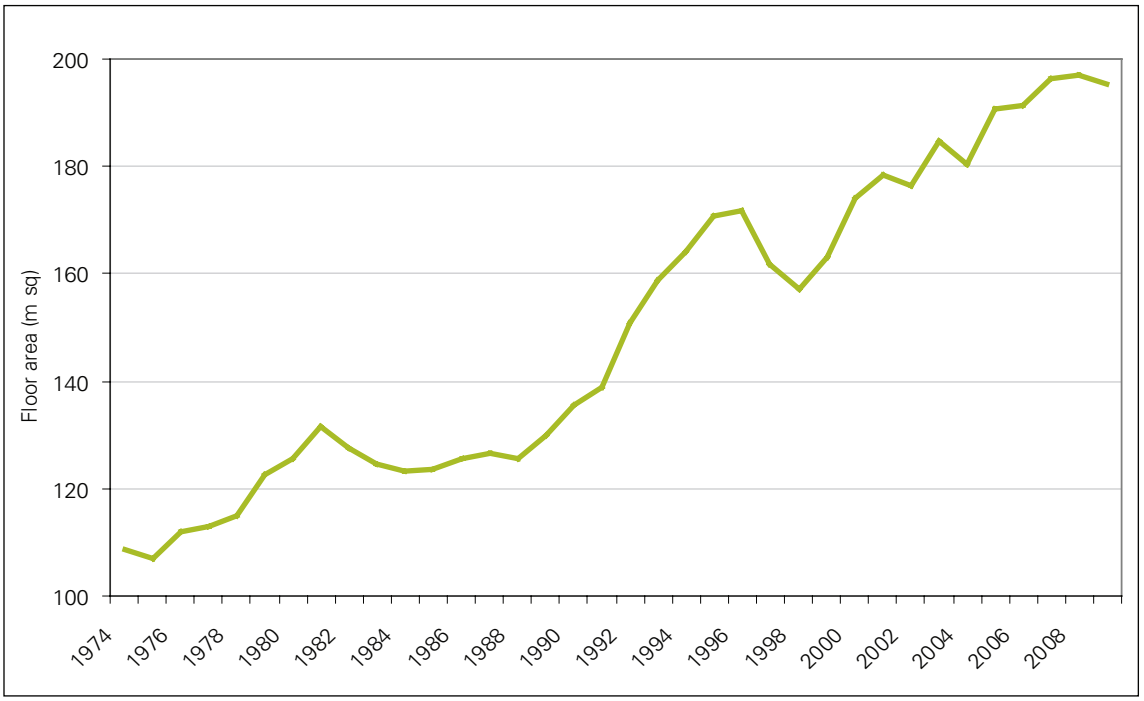
3.2.3 Trends: Dwellings built; Ageing population

Size of dwellings

The 2006 Census reported a decline in the proportion of three-bedroom dwellings (the most common size of occupied dwelling) from 47.5% in 1996 to 46.3% in 2006. Over the same period, the proportion of one-, two- and three-bedroom dwellings fell 4.8 percentage points, but the proportion of four-, five- and six-bedroom dwellings increased by 5.3 percentage points.

Similarly, the building consent statistics also showed that the average floor area of new dwelling consents increased between 1974 and 2008.[12]

Figure 3.2 – Average floor area per new dwelling consented



Source: Statistics New Zealand

An increase in the size of new dwellings being built in recent years is a result of:

- changes in home-owners' preferences in favour of built-in garages, en-suite bedrooms and bigger houses
- an increase in land costs and in developers seeking to maximise their profit margins by building larger and higher-end dwellings.

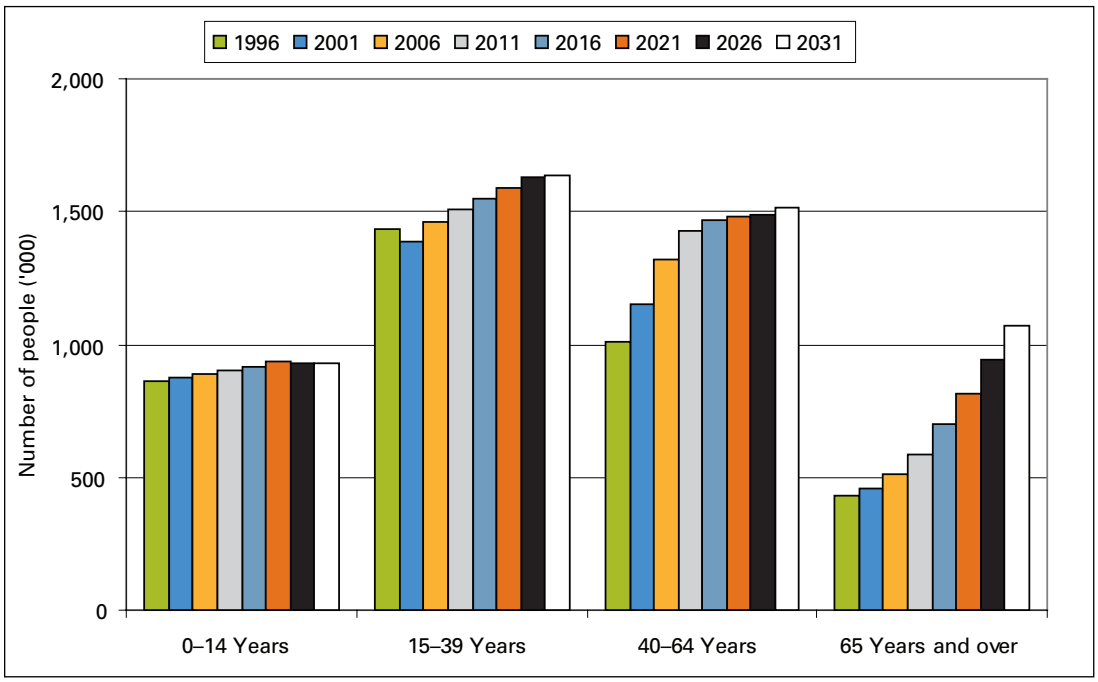
Ageing population

The size of the older age group is increasing as a proportion of the total population. The proportion of the population that is in the 65-plus age group has grown from 11.7% in 1996 to 12.2% in 2006, and it is expected to increase to 21.4% by 2031. As New Zealand's population grows and ages, the average household size is expected to decrease. This report does not address how the current and future housing stock will match the needs of the ageing population: that will require more analysis.

If the current trend of building larger houses continues, it may add to the problem of housing affordability, not only among younger households who cannot afford to own, but also among the older households who cannot afford the maintenance and other on-going housing costs because of the substantial income cut they experience when they retire.

12 The average floor area is subject to fluctuations in apartment buildings consents because building consent data on floor area does not break down by apartments and non-apartments.

Figure 3.3 – Population projections, 2006–31, by age group



Source: Statistics New Zealand

3.3 QUALITY OF EXISTING DWELLINGS

3.3.1 Quality of the New Zealand housing stock

As indicated in section 3.2.1, there is currently little information available, both nationally and regionally, on the New Zealand housing stock. This has implications for attempts to determine housing quality (highlighted recently with the emergence of leaky homes built over the past decade), and more generally for assessing the age of the existing stock in trying to determine whether older houses should be remodelled or demolished.

The General Social Survey introduced by Statistics New Zealand in 2009 includes questions on whether the occupants are satisfied with the quality of their dwelling. Property IQ and BRANZ do hold some data on characteristics of houses in certain areas, but this does not indicate the state of repair of the dwellings and whether they comply with new and existing building regulations.

BRANZ has conducted House Condition Surveys[13] in 1994, 2000 and 2005, and is currently carrying out another in 2010. Although the sample size (fewer than 600 dwellings) is small compared to the 1.6 million dwellings estimated in the 2006 Census, BRANZ's surveys are by far among the largest surveys of their kind on the quality of housing stock in New Zealand. The last three surveys found that the overall average condition of the dwellings improved through the surveys; this could be partly explained by the increasing number of newer dwellings in more recent surveys. However, their results showed that the amount that owners spent on maintenance was lower than expected, suggesting that maintenance has been inadequate to maintain the housing stock in a satisfactory condition.

The *Review of Housing Statistics* undertaken by Statistics New Zealand recommended that:

The Department of Building and Housing, the Building and Research Association of New Zealand (BRANZ) and Statistics New Zealand work together to improve existing data sources (survey or administrative) on the physical quality of the national housing stock.

A December 2009 report by PriceWaterhouseCoopers, commissioned by the Department of Building and Housing, revealed the magnitude of the weathertightness problem, estimating the total costs of fixing the

13 These reports are available at www.branz.org.nz.

affected homes at $11.3 billion in 2008.[14] In May 2010, the Government announced its financial assistance package to help people get their leaky homes fixed, under which the Government and local authorities each contribute 25% of the agreed-upon repair costs, with the affected home-owners funding the remaining 50% backed by a government loan guarantee.

There have also been recent moves to improve the energy performance of homes. The New Zealand Building Code was amended in October 2007 to include more stringent requirements for insulating new houses and also existing houses that undergo major extensions. Further, in July 2009 the Government introduced a new insulation and clean-heating programme, aiming to retrofit more than 20% of homes that have substandard insulation during the next four years.

3.4 AVAILABILITY OF LAND

Key points in this section

- Regulatory frameworks increase housing costs significantly – for example: land supply constraints such as MULs (Metropolitan Urban Limits) or restrictions on higher-density development; levies on development and infrastructure; and complex consenting processes.

The 2008 *House Prices Unit Report* highlighted the limitations of the available information on housing land supply and on how much land is ready, or close to being ready, for development. Following that report, the Department of Building and Housing and the Auckland Regional Council commissioned a study on the adequacy of land supply in Auckland.[15]

3.4.1 Auckland land supply

The Auckland region is the largest urban centre in New Zealand. About 30% of the New Zealand population and 29% of New Zealand's dwellings are located there.

The Auckland Regional Growth Strategy sets out a framework that governs the Metropolitan Urban Limit (MUL). The MUL defines what extent of urban zoning is allowed in the region. Progressively extending the MUL would facilitate the re-zoning of land from rural to urban use, and would increase the supply of residential land in the region.

The existing land supply stock available for residential development can be categorised and estimated as follows:[16]

14 A copy of the PWC report can be found at: www.dbh.govt.nz/UserFiles/File/News/WHRS/pdf/PWC-weathertightness-estimating-cost-full-report.pdf. The Department also publishes an email newsletter on weathertightness issues (www.dbh.govt.nz/weathertight-enews-index).

15 Data from Census 2006.

16 Based on the Auckland Regional Council (ARC) Capacity for Growth Study, 2008.

Table 3.3 – Auckland region's total household capacity under current policy, 2006

Type of supply	Additional dwellings: Infill[17]	Additional dwellings: Infill redevelopment[18]
Vacant Land within MUL: any residential-zoned land that did not contain any buildings in 2006.	59,071	59,071
Infill (General): any residential-zoned land that is smaller than 2,000 m^2 and that can accommodate one or more additional dwellings on the front or rear of the site.	22,280	
Infill (Redevelopment): any residential-zoned land that is suitable for the removal of the original house and its replacement by three or more townhouses (to the maximum permitted density).		65,051
Redevelopment on Business Land: any business-zoned land in an area that also allows for some residential zoning (that is, mixed use). The residential component has been calculated as a percentage of the total permitted floor space.	72,367	72,367
Special Areas: capacity in greenfield areas with tructure Plans, such as Flat Bush in Manukau City, Long Bay in North Shore City, and Mt Wellington Quarry (Stonefields) in Auckland City.	Not known	Not known
Rural Towns (estimate): data on available capacity within the rural towns from the 2008 study has been applied as the best estimate of available land.	9,855	9,855
Rural Residential: covers any rural land that is zoned in a manner that allows subdivision to create sites smaller than 8 hectares.	20,877	20,877
Total additional capacity	**184,450**	**227,221**

Note: Infill and infill redevelopment estimates are not discrete sets. This is because a single property may be large enough for there to be the option of including a new dwelling on the front or back (that is, pure infill) or of removing the house and opening the whole site for potentially more intensive redevelopment.

The estimated capacity for the Auckland region in 2006 ranged from an additional 184,450 dwellings from infill sites to 227,221 dwellings if infill sites undergo redevelopment to intensify their use. After adjusting for residential capacity consumed between 2006 and 2008 and to add capacity that was supplied during that period, it is estimated that the region's capacity in June 2008 was 188,689. A breakdown of new dwelling capacity by supply type and local authority is summarised here:

17 'Infill' refers to any residential-zoned site that is smaller than 2,000 m2 and that can accommodate one or more dwellings on the front or rear of the site.

18 'Infill redevelopment' refers to any residential zoned land that is suitable for the removal of the original house and its replacement by three or more townhouses (to the maximum permitted density).

Table 3.4 – Auckland residential capacity in 2008

Local Authority	Vacant and Vacant Potential	Infill/ Redevelopment	Structure Plan	Business Area	Rural	Total
Rodney District	2,614	422	7,447	2,758	19,223	32,464
North Shore City	7,429	3,805	2,900	10,894	410	25,438
Waitakere City	5,162	4,852	5,992	9,051	1,571	26,628
Auckland City	4,125	6,410	2,900	44,476	2,629	60,540
Manukau City	4,994	6,719	12,060	6,143	2,484	32,400
Papakura District	949	1,181	2,900	558	541	6,129
Franklin District	0	0	0	1,379	3,712	5,091
Total for Auckland Region	25,273	23,389	34,199	75,259	30,570	188,690

The DBH/ARC study into the adequacy of the Auckland land supply found that the Auckland region has a residential capacity (that is, from infill and infill redevelopment) for 188,690 dwellings under the current zoning regime. The largest new dwelling capacity was found in Auckland City (60,540 dwellings), which accounted for almost one third of the regional total. This was followed by Rodney District (32,464 dwellings) and Manukau City (32,400 dwellings). The bulk of the capacity in Rodney, however, is for rural residential use.

The study showed that medium-scenario dwelling projections based on estimated population will also be highest in Auckland City, followed by Manukau City and North Shore City.

Table 3.5 – Auckland regional household growth, 2008–31: Medium scenario

Local Authority	2008–11	2011–16	2016–21	2021–26	2026–31	Total 2008–31
Rodney District	2,067	3,689	3,960	3,989	3,739	17,446
North Shore City	3,590	6,495	6,552	6,561	6,331	29,529
Waitakere City	3,542	6,183	6,387	6,424	6,320	28,856
Auckland City	7,981	14,371	14,331	14,262	13,809	64,754
Manukau City	6,563	11,970	12,503	12,681	12,815	56,532
Papakura District	697	1,250	1,305	1,292	1,313	5,857
Franklin District	929	1,630	1,739	1,717	1,624	7,639
Total for Auckland Region	25,369	45,588	46,777	46,926	45,951	210,610

The number of households in the Auckland region is expected to increase by 210,610 under the medium scenario. Given the 188,690 supply capacity, which is based on the availability of land and its potential for redevelopment, there will be an expected shortfall for the region of 21,921 building sites by 2031.

Analysing the years until supply capacity is exhausted is one approach to measuring the supply/demand shortfall. This takes into account the rate of change of demand with reference to supply capacity. At the regional level, the year in which supply capacity is expected to run out varies from one territorial authority to another.

The study concluded that the Auckland region will have 16 to 28 years of residential capacity under various scenarios. This projection is comparable to the normal range of land supply of other large cities. However, there are several concerns:

- There is a significant mismatch between the location of the projected growth and the composition and location of residential supply capacity given current land zoning (that is, Auckland, North Shore and Manukau Cities face land supply pressures).
- It is assumed that most future construction will be higher-density development and redevelopment, but current ratios are in fact much lower. Further, development in Australian cities has not achieved the volume of higher-density development that was assumed.
- The assumption of higher-density development rests in turn on an assumption of a high level of conversion – that is, that current and future owners will want to develop and to do so to the maximum allowable density.

The conclusions that Auckland's land-supply capacity will be exhausted in the medium to long term and that there will be a mismatch between the locations of growth and supply are both consistent with the analysis of the demand/supply shortfall contained in Chapter 4, which discusses the more acute supply shortage in urban centres, especially Auckland.

3.4.2 Staging process of residential land supply

When a vacant land parcel is earmarked for residential use, it undergoes a development-staging process before any building work can start. The land-development and building process is set out in the table below:

Table 3.6 – Development process: Residential land and building

Original 2006 Land Parcel	
	Preparation of Comprehensive Development Plan (CDP) (or similar) documentation
Comprehensive Development Plan lodged	
	Processing period for CDP (or similar)
Comprehensive Development Plan approved	
	Design/documentation for subdivision consent
Subdivision consent lodged	
	Processing period for subdivision consent
Subdivision consent approved	
	Subdivision construction period / associated engineering approvals / tendering up to release of Section 224(c) Certificate
Section 224(c) Certificate* issued	
	Period between release of Section 224(c) Certificate up to issuing of title
Titles issued	
	Design/documentation for land use consent for buildings or combined subdivision/land use consent
Land use / combined consent lodged	
	Processing period for land use consent or combined subdivision/land use consent
Land use / combined consent approved	
	Building design period for first Building Consent (BC) to enable construction to begin
Building Consent lodged	
	Processing period for Building Consent, to enable construction to begin
Building Consent approved	
	Building construction period to first inspection (foundations)
First building inspection (foundations)	
	Building construction from first inspection (foundations) to pre-lining inspection (or proxy)
Pre-lining inspection	
	Building construction from pre-lining inspection (or proxy) to CCC (or proxy)
Code Compliance Certificate issued and, where applicable, a subsequent subdivision consent lodged	
	Processing period for unit title/cross-lease/fee simple subdivision consent (if further subdivision required), to release of 224(c) Certificate
Subsequent subdivision consent approved	
	Average time to gain survey plan (LINZ) approval and issue of titles for further subdivision
Subsequent titles issued; 224(c) Certificate issued	

* *Section 224(c) of the Resource Management Act 1991 requires the territorial authority to certify that all conditions of the subdivision consent have been met, or that arrangements have been made for the necessary work to be completed.*

Information about land availability by its zoning is not sufficient by itself. The development process involves long lead times for getting land use consents, adding infrastructure and services, and then building. A more detailed breakdown of housing land supply by the various stages of development is needed to provide better information about the supply of housing over time.

3.5 COSTS

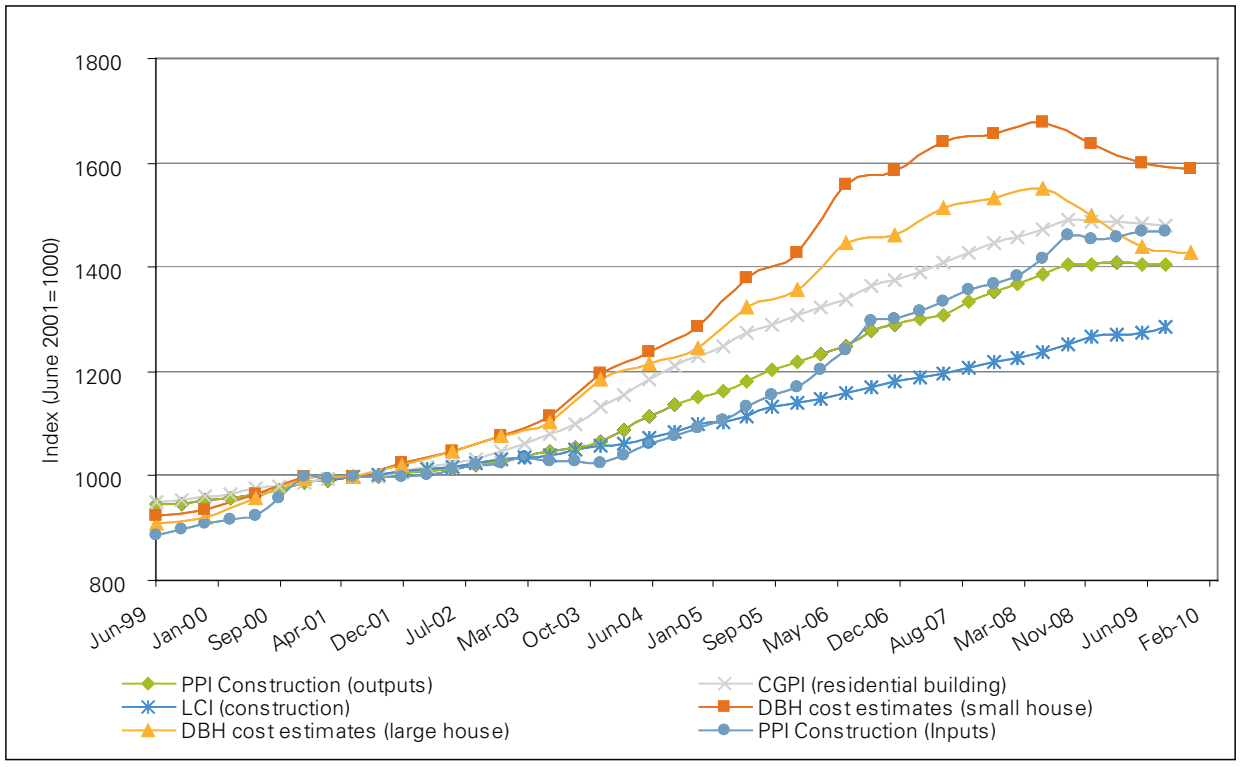
The cost of construction is one of the key determinants of trends in the supply of new housing. There are a number of measures of construction costs, including:

- the Department of Building and Housing's estimated building cost indexes for a small and a large house – the 'modal' house price index
- the Producers Price Index (PPI) for construction
- the Capital Goods Price Index (CGPI) for residential buildings
- the Labour Cost Index (LCI) for the construction industry and for the building trade workers' occupation group.

3.5.1 Trends in New Zealand construction costs

Despite differences in what they measure and the methodology they use, the four measures of constructions costs discussed above track closely with each other. This largely reflects the dominance of price inflation over time. Further, it is notable that the increase has been steeper during the housing boom period from 2003 to 2006, although more recently the rate of increase in construction costs has slowed. The Department's estimated building cost indexes for small and large houses and the Capital Goods Price Index have both fallen since December 2008.

Figure 3.4 – Comparison of residential construction costs



Source: Statistics New Zealand and the Department of Building and Housing

The Department's estimated building cost measure is one of the more comprehensive measures, as it takes into account various cost components in residential building. This index is provided specifically to assist territorial authorities to arrive at realistic estimated values of building jobs, which are necessary for building consent applicatio to compute this index needs to be taken into account, because the index is based on a model building for the region, and allowances will need to be made for particular conditions that are recognised.

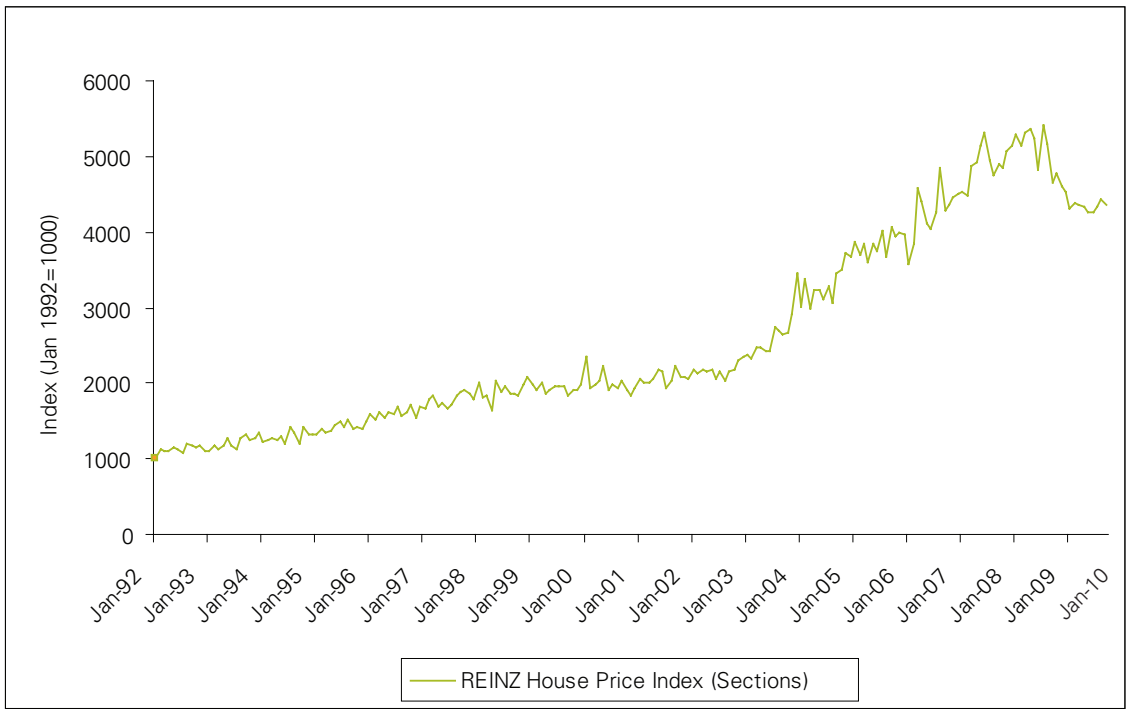
Further indexes will be needed in the future as housing forms change and higher-intensity housing emerges, in order to take account of land and construction costs that are specific to these building types (such as apartments and duplexes).

Figure 3.4 shows that the cost of construction increased rapidly from 2003 to 2008. In addition, cost statistics also showed that the increase in costs in the construction industry is larger than those in the other sectors of the economy (see Figure 3.15 later in this chapter).

3.5.2 Land costs

Figure 3.5 below shows the movement of section prices since 1992, based on data collected by the Real Estate Institute of New Zealand (REINZ). The increase in section prices was relatively moderate until 2000, when the index crossed the 2,000 mark. The index reached a peak of 5,409 in July 2008, and the price increase over this period between early 2001 and the peak in mid-2008 was around 165%. Although the index had fallen to 4,357 by September 2009, it is still relatively high compared to historical levels.

Figure 3.5 – REINZ section price index



Source: REINZ

A 2008 BRANZ report on New House Price Modelling identified land costs as an important factor in house-price movement. Land costs were found to account for more than 40% of the cost of new detached housing; of this, 50% was the cost of raw land while the remaining 50% was for the costs of infrastructure development, the developer's margin, and council fees. The report also identified that, based on BRANZ's modelling specifications, the section component of the total house and land price has increased from 22% in 1987 to 46% in 2008.

The increase in land cost has been associated with the implementation of Metropolitan Urban Limits (MULs) by councils in urban centres. While the purpose of a MUL is to confine and intensify urban developments

within the MUL, land prices per dwelling will escalate without a corresponding increase in the volume of more intensive housing development within the MUL.

Auckland in particular currently faces a significant challenge: its population is increasing, but there is a shortage of suitable housing that is close to amenities, has access to transport networks or public transport, and is serviced by adequate infrastructure (such as water and sewerage). The transition of the eight city councils within Auckland to create a Supercity complicates matters further.

At issue is whether a MUL-imposed constraint on land supply is the most effective way of achieving growth patterns that maximise the use of expensive infrastructure investment (including amenities) and that provide housing options that people want. In a presentation to the 2025 Productivity Taskforce, Motu economist Arthur Grimes suggested that to alleviate pressure on Auckland house prices, the MUL could be extended around existing infrastructure such as the Northern Motorway,[19] and that land-price appreciation was the main contributor to Auckland's escalating house-price inflation (Grimes, 2009a).

Table 3.7 – Auckland region: Price increases by district, decade to 2005

District	House prices	Residential land price
Rodney	131%	315%
North Shore	110%	174%
Waitakere	115%	286%
Auckland City	115%	335%
Manukau	92%	108%

Source: Grimes (2009a)

To avoid the further significant infrastructure costs that would result from 'building out', the Auckland City Council has proposed a new planning framework that would develop the three principal centres around the CBD – Newmarket, Sylvia Park and Onehunga – connected by public transport networks (Auckland City Council, 2009). The three centres would act as 'hubs' for future intensification and development; this would include the construction of high-rise buildings for apartment living areas, or provision for easier redevelopment of business and industrial areas for residential living.

However, rather than 'building up', there has been more pressure on councils to 'build out', by extending Auckland's Metropolitan Urban Limit. The main problem is funding the cost of supporting infrastructure.

Extending the MUL would enable urban development in rural zones – for example, factories, housing and schools. In a previous study, Grimes and Liang (2007) found that the value of land just inside Auckland's MUL was about 10 times higher than that of land just outside the boundary.

Motu Economic and Public Policy Research is conducting a four-year study on the benefits and issues surrounding New Zealand's investment in infrastructure. Grimes (2009b) provides a non-technical background for the project, and cites several previous studies (including the 2004 OECD Economic Survey on New Zealand) that have found inadequacies in New Zealand's infrastructure, particularly in land transport, electricity and telecommunications. Research completed to date includes the two studies referred to above: on the Auckland Northern Motorway and MUL boundaries (Grimes and Liang, 2007, 2008); and on the impact of the Resource Management Act on irrigation infrastructure in the Mackenzie District (Grimes and Aitken, 2008). Research is currently underway on broadband accessibility, rural services, infrastructural support for exports, and the impact of urban passenger-rail upgrades and community amenities on house prices in Auckland.

19 Grimes and Liang (2008) found that the extension to the Auckland Northern Motorway in 1991 caused population, employment and land values to increase substantially around the new exits and to the north of the motorway, relative to other developments in North Shore and in the wider Auckland region.

3.5.3 Residential construction costs

This section analyses how construction costs track over time, and considers how the different cost components of residential building have changed relative to each other.

In October 2008, the Department of Building and Housing released a report, Identification and Analysis of Building Consent, Inspection and Approval Costs. While the report focused on the compliance component of construction costs, it also found that total construction costs (excluding GST) increased, on average, by $66,642 from 2002 to 2007. The cost of materials accounted for most of the increase ($26,137, or 39.2% of the total cost increase), followed by project management and overheads ($20,446, or 30.7%) and labour ($10,176, or 15.3%). Fees and levies accounted for only 1.3% of the increase: this will be discussed further in the next section.

Table 3.8 – Components of residential construction costs, 2002–07 (excluding land supply)

	2002		2003		2004		2005		2006		2007	
	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost
Materials (A)	102,703	68.9	108,425	68.6	115,812	62.9	118,744	63.2	122,827	64.1	128,840	59.7
Project management and overheads (B)	23,719	15.9	27,079	16.6	36,978	20.1	34,754	18.5	32,008	16.7	44,165	20.5
Labour (C)	20,117	13.5	24,409	15.0	27,830	15.1	27,423	14.6	27,337	14.3	30,293	14.0
Fees and levies (including infrastructure levies)* (D)	2,510	1.7	3,065	1.9	3,599	2.0	7,002	3.8	9,505	4.9	12,393	5.7
Total (A+B+C+D)	149,049	100.0	162,978	100.0	184,219	100.0	187,923	100.0	191,677	100.0	215,691	100.0

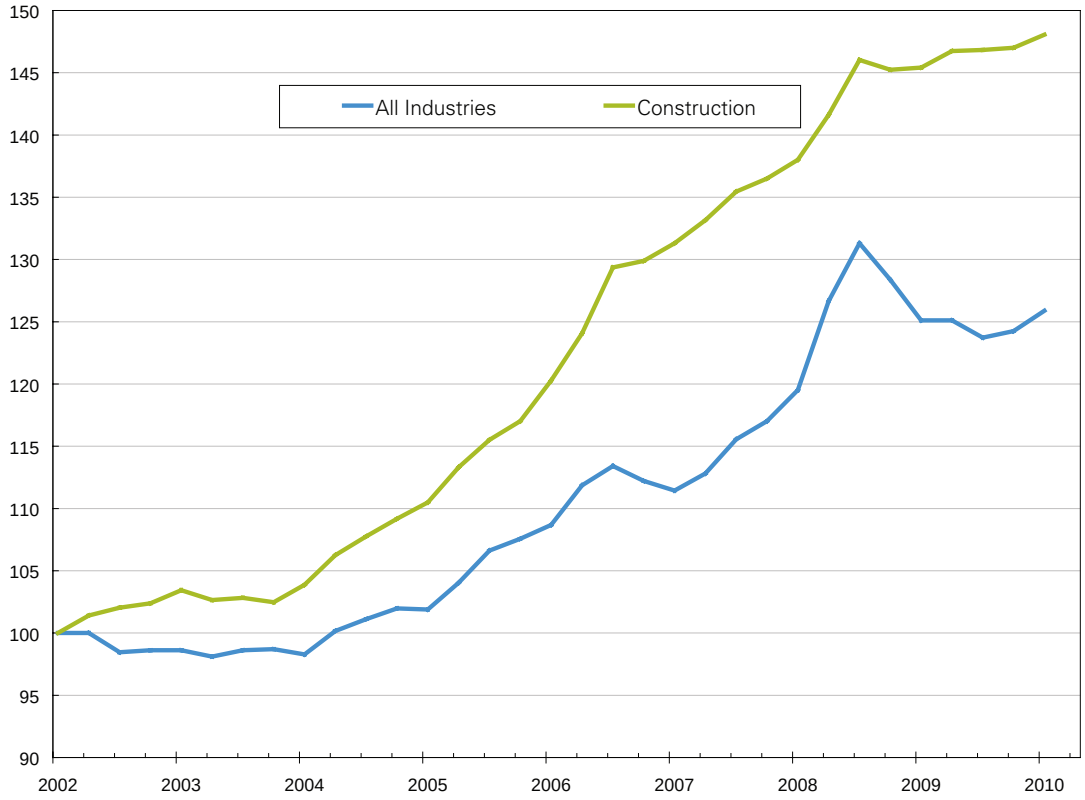
Source: Department of Building and Housing

** This component will be expanded on in the section on cost of compliance in Table 3.10.*

Figure 3.6 shows the Producer Price Index for inputs for the construction industry compared with all industries. The total index declined by 5.8% in the year to September 2009, and by 3.2% in the year to December 2009, while construction input prices continued to rise, albeit more slowly than in previous years. During the housing boom, labour costs in the construction industry increased at a faster rate than that for all industries. Figure 3.7 shows that even during the slowdown, construction labour costs continue to rise despite fairly subdued activity in the sector, perhaps reflecting a shortage of construction workers.

Figure 3.6 – Producer Price Index for inputs

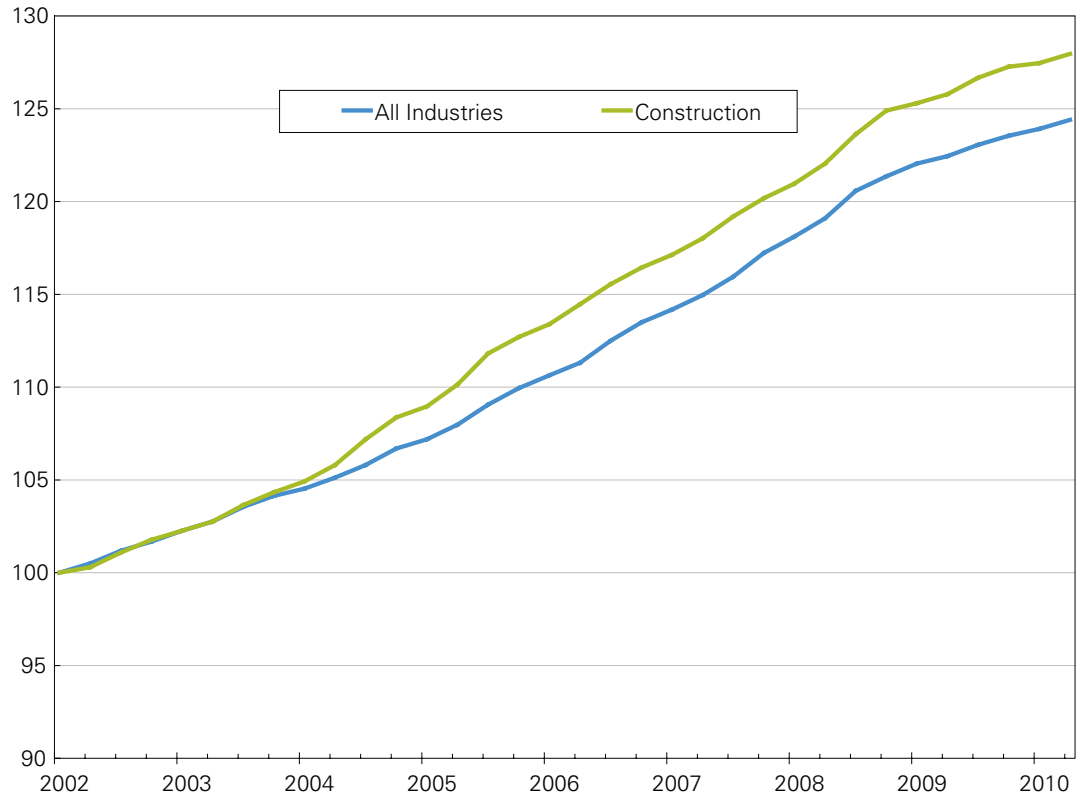
(Index 2002Q1 =100)



Source: Statistics New Zealand

Figure 3.7 – Labour Cost Index

Index 2002Q1=100



Source: Statistics New Zealand

3.5.4 Construction-related compliance costs

Table 3.9 shows a breakdown of the "Fees and levies" component from Table 3.8. This reveals that most of the increase in fees was due to increased infrastructure levies rather than vehicle crossing inspection fees, water connection fees, BRANZ and Building Levies, and so on. The growth in council-imposed fees raises a number of issues:

- Councils face increased costs as a result of population growth.
- Regulatory income (including petrol tax) contributes about 6.7% to local authorities' current revenue.
- When infrastructure/development levies were introduced, it may be that too much attention was given to their revenue potential and too little consideration was given to their effects on the property market.
- The argument for applying levies is that new dwellings impose additional capital costs because of the need to expand infrastructure and amenities. There is a question of whether enough consideration has been given to the benefits of growth – in other words, has the balance of who should pay for the costs of growth been adequately addressed?
- Applying a front-end capital charge or levy in order to (partly) fund long-lived capital assets may not be the most sensible funding mechanism.
- Alternative ways of capturing part of the (unearned) uplift in land value that occurs from council re-zoning and land use consent may be more effective in moderating the cost of new housing construction and partly funding the costs of growth (that is, by reducing the price that developers are prepared to pay for land).

Table 3.9 – Average cost of fees and levies, 2002–07 (excluding land supply)

	2002		2003		2004		2005		2006		2007	
	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost	Value in $	% of total cost
Fees and levies (D=D1+D2)	2,510	1.7	3,065	1.9	3,599	2.0	7,002	3.8	9,505	4.9	12,393	5.7
Infrastructure levies (D1)	1,000	0.7	1,500	0.9	2,000	1.1	5,000	2.7	7,500	3.9	10,000	4.6
Total fees & levies (D2=D2a+ D2b+D2c+ D2d+D2e)	1,510	1.0	1,565	1.0	1,599	0.9	2,002	1.1	2,005	1.0	2,393	1.1
Building consent-related fees (D2a)	856	0.6	866	0.5	866	0.5	992	0.6	1,046	0.5	1,262	0.6
Vehicle crossing inspection fee (D2b)	60	0.0	60	0.0	60	0.0	53	0.0	53	0.0	53	0.0
Water connection fee (D2c)	345	0.2	370	0.2	370	0.2	378	0.2	378	0.2	444	0.2
BRANZ Levy (D2d)	151	0.1	163	0.1	184	0.1	195	0.1	196	0.1	213	0.1
Building Levy (D2e)	98	0.1	106	0.1	117	0.1	384	0.2	386	0.2	420	0.2

Source: Department of Building and Housing

As well as fees and levies, the Department's report discussed in 3.5.3 above also highlighted costs associated with delays. Consenting delays increase project timeframes and expose developers to higher risks, including the risk of late delivery and risk of the market slowing and buyers looking for opportunities to not complete the contract. These indirect time and holding costs, which are not estimated in Table 3.9 above, inevitably further increase the overall cost of the construction project.

3.5.5 Other regulatory requirements affecting supply

The Resource Management Act 1991 (RMA) brings together laws governing land, air and water resources to manage the impact of human activities on the environment. Since 1991, the RMA has gone through a number of reviews and amendments. Most recently, reform of the RMA has been prompted by the increased criticism of the Act's capacity to effectively manage complex environment issues and of the slow and costly processes for plan preparations and consents.

The reform of the RMA is being carried out in two phases:

- **Phase 1** introduced the Resource Management (Simplifying and Streamlining) Amendment Act 2009, which came into force on 1 October 2009. The amendment streamlined the processes for projects of national significance, established an Environmental Protection Authority, and limited the ability to use the appeal process for vexatious and anti-competitive objections.
- **Phase 2** of the reform is intended, among other things, to improve the provision of infrastructure and explore better approaches to urban planning, and to align the RMA's consenting processes with those of the Building Act 2004.

Other initiatives aimed at reducing regulatory costs include:

- the **Better Building Blueprint**, to make it easier and cheaper to build good-quality homes and buildings by supporting standardised solutions to deal with simple, straightforward consents
- **multiProof**, the new National Multiple-Use Approval service, which enables building designs that are to be replicated across different regions and districts to be pre-approved for Building Code compliance
- a **review of the Building Act 2004**, to find out how the Act could be updated to minimise the cost of compliance without compromising quality of building and construction.

3.6 THE CONSTRUCTION INDUSTRY

Key points in this section

- The structure of the construction industry, which is characterised by small firms and a reliance on subcontracting, contributes to lower productivity and makes the industry more vulnerable to economic cycles.

3.6.1 Structure of the construction industry

New Zealand's construction sector is highly fragmented, consisting mainly of small firms and contractors employing only a few workers ((Department of Building and Housing, 2009a). Because of this, the sector faces particular challenges and constraints. Small firms will tend to face higher overhead costs and to operate on a cashflow basis, because of the difficulty in securing funding from banks and financial institutions. The small-scale nature of the sector means that it is generally vulnerable to reduced demand and volatility in the economy. The sector is also experiencing job insecurity and reduced hours, and a net migration of construction workers to take advantage of the Australian construction boom.

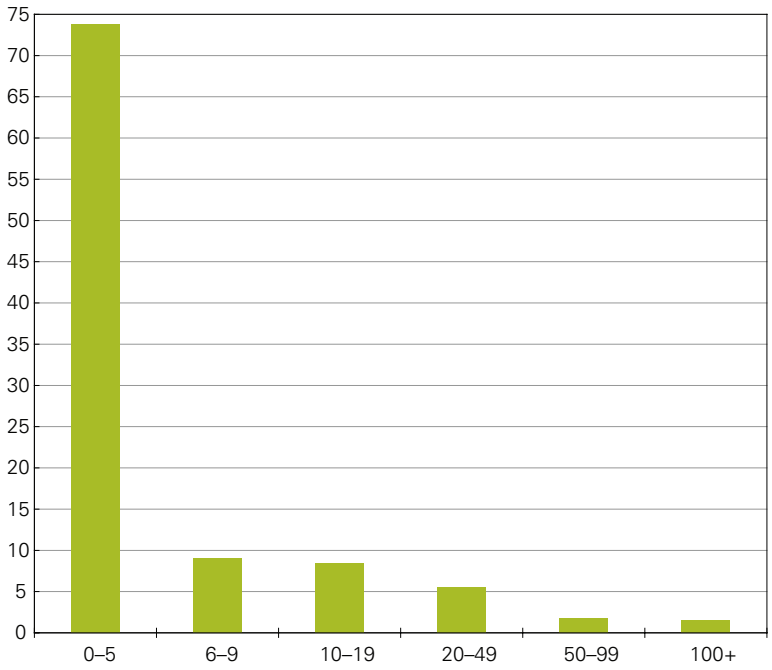
3.6.2 Characteristics of construction firms

Building a house requires effective integration of multiple inputs and trades, and the New Zealand approach is heavily reliant on subcontracting. The New Zealand construction industry is quite fragmented, with almost three quarters of all construction firms having fewer than six employees. The industry is sensitive to business-cycle

fluctuations and faces large swings in the volume of building consents. As a consequence, the sector faces high entry and exit rates for firms, and it relies on employing and shedding low-skill labour and on subcontracting in order to be able to respond to fluctuations in demand. Figure 3.9 shows that of all firm exits as at February 2009, the construction sector accounted for 13.4%, the second highest proportion behind real estate services.

Figure 3.8 – Number of employees, February 2009

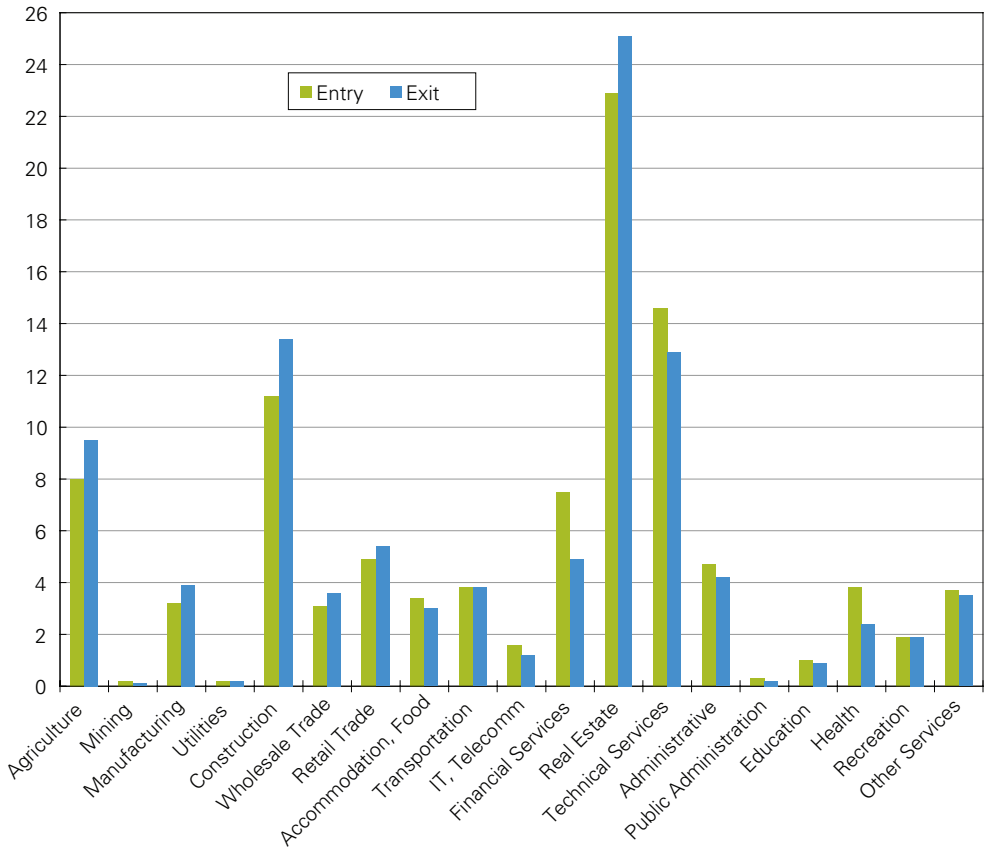
(% of all construction firms)



Source: Statistics New Zealand

Figure 3.9 – Firm entry and exit rates, February 2009

(% of total births and deaths)



Source: Statistics New Zealand

The New Zealand Business Demography statistics released by Statistics New Zealand in February 2009 confirm that the construction industry is characterised by a significantly large number of small firms employing a few workers. For example, 95.8% of the firms employed fewer than 10 workers.

Table 3.10 – Number of construction firms and employees by employee count size group, February 2009

Employee Count Size Group	0	1–5	6–9	10–19	20–49	50–99	100+	Total
Employee Count *	0	31,440	14,960	18,860	18,180	8,060	30,400	121,900
Enterprises	34,231	14,590	2,078	1,424	620	119	72	53,134

Source: Statistics New Zealand

* Employee Count does not include a firm's proprietor.

The lower economies of scale that are associated with small businesses mean that they face higher cost structures, in terms of overheads, purchases of raw material (as larger firms can buy in bulk), and investment expenditure. These higher costs are thought to be the cause of the relatively low productivity of the construction sector. Davis (2007) concluded that low productivity is an issue in the sector, that it has performed poorly in comparison with other parts of the economy, and that this can be attributed to a number of reasons related to regulation, investment, competition, innovation, enterprise, and labour quality.[20]

While the focus has been on the labour component of productivity in the sector, the productivity of capital should also be considered. The small construction firms typically cannot afford to invest in capital equipment. The industry is characterised by bespoke (made to order) on-site construction, rather than factory-built components and on-site assembly.

3.6.3 Availability of capital

The financial crisis has caused financial institutions to tighten their lending standards, as global liquidity has contracted dramatically. The construction industry has suffered the largest decline in bank-lending growth rates on a year-over-year basis compared with other industries, according to data from the Reserve Bank. The liquidity constraint has been most prominent in the mezzanine finance market, which provides high-cost financing mainly to property developers who are unable to raise the equity or borrow sufficient funds from major banks to complete and sell new projects. Finance firms operating in the mezzanine market were able to obtain funds from investors seeking higher returns than those offered by banks or government securities.

As the financial crisis unfolded in 2007 and demand for housing dropped off, property developers found they were unable to sell projects and meet their financial commitments. The mezzanine finance companies in turn were unable to pay their investors; about 30 companies have gone into receivership or entered into moratoriums in the past
three years.

Extensive media coverage of the collapse of major finance companies and the associated losses suffered by already vulnerable individual investors have fuelled the run on liquidity in the sector. The remaining companies are unable to either retain existing investors or attract new ones. As a result, the Reserve Bank and Treasury

20 Davis (2007) was a report prepared for the Department of Building and Housing by Martin, Jenkins & Associates.

have introduced several regulatory measures to restore stability and confidence in the New Zealand financial sector.[21]

The overall effect of the financial crisis and the new regulatory regime is that lending to the property sector from finance companies has fallen from $4.0 billion in 2007 to $2.8 billion in December 2009. Further, the sector's exposure to property developers fell from 41% in 2007 to 34% in 2009.

Banks are unlikely to step in and offer financing to the smaller, more risky developers. This is because their lending criteria are tighter, and they can be expected to favour larger developers with strong cash positions or equity investors with whom they already have long-standing relationships.

21 In November 2008, the Government announced their temporary wholesale funding guarantee to ensure that New Zealand banks were able to access funding during the financial crisis, and as a step towards re-establishing confidence in the markets. On 10 March 2010 the Government announced that the scheme would end on 30 April because of the recovery of international markets. During that time, 24 guarantee certificates were issued, covering $10.3 billion of borrowing by banks. The scheme has made no payouts and the Government will receive $290 million in fees ('Wholesale Funding Guarantee to end on April 30', National Business Review, 10 March 2010).

Chapter 4: Projections of the Demand-Supply Shortfall

KEY POINTS

When housing demand (measured by the number of households) is compared with supply (measured by the number of private occupied dwellings), this shows a growing shortfall in supply. The shortfall is expected to be 14,772 dwellings over 2011-16, 10,603 dwellings over 2016–21, and 14,054 dwellings over 2021–26. The trend will reverse with a surplus of 2,322 over 2026-31.

At a regional level, the shortfall in the Auckland region is projected to be 90,575 dwellings in the 20 years to 2031.

Current and forecast volumes of new construction are lower than forecast growth rates in population and households. The actual number of new dwelling consents has been tracking below 16,000 dwellings annually between April 2009 and May 2010, which is lower than the Infometrics forecasts used in this report.

It appears that the growth in demand for housing is limited by lower than expected rates of household formation. This has been caused by more people remaining at home longer instead of flatting and forming new households, coupled with an increasing average household size in younger 'flatting households'. The housing market is a dynamic system and may adjust to pressures in a number of different ways.

There is a need for more data on building consents to allow better estimates and projections of housing supply. This is currently being addressed by the recommendations in Statistics New Zealand's Review of Housing Statistics. Alternative measures of housing pressures include homelessness, household crowding, and the number of unoccupied dwellings, but these are subject to limitations imposed by the quality or availability of data.

4.1 OVERVIEW OF THE HOUSING DEMAND/SUPPLY SHORTFALL IN NEW ZEALAND

This chapter examines the shortfall between housing supply and demand in New Zealand, both regionally and nationally, allowing us to estimate the demand/supply shortfall and consider trends through to 2031.

This is an initial attempt to analyse the shortfall between housing supply and demand. There are several limitations to the approach used in this chapter, which are briefly described here:

- Estimated and projected supply is based on broad assumptions about demolition, replacement dwellings and holiday homes, without specifying them by locality. Further research is needed to improve our knowledge of the relationship between new dwelling consents, unoccupied houses and occupied houses.
- The static nature of the assumptions made about fertility, mortality and migration rates over the long term cannot capture the more dynamic changes in these factors over shorter time intervals.
- Ideally, the key factors influencing effective as well as underlying demand would be included as determinants. This report describes statistical trends in housing demand and housing supply in aggregate, noting that we would understand these trends better if we knew more about the factors shaping effective demand (and supply).
- The estimates of demand have not taken into account the dynamics of household changes and families' abilities and willingness to adapt to changing circumstances. For example, young people may choose to stay with their parents for longer than expected (delaying flatting) or increase the occupancy rate of flats, thereby reducing the total demand for rental accommodation. This also results in an increase in average household size, as a matter of choice rather than necessity.
- The difference in time intervals adopted in the analysis of the shortfall at the national and regional levels reflects the problem that some information (such as new dwelling consents) is available more frequently than Census data, which is available at five-year intervals. There are also household projections that are released more frequently than the five-yearly Census information but cover longer time intervals.

4.2 THE CURRENT AND PROJECTED SHORTFALLS

4.2.1 The national housing shortfall

The analysis in this section of the shortfall between housing demand and supply is done using a 'flow' approach, which compares the increment in supply with the increment in demand over a given period, without referring to the level of 'stock' at the start of that period.

As explained in Chapter 3, the number of new dwellings, which potentially adds to housing supply, assumes an adjustment of a 20% discount when deriving additional new dwelling stock from new dwelling consents, to account for unoccupied dwellings (including holiday homes and other purposes), consents that are not completed, and demolitions and replacements.

This approach to assessing shortfall in housing demand/supply by comparing the relative increase in household numbers (based on forecast population growth) and housing supply over a given period has the advantage of analysing whether the increase in population/households is matched sufficiently by a corresponding increase in supply.

Projected trends to 2031

The projection in Table 4.1 below assumes that the average number of families per family household and the average number of people per other multi-person household remain constant at 2006 levels until 2031.[22] The number of households projected up to 2031 is compared against the projected number of occupied dwellings over the same period.

Table 4.1 – Current and projected national housing shortfall/surplus

Period	Expected increase in the number of households	Expected increase in the number of new dwellings that would add to supply	Shortfall/surplus
2006 – 2009	66,000	55,734	-10,266
2009 – 2011	45,000	28,419	-16,581
2011 – 2016	112,800	98,028	-14,772
2016 – 2021	108,000	97,397	-10,603
2021 – 2026	104,000	89,946	-14,054
2026 – 2031	99,000	101,322	2,322

Source: Statistics New Zealand, Department of Building and Housing estimates using data from Infometrics

Table 4.1 shows that from 2009 to 2011, there will be an estimated shortfall of 16,581 new dwellings relative to population/household growth over the same period. The projections above show that population-driven household demand is expected to increase faster than supply until 2026, with:

- a housing shortfall of 14,772 dwellings expected over 2011–16
- a shortfall of 10,603 dwellings over 2016–21
- a shortfall of 14,054 dwellings over 2021–26.

22 The average number of families per family household in 2006 was 1.041 and the average number of people per other multi-person household was 2.6.

To some extent the shortfall between households and housing stock as at 2009 can be explained by accommodation in non-private dwellings (such as hospitals, prisons, hotels/motels and boarding houses). Further, some of the shortfall can be accounted for by the stock of unoccupied dwellings, especially unoccupied dwellings where the occupants were away on Census night (which will adjust the assumed discount rate used to estimate new dwelling supplied). However, there are limits to the number of unoccupied dwellings that can be used to meet demand – the unoccupied dwelling stock includes those where the residents are away and also second homes and holiday homes that most of the time are not used.

This trend of a lower rate of new housing construction than population/household growth is expected to reverse in the 2026–31 period, when there is projected to be an excess of 2,322 new dwellings compared to the growth in the number of households.

The comparison between population/household growth projections and new housing construction provides a context for further discussion of how the housing market may adjust to slower rates of new housing construction. Changes in household structures are determined by a range of factors, including demographic, social and economic conditions (that is, effective demand), the relative movements of housing, and the volume of new housing supply/construction over time. The impact of these changes is discussed in the next chapter on house prices and in the section below on sensitivities.

4.2.2 The regional housing shortfall

The comparison of regional housing demand and supply up to 2031 is based on data available at five-yearly intervals.[23]

23 The regional breakdown for estimated number of households for the inter-Census years is not available from Statistics New Zealand. Therefore the regional demand-supply comparison is done over 2006-11 instead of over 2006-09 and 2009-11.

Table 4.2 – Projected regional housing shortfall/surplus up to 2031

	2006-11			2011-16			2016-21		
	Household growth projections	Forecast of new dwellings	Shortfall(-)/ Surplus(+)	Household growth projections	Forecast of new dwellings	Shortfall(-)/ Surplus(+)	Household growth projections	Forecast of new dwellings	Shortfall(-)/ Surplus(+)
Northland	4,000	4,373	373	3,900	4,861	961	3,400	4,845	1,445
Auckland	48,700	21,588	-27,112	52,000	29,821	-22,179	53,000	30,932	-22,068
Waikato	10,200	11,078	878	9,900	11,667	1,767	9,300	11,776	2,476
Bay of Plenty	8,000	5,759	-2,241	8,000	6,080	-1,920	7,600	6,107	-1,493
Gisborne	700	544	-156	600	483	-117	500	480	-20
Hawke's Bay	2,400	2,719	319	2,300	2,485	185	2,000	2,478	478
Taranaki	1,400	2,269	869	1,200	2,744	1,544	800	2,344	1,544
Manawatu-Wanganui	3,300	3,354	54	3,400	2,950	-450	2,800	2,878	78
Wellington	10,700	7,527	-3,173	10,400	9,564	-836	9,700	8,442	-1,258
Tasman	1,200	1,179	-21	1,200	1,598	398	1,100	1,422	322
Nelson	1,100	1,139	39	1,000	1,269	269	800	1,266	466
Marlborough	1,200	1,538	338	1,100	1,733	633	800	1,714	914
West Coast	400	871	471	300	788	488	200	784	584
Canterbury	13,500	13,648	148	13,200	14,351	1,151	12,600	14,515	1,915
Otago	3,800	4,864	1,064	3,600	5,013	1,413	3,400	4,803	1,403
Southland	700	1,699	999	400	2,619	2,219	100	2,612	2,512
New Zealand	111,000	84,154	-26,846	112,800	98,028	-14,772	108,000	97,397	-10,603

Source: Statistics New Zealand, Department of Building and Housing estimates using data from Infometrics

Table 4.2 – Projected regional housing shortfall/surplus up to 2031 (continued)

	2021-26			2026-31		
	Household growth projections	Forecast of new dwellings	Shortfall(-)/ Surplus(+)	Household growth projections	Forecast of new dwellings	Shortfall(-)/ Surplus(+)
Northland	2,900	4,435	1,535	2,600	4,956	2,356
Auckland	53,400	28,509	-24,891	53,400	31,963	-21,437
Waikato	8,700	10,636	1,936	8,000	11,691	3,691
Bay of Plenty	7,100	5,620	-1,480	6,800	6,302	-498
Gisborne	400	443	43	300	494	194
Hawke's Bay	1,700	2,277	577	1,400	2,554	1,154
Taranaki	400	2,033	1,633	300	2,234	1,934
Manawatu-Wanganui	2,200	2,738	538	1,800	3,171	1,371
Wellington	9,100	8,342	-758	8,300	10,090	1,790
Tasman	1,100	1,332	232	1,000	1,537	537
Nelson	800	1,165	365	700	1,304	604
Marlborough	800	1,591	791	500	1,802	1,302
West Coast	0	719	719	-100	801	901
Canterbury	12,400	13,415	1,015	11,700	15,053	3,353
Otago	3,100	4,293	1,193	2,700	4,675	1,975
Southland	-100	2,398	2,498	-400	2,693	3,093
New Zealand	104,000	89,946	-14,054	99,000	101,322	2,322

Source: Statistics New Zealand, Department of Building and Housing estimates using data from Infometrics

The 'flow' approach to assessing regional housing demand and supply shows that a significant housing shortfall is expected in the five years to 2011 in most regions. The most severe gap is expected to be around 27,112 dwellings in Auckland, with gaps also of 3,173 in Wellington and 2,241 in the Bay of Plenty. In the 20 years to 2031, the shortfall is still expected to be acute in Auckland (90,575) and the Bay of Plenty (5,390), but it is expected to ease in Wellington (1,061) and to turn to surpluses in other regions.

4.2.3 Sensitivity analysis of changes to key assumptions of demand and supply

Two critical assumptions have been made in determining the size of the supply-demand shortfall:

- Current trends in average household size will not change significantly.
- A 20% discount should be applied to numbers of new dwelling consents to account for those that do not eventually translate into permanently occupied dwellings.[24]

Household size and household formation rates can change over the short term, disguising pressures on housing construction and housing shortfalls. Housing supply is fixed in the short term, and the short-term impact of an increase in household size is likely to alter the ratio of occupied to unoccupied dwellings and increase the vacancy period before dwellings are occupied again. This adjustment takes place through the price mechanism, where rents adjust to higher vacancy rates. For example, in the recent downturn there were reports of an increase in the stock of private rental properties as a result of home-owners refusing to sell their properties at a lower than expected price, becoming instead accidental, temporary landlords.

The second area of sensitivity analysis is the assumption of a 20% discount on new dwelling consent numbers, to account for demolitions and replacements, non-completions, and unoccupied and holiday dwellings. Two alternative figures were used to determine what the impact of a change in this assumed discount percentage on housing supply would be.

As an alternative scenario, Table 4.3 considers a 1% increase and a 1% decrease in the 20% discount between new dwelling consent numbers and additional new housing supply.

Table 4.3 – Sensitivity analysis of 1% change in assumed 20% discount from new dwelling consent numbers

	Shortfall / Surplus (supply less demand flow)		
	If discount rate decreases to 19%	**If discount rate remains at 20%**	**If discount rate increases to 21%**
2006–11	-25,794	-26,846	-27,898
2011–16	-13,547	-14,772	-15,998
2016–21	-9,385	-10,603	-11,820
2021–26	-12,930	-15,178	-15,178
2026–31	3,589	2,322	1,056

Source: Statistics New Zealand, Infometrics and Department of Building and Housing

24 This 20% discount reflects an assumption that 80% of new dwelling consents will be completed. This percentage is derived from comparing past numbers of new dwelling consents with the new dwelling stock added to housing supply, with an allowance for a time-lag between building consents issued and new dwelling stock added.

The above scenario shows that small changes to the 20% discount do not lead to significant changes in the projections of housing shortfalls or surpluses. A significantly larger change in the assumption is needed to trigger a change from a shortfall to excess housing supply.

This leads us to conclude that the focus of the demand/supply shortfall analysis should be on the relative change in the shortfall across the different regions and over time, rather than on the absolute size of the shortfall as represented by the estimated numbers.

4.3 OTHER MEASURES OF THE HOUSING SHORTFALL IN NEW ZEALAND

4.3.1 Homelessness

'Homelessness' refers to people not having a regular dwelling or house to live in, which largely occurs because these people cannot afford or are unable to maintain regular, safe and adequate housing.

In New Zealand, the five-yearly Census provides data on those who are sleeping rough, in inadequate dwellings, or in temporary accommodation. However, there is no data – especially not regular data – on the number of people sharing accommodation and living in uninhabitable housing. The 2006 Census reported that 12 dwellings were in the 'Roofless or Rough Sleeper' category. That small number does not make this category significant enough to be properly included in this report, but it also suggests that the actual number of homeless in this category has been underestimated, and highlights a need for more research into homelessness.

Statistics New Zealand's document New Zealand Definition of Homelessness (July 2009) provides an agreed definition – 'living situations where people have no other options to acquire safe and secure housing' – and this is an important step towards measuring the extent of homelessness. The definition was adapted from the European Typology of Homelessness and Housing Exclusion (ETHOS), and covers people in the following categories:

- without shelter
- temporary accommodation
- sharing accommodation
- uninhabitable housing.

Table 4.4 – Homelessness classifications

Conceptual category	Operational category	Currently measurable?	Australian equivalent	Count (number of households)
Without Shelter	Sleeping Rough Improvised Dwelling	Yes – but will be underestimated	Primary Homelessness	8,800 NHSC 9,400 ABS
Temporary Accommodation	Night Shelter Homeless Accommodation Boarding House Camping Grounds Women's Refuge Marae	Yes	Secondary and Tertiary Homelessness: Night Shelter Homeless Hostel Boarding House Camping Grounds Women's Refuge Youth Refuge (excludes Camping Grounds and Marae)	39,000 ABS
Sharing Accommodation	Sharing Private Dwelling	No – 'involuntary sharing' cannot be identified	Secondary Homelessness	35,000 NHSC/ABS
Uninhabitable Housing	Private Owned or Rented Dwelling with inadequate facilities	No	No equivalent	

Source: K Amore, 22 September 2009; NHSC; C Chamberlain & D Mackenzie, Counting the Homeless 2006, cat no 2050.0, Australian Bureau of Statistics, Canberra, 2008

Note: ABS = Australian Bureau of Statistics; NHSC = National Housing Supply Council, Australia

The categories of homelessness used by the National Housing Supply Council as demand-supply shortfall indicators are the equivalents of 'Without shelter' and 'Sharing accommodation'.

The Australian category 'Marginal Residents of Caravan Parks' is also used as a shortfall indicator by the NHSC, numbering 12,500 households, even though it is excluded from the formal definition of homelessness. However, the NHSC excludes those who would come under the 'Temporary Accommodation' category, which makes up a large sector of the homeless population.

The NHSC's State of Supply Report comments: 'An important exclusion from these calculations is an allowance for the number of people who are living in non-private dwellings such as rooming houses, hotels, motels and institutions and have no other residence. Further research is needed to determine what proportion of this group should be included in the demand-supply gap'.

4.3.2 The definition of 'household', and living-arrangement preferences

The discussions and assessment of housing supply and demand centre on the number of households. The definition of 'household' includes where more than one family live in the same dwelling. Such multiple-family households can be the result either of people preferring those living arrangements for cultural and social reasons, or of overcrowding because of financial pressures.

This report has not included an analysis of specific demand for housing from groups of families and has focused instead on household numbers and average household size; neither has it directly considered short-term fluctuations in household size, such as the tendency for households to expand during economic

downturns. As noted in section 2.1.1, household size has changed over time partly because of delays in the formation of households. Further work on how to factor considerations of choice and constraints into supply and demand could be included in future reports.

4.3.3 Future research

The *Review of Housing Statistics* undertaken by Statistics New Zealand recommended that:

- Statistics New Zealand continue its research on housing suitability, and specifically on measures and statistics relating to crowding
- enumeration of the homeless be carried out by the University of Otago, Wellington, and by the Housing New Zealand Corporation, with inputs from Statistics New Zealand.

4.3.4 Efficient vacancy rates of housing submarkets

The 'equilibrium vacancy rate' is one of the key alternative measures of whether the housing market is tight or is easing. Similar to the concept of a natural rate of unemployment, the equilibrium (or 'frictional') vacancy rate takes into account the process of existing occupiers moving out of the property and then the moving in of the new occupier. In the Australian State of Supply Report 2008, the equilibrium vacancy rate adopted for the private rental market is 3% of the stock.

There is no official New Zealand data for rental vacancy rates. However, there are occasional reports on rental take-up rates in the local media. For instance, one real-estate agency conducts a quarterly survey on the 6,500 properties managed by its property managers across the country. Data on rental vacancy rates and rents received on different types of properties are collected. The properties surveyed represent 1.7% of the 388,272 rental households reported in the 2006 Census. While this is a relevant data source, the sample size may be insignificant as a proportion of the New Zealand dwelling stock, and it is not known whether any changes in the vacancy rate of managed properties reflect changes in market vacancy rates or a change in the firm's market share. More substantial data on vacancy rates needs to be collected.

Statistics New Zealand has produced a Review of Housing Statistics (2009) report, which recommends that the relevant agencies – the Department of Building and Housing, Housing New Zealand, and Statistics New Zealand – consider what practical steps are necessary to establish a statistical database of private rental availability at a regional level.[25] This and other recommendations in the report are seen as priorities in order to better describe rental housing trends.

4.4 THE NUMBER OF UNOCCUPIED DWELLINGS

The total number of occupied dwellings, unoccupied dwellings and dwellings under construction at the last Census (2006) form a basis for estimating housing supply. The proportion of unoccupied dwellings therefore plays an important role in the analysis of the housing supply/demand shortfall. These unoccupied dwellings include:

- those where the residents were away at the time of the Census
- empty dwellings at the time of the Census – this includes both 'frictional' vacancies, where a new occupant will move in shortly, and those dwellings that are vacant and available to be bought or rented
- dwellings undergoing repairs or renovations
- unoccupied baches and holiday homes.

25 The review was initiated and coordinated by Statistics New Zealand to identify the enduring research and policy needs relating to housing statistics and to ascertain the extent to which housing statistics are adequate for current and prospective information needs.

As measured by the Census, in 2006 there were 159,276 unoccupied dwellings in New Zealand, which represents 9.7% of the dwelling stock. That proportion was consistent with the 2001 Census (also 9.7%), but was higher than the 1996 Census figure of 8.1%. The regions containing the three largest urban centres have lower proportions of unoccupied dwellings – that is, Auckland, with 7%; Wellington, with 7.1%; and Christchurch, with 8.1%. The Nelson region has consistently had the lowest proportion of unoccupied dwellings, ranging from 5.3% to 6.4% in the last four Censuses.

Information on unoccupied dwellings is limited. The Census data assumes these are private and provides no further breakdown by type of dwelling or by whether they are permanent or temporary dwellings. Statistics New Zealand treats holiday homes and baches occupied during the Census period as 'Occupied Private Dwellings', but defines 'Unoccupied Dwellings' as including homes unoccupied during the 12 hours after midnight on Census night. Other holiday-home owners choose to rent out their property during times when they are not using it. Therefore, at any point in time, a holiday home could be counted as an occupied private dwelling, an unoccupied dwelling, or an investment that produces rental income infrequently.

In light of that uncertainty around holiday homes, Statistics New Zealand recommended in their *Review of Housing Statistic*s that:

- The Department of Building and Housing and Housing New Zealand undertake research into potential data sources (including administrative data) that will help to inform the demand for housing from holiday-home buyers.

A further implication is that as the population continues to age, this market is likely to constitute a larger share of regional – particularly coastal – areas of New Zealand, and therefore an attractive form of investment.

4.5 HOUSEHOLD 'CROWDING'

The Canadian Crowding Index is a common measure and provides a basis for monitoring change over time in the level of crowding in the New Zealand population.[26] The index measures actual occupancy rates by household type against a standard of how many bedrooms are required for different household compositions (see the previous footnote).

The statistics of household 'crowding' are derived from the five-yearly Census. The 2009 *Social Report*, produced by the Ministry of Social Development (MSD), reported that in 2006 10% of New Zealand's population were living in 'crowded' housing and required one or more additional bedrooms to meet the standard defined by the Canadian Crowding Index. This is the same as the 2001 percentage. In 1986, when this measure was first recorded, the figure was 13%.

The same index showed that the proportion of people living in 'crowded' housing and requiring two or more bedrooms to meet the standard was 3.5% in 2006 – slightly higher than the 2001 figure of 3.2% and the 1986 figure of 2.9%.

Although the Canadian Crowding Index takes account of factors such as household size and household composition in relation to the size of the dwelling by number of bedrooms, it does not account for social and cultural expectations.

MSD's *Social Report* found that across the different ethnic groups in New Zealand in 2006, the proportion of

26 This measure was developed by the Canadian National Occupancy Standard to determine the number of bedrooms in a dwelling needed to provide freedom from crowding. The Index states the following conditions for freedom from crowding:
- no more than two people share a bedroom
- parents or couples share a bedroom
- children under five years, either of the same sex or opposite sex, share a bedroom
- children under 18 years of the same sex share a bedroom
- a child aged 5 to 17 years will not share a bedroom with a child under 5 of the opposite sex
- single adults 18 years and over and any unpaired children will have a separate bedroom.

the population living in households that required at least one additional bedroom to meet the standard was highest among Pacific peoples (43%), Maori (23%), and the Asian community (20%), with the figure for the 'Other ethnic group' category being 23%. Only 4% of European New Zealanders are in living arrangements that meet the 'crowding' definition.

Cultural and economic factors were seen to be the main drivers of the differences in crowding levels among the ethnic groups. The population age structure of these groups also played a part, as the Māori and Pacific populations have a younger age structure compared to Europeans. The report found that younger people are more likely to be living in a 'crowded' household: in 2006, 15% of 10–14 year olds and 17% of children under 10 years lived in households requiring at least one more bedroom to meet the Canadian Crowding Index standard, compared to 5% of 45–64 year olds and 3% of those aged 65 and over.

There is also a negative relationship between income levels and the levels of 'crowding'. In 2006, 5% of the households in the bottom quartile of equivalised[27] household income needed one or more additional bedrooms to meet the standard, compared to less than 1% of those in the top income quartile. Other socio-economic factors relevant to crowding are unemployment and tenure of housing. The Social Report found that crowding was more likely in rental accommodation (10%) compared to mortgage-free accommodation (2%), and that 20% of unemployed people lived in 'crowded' households compared to 7% of those with full-time jobs.

The highest proportion of crowded households were found in Manukau City (25%), followed by Opotiki District (19%), Kawerau District (18%), Porirua City (17%) and Auckland City (17%). By comparison, the proportion of crowded households in the South Island was significantly lower, and well below the New Zealand average.

27 'Equivalised' household income is the total household income after it is adjusted by applying an 'equivalence scale', in order to allow comparisons of income levels between households of different sizes and compositions. The adjustment reflects the fact that a larger household needs a higher income to achieve the same standard of living as a smaller household.

Chapter 5: House Prices

KEY POINTS

A surge in demand for housing in New Zealand caused house prices to accelerate earlier in the decade. The New Zealand housing bubble was created by: high immigration; lower interest rates and increasing availability of credit; a tax system that encouraged investment in rental property; and expectations of future increases in house prices. The bubble followed the pattern of a number of other countries, but with different timing and triggers, particularly for the end of the cycle.

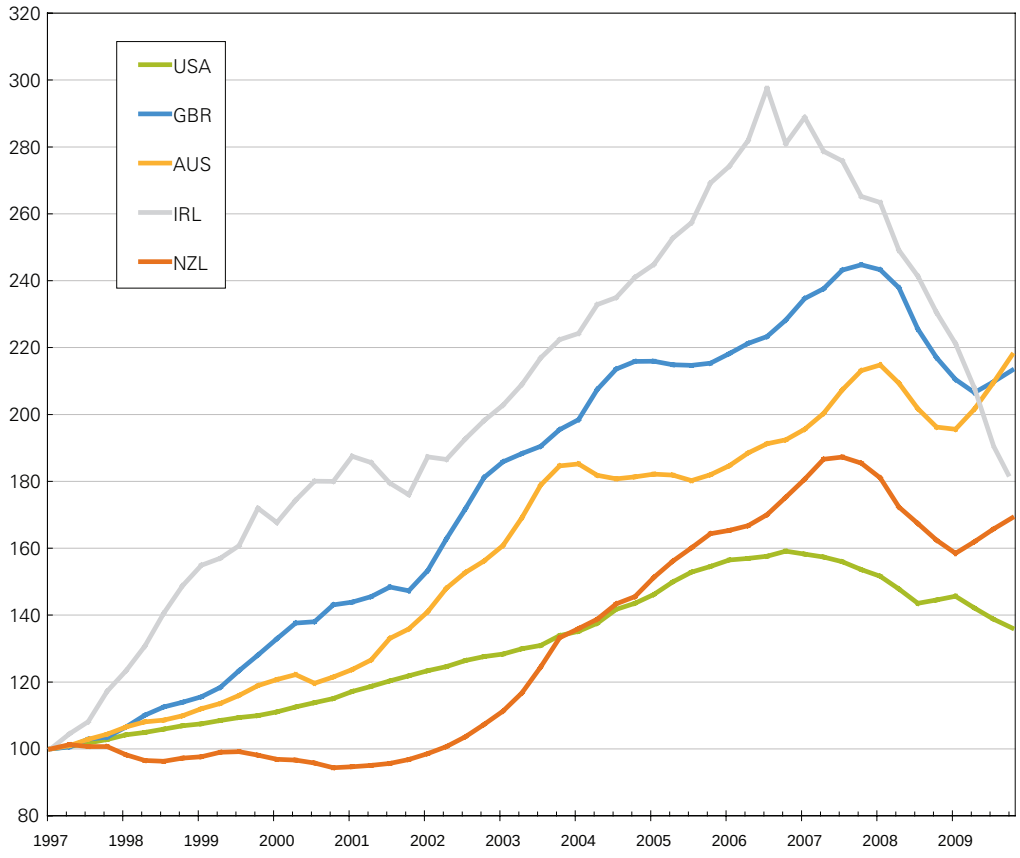
With prices rising faster than incomes, a large segment of first-home owners were shut out of home-ownership. The composition of the private rental market is shifting towards intermediate private renters, such as older and family households who in the past would have expected to move into home-ownership. These people are likely to want more stable housing tenure options than the private rental market currently provides. There has also been an increase in demand for social housing assistance. A consequence of these changes is that an increasing number of households will not be able to accumulate wealth through home-ownership.

5.1 TRENDS IN NEW ZEALAND HOUSE PRICES

New Zealand house prices rose substantially over the past decade, with boom/bust features providing evidence of a bubble. Figures 5.1 and 5.2 show that while real house prices in New Zealand have risen less than in other countries if 1997 is taken as the base year, the same data using 2005 as the base year shows New Zealand increasing comparatively more – that is, the house-price bubble started a little later in New Zealand.

Figure 5.1 – Real House Price Index (base 1997)

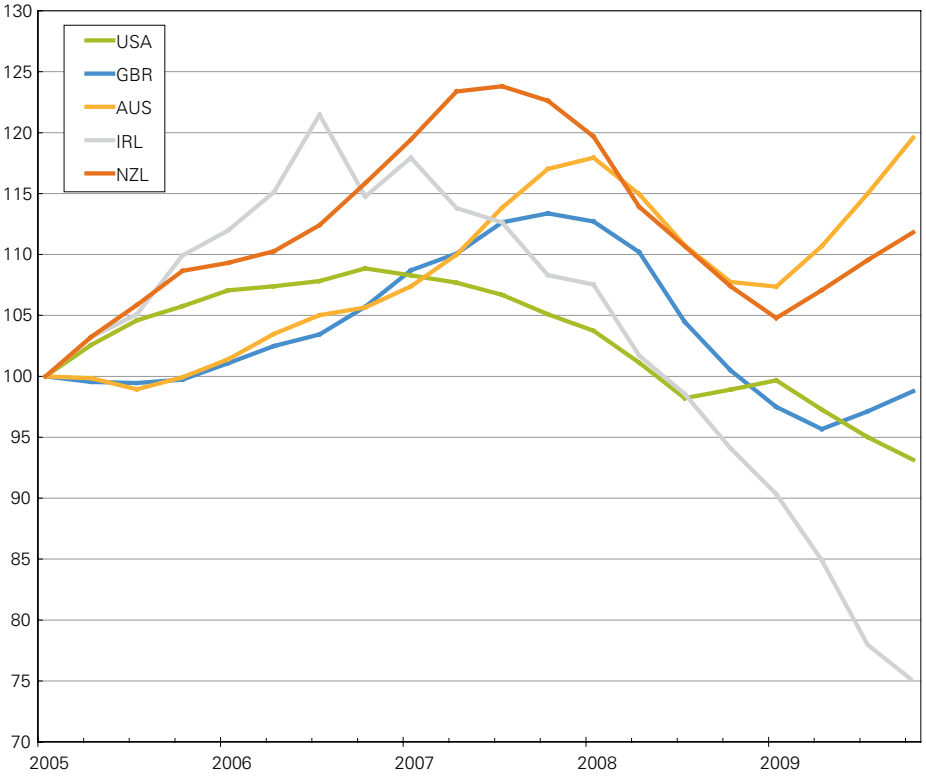
(1997Q1 = 100)



Source: OECD

Figure 5.2 – Real House Price Index (base 2005)

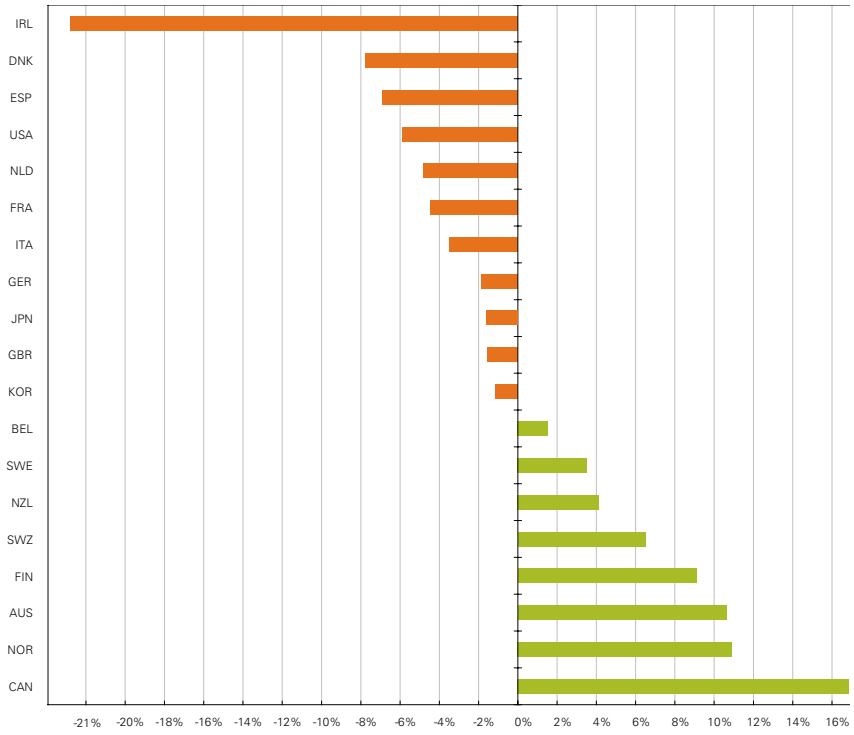
(2005Q1 = 100)



Source: OECD

Since the collapse of the financial market, house prices in several OECD countries have stabilised, and some have even increased. Figure 5.3 shows the cumulative quarterly growth rates for the four quarters of 2009 across all countries (except Japan, Italy and Ireland, which only have data to the third quarter). In 2009, house prices in New Zealand increased a cumulative 4%.

Figure 5.3 – Real house prices: Cumulative growth rates for 2009



Source: OECD, cumulative growth of quarterly percent changes for 2009 from 2009Q1 to 2009Q4.

5.2 MEASUREMENT OF HOUSE PRICES

There are several unique challenges involved with accurately measuring and reporting house prices. Houses are unique, and aggregate estimates are based on an average. Compared with other consumption goods, houses are infrequently traded and the characteristics of houses sold in different periods may not be comparable. This means that constructing a house-price index can be more complicated and subjective than an index of more commonly traded commodities or financial securities. Different agencies have access to different transaction data and apply different methodologies for averaging that data.

The *Review of Housing Statistics* undertaken by Statistics New Zealand recommended that:

Statistics New Zealand, with input from Quotable Value/PropertyIQ, the Treasury, the Reserve Bank, Housing New Zealand, and the Department of Building and Housing, lead an investigation into different methodologies and data sources for house and land price indexes with a view to confirming or upgrading existing measures, or developing new measures.

This section (5.2) examines the house-price indexes that are available in New Zealand, explaining the methodology and some of the advantages and disadvantages of each index.

5.2.1 Quotable Value House Price Index

Quotable Value (QV) produces a quarterly house-price index for each territorial authority (TA) in New Zealand. QV maintains a complete database on house sales and values, which gives it access to a very comprehensive dataset.

Quotable Value collects quarterly sales data from all 74 TAs. It applies a Sales Price Appraisal Ratio (SPAR) method, which calculates the ratio of (1) total net sales prices of all property sales of the listed residential categories to (2) the total capital value of the same properties sold in a given quarter. This ratio is then applied to the entire stock of capital values for each TA, which is then aggregated to yield a national index.

This method allows QV to estimate the average sales price for all houses, not merely the ones sold during the quarter. This gives the QV index an advantage over purely sales-based indexes in periods of low sales volume, as low volumes can cause a sales-based index to be dominated by the small number of houses selling at the time.

The main disadvantage of the QV index is that data is reported as at the sale date, and there is a delay between the sale date, the sale being registered with the local authority, and the data becoming available in the QV database. QV is currently testing a reporting framework that would reduce the current three-month lag to one month, and increase the frequency of their reporting from quarterly to monthly.

Overall, despite the publication lag, the QV index is comprehensive because it captures private sales as well as those transacted through real-estate agents. The QV methodology also builds in periodic adjustments to allow for depreciation and renovations made to the housing stock. Assuming these adjustments are fairly accurate and consistently applied, they therefore allow for changes in the quality of the housing stock (McDonald and Smith, 2009).

5.2.2 REINZ/RBNZ House Price Index

The Real Estate Institute of New Zealand (REINZ) has, together with the Reserve Bank, developed a new house price index (Smith, 2009). The index uses the REINZ dataset, which covers all residential transactions involving a registered real-estate agent.

The REINZ index is produced monthly, and draws data from 1,852 suburbs around New Zealand. The index uses a method called 'Stratification' to adjust for changes in the composition of the housing stock. Stratification involves breaking the sales data into small groups – suburbs, in the case of this index. The rationale is that your house will probably look more like your neighbour's than it does a house at the other end of the country. This means the change in average prices of each suburb should have less to do with changes in the housing stock than national average prices would. The national price growth is calculated as a weighted average of the suburb-level changes in house prices, with larger suburbs being given a larger influence on the index.

The Reserve Bank concludes that the REINZ index gives results similar to the QV index (Figure 5.4 below), but

because the REINZ index is monthly and adjusts for composition changes, it has some advantages over QV's offering. However, the REINZ index may still have difficulty with changes in housing composition over long periods, as the character of each suburb will slowly change over time.

5.2.3 CPI Housing Subgroup

Statistics New Zealand estimates the costs of new housing as a subgroup of the Consumers Price Index. Its method involves a national sample survey of new construction every quarter to estimate the change in prices from period to period.

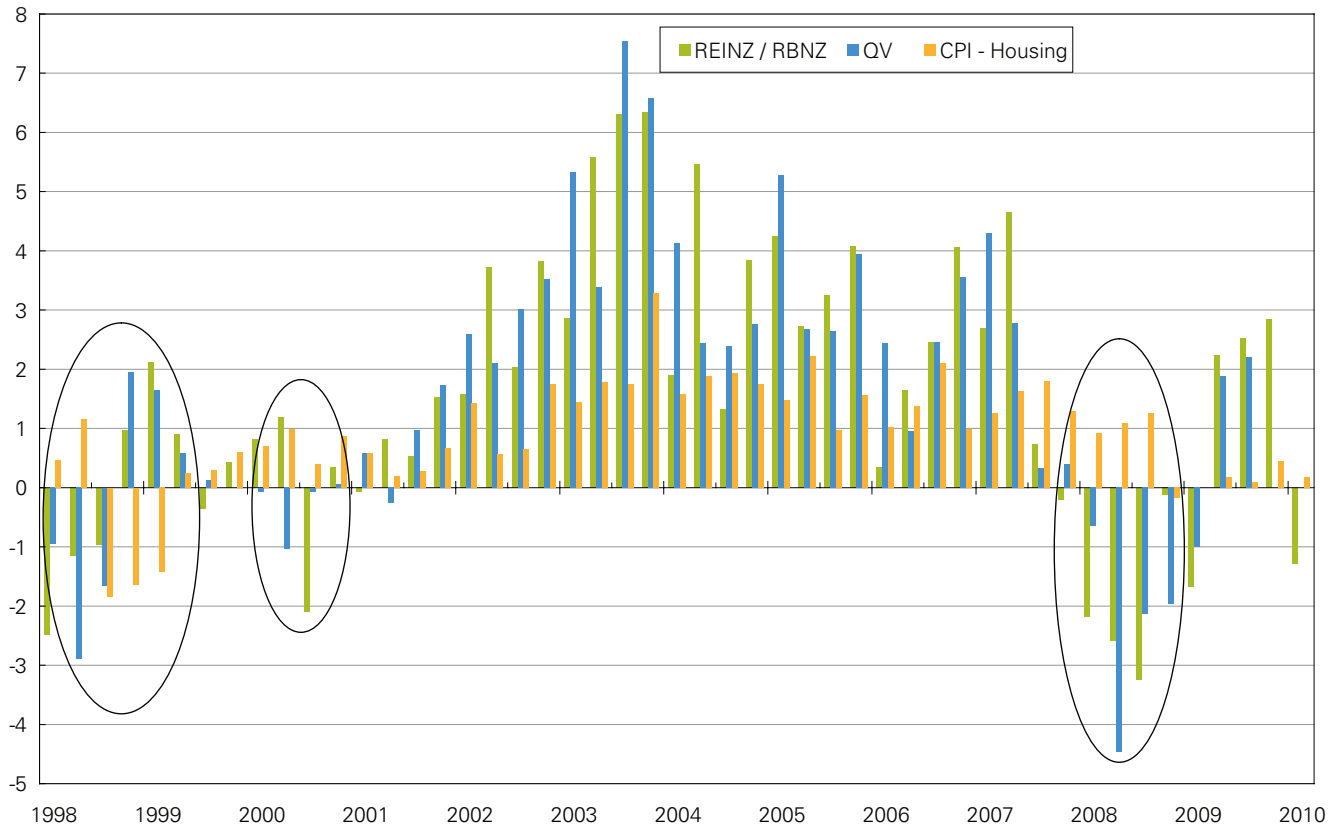
The CPI measure is based on surveying builders who construct standard-plan houses, to capture expenditure on newly constructed dwellings by owner-occupiers, excluding the value of the land.

5.2.4 Comparing the three New Zealand house price indexes

When examining data on house prices, it is important to understand which index has been used and the method used for calculating that index, as there are major differences between them. Figure 5.4 shows that different house-price indexes can produce different results. Discrepancies typically occur around turning points (highlighted in Figure 5.4), which are particularly important when trying to determine the likely path that prices will take in the future.

Figure 5.4 – Comparison of New Zealand house price indexes

(Quarterly percent change)



5.3 HOUSING AFFORDABILITY

A number of OECD countries have experienced housing booms in the last decade. There is a general perception that these booms have caused a significant decline in housing affordability, as well as a widening of differences in affordability across regions (Demographia, 2008). The decrease in housing affordability is perceived to have caused stress in some sections of society, as well as raising concerns about the sustainability of the boom. Adding to these concerns are recent events in the sub-prime mortgage market and the subsequent collapse in the housing market, and a resurgence of house-price inflation in some countries.

5.3.1 Key measures of housing affordability

Housing affordability indexes are usually calculated by dividing (1) the annual mortgage payments required to buy an average priced home by (2) the average wage.

The Massey University Real Estate Analysis Unit calculates a national and regional housing affordability index on a quarterly basis by applying the same methodology as is used by the Real Estate Institute of Australia (REIA). The Massey unit uses the New Zealand Reserve Bank's floating and fixed interest rate series for existing borrowers, but does not make adjustments for inflation. The series is weighted by volume, loan type, and the term from each lending institution, and is the rate that accounts for about 90% of the residential market. The mortgage rate provides a proxy of the interest payable on new mortgages entered into in the quarter.

The Bank of New Zealand publishes a monthly report on home-loan affordability, calculated by Interest.co.nz and based on: wage data from Statistics New Zealand and the Inland Revenue Department; REINZ sales price data; and interest rate data from banks and non-banks. The BNZ series differs from the Massey index of affordability because it is monthly rather than quarterly, it measures home-loan affordability, and, rather than being an index, it provides a measure of the proportion of after-tax pay needed to service an 80% mortgage on a median-priced home.

Housing affordability can also be measured by determining the number of households that are experiencing financial stress – that is, the number of households for whom the cost of housing is 40% or more of their regular and recurring gross (before-tax) income. Table 5.1 shows, for the year ended 30 June 2009, that those living in dwellings that they do not own continue to face the highest housing costs in proportion to their household income.[28]

Table 5.1
Proportion of households with housing costs at least 40% of household income, by dwelling ownership

Dwelling ownership	Housing costs at least 40% of household income (% of households)
Owned or partly owned by usual resident	6.3 %
Not owned by usual resident	19.3 %
All dwellings	10.6 %

5.3.2 Housing affordability issues for first-home buyers

First-home buyers are currently facing a number of challenges.[29] Traditionally, first-home buyers have been assumed to be in their late 20s or early 30s.[30] However, the following factors may all contribute to a shift in this demographic: fewer job opportunities for younger households as a result of the recession, especially for those without work experience; tighter lending conditions; higher required deposit rates on mortgages; escalating student and consumer debt; a delay in family formation; and higher divorce rates.

28 'Housing costs' include: expenditure on property and ground rent for primary and other properties; bond payments to landlords; administration fees connected with renting; application fees for mortgage applications; property and water rates charged by local and regional authorities; building and contents insurance; and other costs not classified.

29 See *'Ownership Dream Unrealistic'*, The Dominion Post, 8 January 2010.

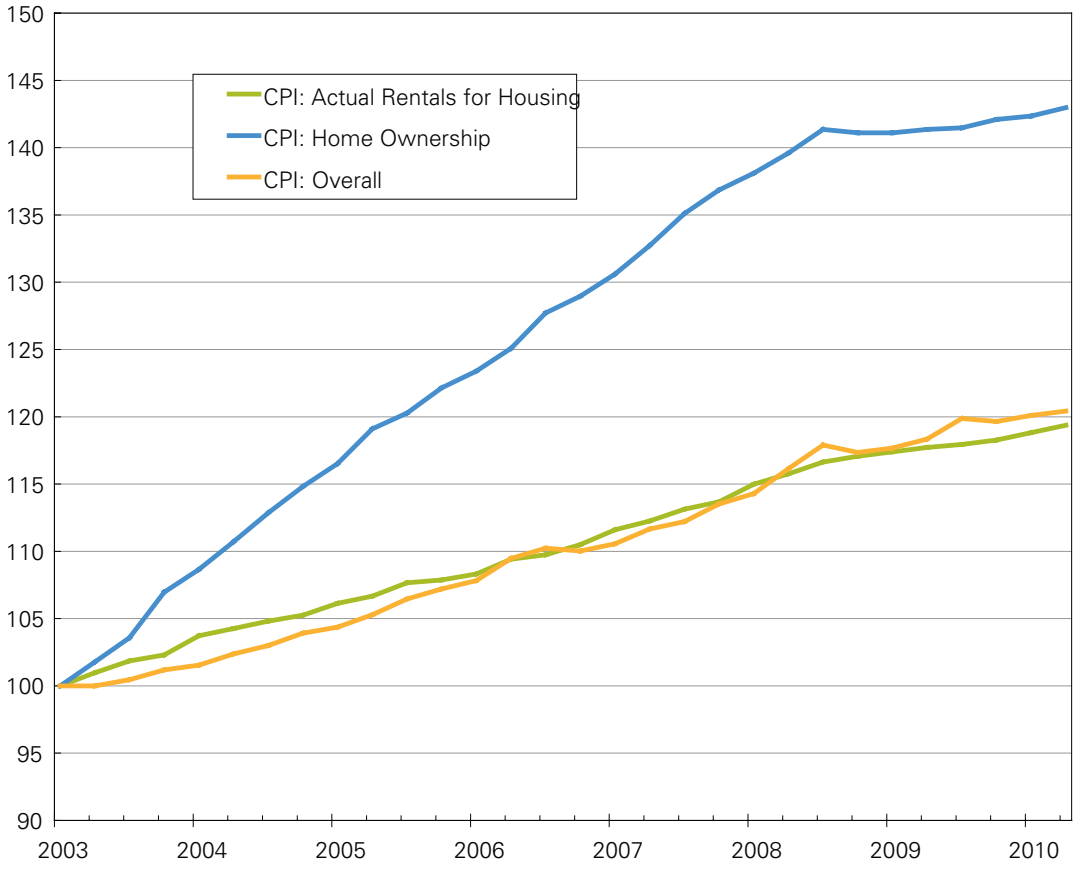
30 The Bank of New Zealand uses data on 25 to 29 year olds to calculate their First Home Owner Affordability Index.

A lack of available data on the demographics of first-home buyers has meant it is difficult to determine whether decisions to rent and buy are based on personal preferences or necessity. However, it seems that as houses become less affordable and debt levels continue to rise, there will be a large increase in the number of private renters.[31]

5.3.3 Housing affordability issues for private renters

As shown in Chapter 2, there is evidence that house prices have been rising faster than incomes, and even faster in comparison with market rents. Figure 5.5 shows that rents have been increasing at roughly the same rate as the overall Consumer Price Index (CPI). The home-ownership component has shown stronger growth over a longer period.

Figure 5.5 – Rental component of CPI



Source: Statistics New Zealand

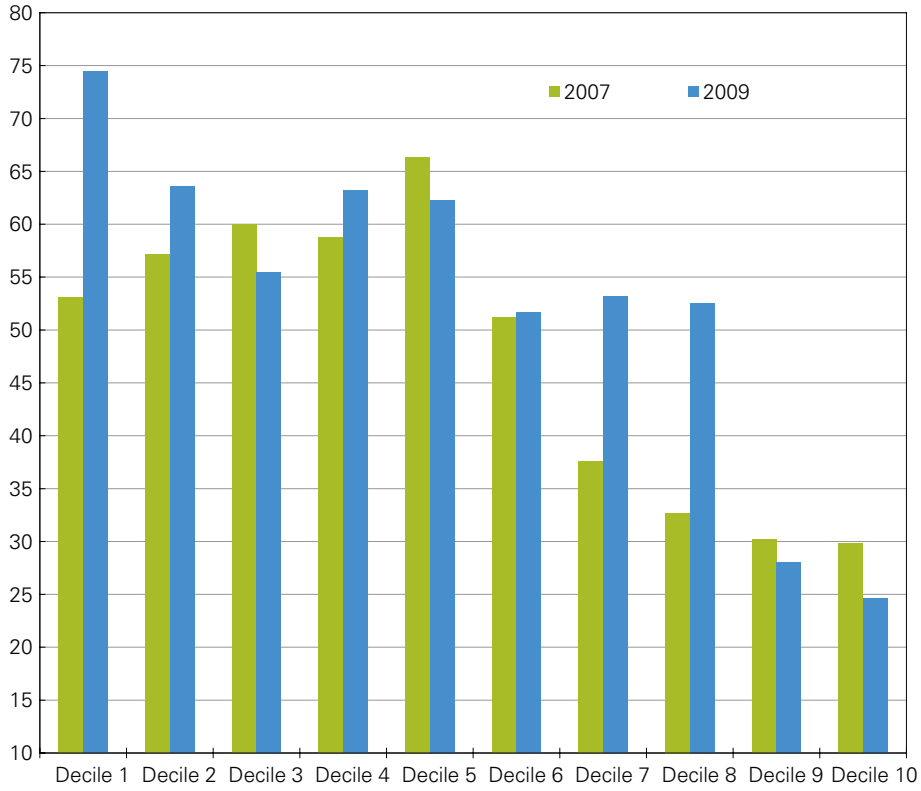
There was a sizable increase between 2007 and 2009 in the number of residents not owning their usual residence, particularly in the seventh and eighth deciles – that is, households with an average annual income of $68,000 to $98,799 for 2007, and $77,100 to $113,899 for 2009.[32] As home-ownership becomes less affordable, there is increased pressure in the private rental market, and potentially on rents and the availability of suitable rental properties.

31 Henderson and Scobie (2009) from Treasury found that 8,000 households were on the verge of failing to meet their financial commitments in 2008, up from 6,000 households in 2004. This covered households that were paying 30% or more of their gross income on debt repayments, and that had liabilities greater than their assets. The proportion of couples spending 30% or more repaying debt jumped from 7.9% in 2004 to 18.4% in 2008. The proportion of couples who spent 40% or more increased from 4.5% to 12.7% over the same period. The report can be found at www.treasury.govt.nz/publications/research-policy/wp/2009/09-03.

32 Deciles are formed by dividing the population into 10 groups and ranking households by annual income. Decile 1 is the lowest 10% of the population in terms of income, while Decile 10 is the highest 10%.

Figure 5.6 – Dwellings not owned by usual resident

(Number of households, in '000s)



Source: Statistics New Zealand, Household Economic Survey

It is difficult to accurately gauge demand for rental dwellings given the many potential reasons for renting – these include a desire to remain mobile without the burden of having to sell; cost advantages in terms of upkeep, rates and insurance; a preference for being near to urban amenities and work; and, perhaps most importantly, affordability.

There has been significant growth of households in private-rental accommodation over the past two decades. Census 2006 data showed that there were 322,000 households renting privately in New Zealand, which was an increase from the 278,000 in 2001 and 206,000 in 1996. Based on research on the private rental market carried out by DTZ New Zealand for the Department of Building and Housing in 2008, the number of households renting privately is expected to increase to 408,370 in 2011 and to 455,940 in 2031.

These private-rental households can be further segmented into those out of work, the intermediate housing market renters, and the relatively well-off renters. The split in 2006 for the private rental market was: not-in-work renters – 18%; intermediate housing market renters – 58%; those able to buy a house and apparently renting out of preference – 23%.

Figure 5.7 – Renter subgroups

Social Housing	**Private sector**		
	Unemployed renters:	Intermediate renters:	Want to rent:
	Cannot afford a house	Cannot afford a house	Can afford a house
	Do not qualify for social housing		

The absolute and relative sizes of the private rental housing market and its sub-segments are driven by a number of factors associated with housing affordability. They include:

- household income
- mortgage interest rates (partially the opportunity cost for rents)
- trends in house prices
- changes in household formation rates
- lending criteria set by financial institutions
- supply of land and new housing, including the supply of social housing
- labour market performance
- changes in relative preferences between home-ownership and other consumption or investment goods.

DTZ noted that the absolute size of the intermediate-renter segment remained relatively constant between 1996 and 2001. Although there were increases in house prices and in the number of households in the private rental market, these were offset by the increase in household income and the fall in interest rates. Between 2001 and 2006, however, the increase in household income was more than off-set by the combination of (1) an increase in house prices, (2) an increase in the size of the private rental market, and (3) an increase in interest rates. This was reflected in the growth in the number of intermediate-renter households, which more than doubled from 72,300 in 2001 to 187,300 in 2006.

The DTZ report also considered the *relative* size of the intermediate housing market. This is important to an understanding of the affordability of housing for first-home buyers, because these households are defined as those in the private rental market in paid employment who cannot afford to buy a dwelling at the lower-quartile house price. The significant increase in the price of housing and a consequent decline in affordability could be key factors driving the increase in the size of the private rental market relative to the owner-occupier market.

In a projection under the scenario of 'moderate house-price growth', the number of households in the intermediate housing market is expected to increase to 200,880 in 2011, and to 261,160 in 2016. Table 5.2 presents the impact of moderate house-price growth on the sizes of the three segments of the private rental market.

Table 5.2 – Projected growth in private rental market based on moderate house-price growth

	2006		2011		2016	
	Number of households	**% of rental market**	**Number of households**	**% of rental market**	**Number of households**	**% of rental market**
Not-in-work renters	59,400	18%	63,600	16%	67,930	15%
Intermediate renters	187,260	58%	200,880	49%	261,160	57%
Relatively well-off renters	75,300	23%	143,890	35%	126,850	28%

These projections of an increase in rental market demand mirror the shortfall in housing supply projected in Chapter 4 in the major urban regions. The increase also reflects a continuing shift away from home-ownership to renting. According to the DTZ report, there are significant market and social implications, including:

- increased overcrowding, rental turnover, and demands for housing assistance
- sub-optimal settlement and commuting patterns
- the spill-over effects of a larger rental market on the mainstream economy – that is, the growing inability of workers in essential occupations (such as police, nurses and teachers) to own in areas where they work will affect the efficiency of the local labour market and the availability of labour in these key occupations
- the impact of the shift in conventional wealth accumulation through home-ownership on the level and type of consumption support that government needs to provide for those in the rental market during old age
- tenure stability and security for those in the rental market.

References

ANZ (2007). Submission from ANZ National. 'Finance and Expenditure Select Committee Inquiry into the Future Monetary Policy Framework', MP/47.

ANZ (2009). 'A Shortage of Houses?', ANZ Property Focus, July 2009.

Auckland City Council (2009). 'Future Planning Framework Version 1.0', Auckland City Council, 9 July 2009.

A Bollard (2006). 'Kiwis Like Buying Houses More Than Buying Businesses', speech given by Alan Bollard, Governor Reserve Bank of New Zealand at PriceWaterhouseCoopers Annual Tax Conference, 9 November 2006. www.rbnz.govt.nz/speeches/2860814.html

S Bierre, P Howden-Chapman, and L Signal (2009). '"Ma and Pa" Landlords and the "Risky" Tenant: Discourses in the New Zealand Private Rental Sector', *Housing Studies*, 25: 1, pp 21–38.

FD Braithwaite and S Kemp (2007). 'Safe as Houses: Investor Confidence in New Zealand', *New Zealand Economic Papers*, 41 (2), pp 225–236.

R Buckle (2010). *A Tax System for New Zealand's Future*, Report of the Victoria University of Wellington Tax Working Group, January 2010. www.victoria.ac.nz/sacl/cagtr/pdf/tax-report-website.pdf

Centre for Housing Research Aotearoa New Zealand (CHRANZ) (2007a). 'Housing, Employment, and Regional Development: An Issues and Scoping Paper Applied to the Northland and Canterbury Regions', prepared by Philip S Morrison and Laurence Murphy of Scott Phillips Ltd, August 2007. www.chranz.co.nz/pdfs/northland-canterbury-housing.pdf

Centre for Housing Research Aotearoa New Zealand (CHRANZ) (2007b). 'Census 2006 and Housing in New Zealand', prepared by DTZ New Zealand, August 2007. www.chranz.co.nz/pdfs/Census-2006-housing-in-nz.pdf

Centre for Housing Research Aotearoa New Zealand (CHRANZ) (2007c). 'On the Falling Rate of Home Ownership in New Zealand', prepared by Philip S Morrison, December 2007. www.chranz.co.nz/pdfs/falling-rate-home-ownership-in-nz.pdf

Centre for Housing Research Aotearoa New Zealand (CHRANZ) (2009). 'New Zealand Monetary Policy and the Residential Housing Market – A Scoping Study Working Paper', prepared by PricewaterhouseCoopers for CHRANZ, April 2009.

Centre for Housing Research Aotearoa New Zealand (CHRANZ) (2010a). 'The Determinants of Tenure and Location Choices of 20–40 Year Old Households in the Auckland Region', prepared by Beacon Pathway Ld *(forthcoming)*.

Centre for Housing Research Aotearoa New Zealand (CHRANZ) (2010b). 'Sub-regional Housing Demand in the Northland Region', prepared by DTZ Research New Zealand *(forthcoming)*.

C Chamberlain and D MacKenzie (2003). *Counting the Homeless 2001*, Cat No 2050.0, Chapter 7, Australian Bureau of Statistics, Canberra.

C Chamberlain and D MacKenzie (2009). *Counting the Homeless 2006*: Queensland, Chris Chamberlain, David MacKenzie, and Australian Institute of Health and Welfare, Canberra.

S Claessens, MA Kose, and ME Terrones (2008). 'What Happens during Recessions, Crunches and Busts?', IMF Working Paper WP/08/274, December 2008.

SJ Clark, IC Page, AF Bennett, and S Bishop (2000). *BRANZ House Condition Survey 2000*, BRANZ Study Report SR091.

SJ Clark, MS Jones, and IC Page (2005). *BRANZ House Condition Survey 2005*, BRANZ Study Report SR142.

A Coleman (2008). 'Inflation and the Measurement of Saving and Housing Affordability', Motu Working Paper 08-09, Motu Economic and Public Policy Research, April 2008. www.motu.org.nz/publications/working-papers/2008

A Coleman (2008). 'Tax, Credit Constraints, and the Big Costs of Small Inflation', Motu Working Paper 08-14, Motu Economic and Public Policy Research, December 2008.

N Davis (2007). *Construction Sector Productivity: Scoping Report*, report prepared by Nick Davis from Martin, Jenkins & Associates Ltd for the Department of Building and Housing, December 2007.

De Jong (Mark van Zijll), and GM Scobie (2006). 'Housing: An Analysis of Ownership and Investment Based on the Household Savings Survey', New Zealand Treasury Working Paper 06/07, July 2006.

Demographia (2010). '6th Annual Demographia International Housing Affordability Survey: 2010'. www.demographia.com/dhi.pdf

Department of Building and Housing (2008a). 'Identification and Analysis of Building Consents, Inspection and Approval Costs', prepared by Stimpson & Co Ltd. www.dbh.govt.nz/UserFiles/File/Publications/Building/BCA/BCApproval-Costs.pdf

Department of Building and Housing (2008b). 'Adequacy of the Auckland Region's Residential Land Supply', September 2008 by Market Economics Ltd. www.weathertightness.govt.nz/UserFiles/File/Publications/Sector/pdf/adequacy-auckland-region-residential-land-supply.pdf

Department of Building and Housing (2008c). 'Private Rental Market in New Zealand', unpublished report prepared by DTZ New Zealand Limited, July 2008.

Department of Building and Housing (2009). *Report of the Building and Construction Sector Productivity Taskforce*.www.dbh.govt.nz/UserFiles/File/Building/sector-forum/Sector-Productivity-Taskforce-Report.pdf

Department of Building and Housing (2009b). 'Trends, Projections, Issues and Challenges: Older Renters 1995 to 2051', unpublished report prepared by Business and Economic Research Ltd in association with New Zealand Institute for Research on Ageing, March 2009.

Department of the Prime Minister and Cabinet (2008). F*inal Report of the House Prices Unit: House Price Increases and Housing in New Zealand*, March 2008. www.dpmc.govt.nz/dpmc/publications/hpr-report/index.html

The Dominion Post, 'Call for More Research on Housing Sector', 9 September 2009.

The Dominion Post, 'More Families Face Debt Blowout', 4 January 2010.

The Dominion Post, 'Ownership Dream Unrealistic', 8 January 2010.

M Dotsey (1998). 'The Predictive Content of the Interest Rate Term Spread for Future Economic Growth', *Federal Reserve Bank of Richmond Economic Quarterly*, pp 31–51.

B Easton (1997). *In Stormy Seas: The Post-War New Zealand Economy*, University of Otago Press, Dunedin.

L Ellis and D Andrews (2001). 'City Sizes, Housing Costs, and Wealth', Research Discussion Paper RDP2001-08, Reserve Bank of Australia.

L Ellis and L Berger-Thomson (2004). 'Housing Construction Cycles and Interest Rates', Research Discussion Paper RDP2004-08, Reserve Bank of Australia.

A Grimes (2009a). 'Housing: Auckland Supply Issues', presentation to the 2025 Productivity Taskforce, 5 October 2009. www.2025taskforce.govt.nz/background.htm

A Grimes (2009b). 'The Role of Infrastructure in Developing New Zealand's Economy'. Motu Note #1, Motu Economic and Public Policy Research.

A Grimes and A Aitken (2006). 'Housing Supply and Price Adjustment', Motu Working Paper 06-01, Motu Economic and Public Policy Research, May 2006.

A Grimes and A Aitken (2007). 'House Prices and Rents: Socio-Economic Impacts and Prospects', Motu Working Paper 07-01, Motu Economic and Public Policy Research, March 2007.

A Grimes, A Aitken, I Mitchell, and V Smith (2007). 'Housing Supply in the Auckland Region 2000–2005', prepared by Motu and DTZ for CHRANZ, DBH, HNZC, March 2007. Also published as a Motu Working Paper, Motu Economic and Public Policy Research, December 2006.
www.chranz.co.nz/pdfs/housing-supply-in-the-auckland-region-2000-2005.pdf

A Grimes and Y Liang (2007). 'Spatial Determinants of Land Prices in Auckland: Does the Metropolitan Urban Limit Have an Effect?', Motu Working Paper 07-09, Motu Economic and Public Policy Research, August 2007.
www.motu.org.nz/publications/working-papers/2007

A Grimes and Y Liang (2008). 'Bridge to Somewhere: The Value of Auckland's Northern Motorway Extensions', MOTU Working Paper 08-07, Motu Economic and Public Policy Research, May 2008.
www.motu.org.nz/publications/working-papers/2008

The Guardian (2009). 'More Young Adults in 20s and 30s Living with Parents than in Past 20 Years', 8 December 2009. www.guardian.co.uk/society/2009/dec/08/young-adults-living-parental-home-ons

VB Hall and CJ McDermott (2004). 'Regional Business Cycles in New Zealand: Do They Exist? What Might Drive Them?', MOTU Working Paper 04-10, Motu Economic and Public Policy Research, October 2004.
www.motu.org.nz/publications/working-papers/2004

VB Hall and CJ McDermott (2006). 'The New Zealand Business Cycle: Return to Golden Days?', Centre for Applied Macroeconomic Analysis Working Paper 21/2006, The Australian National University. cama.anu.edu.au/publications.asp

VB Hall, CJ McDermott, and J Tremewan (2006). 'The Ups and Downs of New Zealand House Prices', Motu Working Paper 06-03, Motu Economic and Public Policy Research, July 2006.
www.motu.org.nz/publications/working-papers/2006

E Haywood (1972). 'The Dating of Post-War Business Cycles in New Zealand 1946–1970', Reserve Bank of New Zealand Research Paper, No 4.

E Haywood and C Campbell (1976). 'The New Zealand Economy: Measurement of Economic Fluctuations and Indicators of Economic Activity', Reserve Bank of New Zealand Research Paper, No 19.

K Henderson and GM Scobie (2009). 'Household Debt in New Zealand', Treasury Working Paper WP 09/03, 24 December 2009.

S Hillcoat-Nallétamby and A Dharmalingam (2003). 'Mid-Life Parental Support for Adult Children in New Zealand', *Journal of Sociology*, Vol 39, No 3, pp 271–290.

MJ Holmes and A Grimes (2005). 'Is There Long-Run Convergence of Regional House Prices in the UK?', Motu Working Paper 05-11, Motu Economic and Public Policy Research, August 2005.
www.motu.org.nz/publications/working-papers/2005

IMF (2007). "New Zealand: Selected Issues", IMF Country Report No, 07/151, May 2007.

Kay, LB (1984). 'The Utilisation of Capacity Measure and the Reference of the Business Cycle', New Zealand Institute of Economic Research, *Quarterly Survey of Business Opinion*, No 93, pp 26–29.

K Kim, RA Buckle, and VB Hall (1995). 'Dating New Zealand Business Cycles', *New Zealand Economic Papers*, 29(2), pp 143–171.

D Lister (2007). 'Controlling Letting Arrangements in the Private Rented Sector?', in D Hughes and S Lowe (Eds) *The Private Rented Housing Market: Regulation or Deregulation?*, Ashgate, Aldershot, pp 69–84.

PM McCaw (1982). *The Report of the Task Force on Tax Reform*, chaired by PM McCaw, Wellington, New Zealand, April 1982.

R McLeod (2001). *Tax Review 2001: Final Repo*rt, chaired by Robert McLeod, Wellington, New Zealand, October 2001. www.treasury.govt.nz/publications/reviews-consultation/taxreview2001/taxreview2001-report.pdf

NHSC (2009). *State of Supply Report 2008*, National Housing Supply Council, Department of Families, Housing, Community Services and Indigenous Affairs of the Australian Government, February 2009.

NHSC (2010). *2nd State of Supply Report*, National Housing Supply Council, Department of Families, Housing, Community Services and Indigenous Affairs of the Australian Government, May 2010.

The New York Times (2008). 'Loan-Agency Woes Swell from a Trickle to a Torrent', 11 July 2008.

New Zealand Department of Labour (2009). 'How Bad is the Current Recession? Labour Market Downturns since the 1960s'. www.dol.govt.nz/publications/discussion-papers/current-recession/index.asp

The New Zealand Herald, '$250 Million: What our Govt Borrows a Week', 15 October 2009.

The New Zealand Herald, 'Don Brash: 2025 Advice Best Shot at Bridging Gap', 2 December 2009.

The New Zealand Herald, 'High Overseas Debt Leaves NZ Vulnerable, Warns Bollard', 20 May 2010.

The New Zealand Herald, 'Housing Fall on the Way, Bankers Warn',13 November 2009.

New Zealand Property Investor (2009). 'Holiday Home Tax Crackdown', *NZ Property Investor*, February 2009.

B O'Donovan and D Rae (1997). 'The Determinants of House Prices in New Zealand: An Aggregate and Regional Analysis', *New Zealand Economic Papers* 31 (2), pp 175–98.

OECD (2000). 'OECD Economic Surveys: New Zealand'.

OECD (2007a). 'OECD Economic Surveys: New Zealand'.

OECD (2007b). 'Towards a More Efficient Taxation System in New Zealand', OECD Economics Department Working Paper No 557, June 2007.

OECD (2009). *The Role of Agriculture and Farm Household Diversification in the Rural Economy of New Zealand*, Report for the Committee for Agriculture, OECD Trade and Agriculture Directorate.

Otago Daily Times (2009). 'Students Reject Skegg's Loans Call', 11 November 2009. www.odt.co.nz/on-campus/university-otago/81655/students-reject-skegg039s-loans-call

I Page (2008). 'New House Price Modelling', BRANZ Group.

I Page and J Fung (2008a). 'Housing Life Cycle and Sustainability Part One', BRANZ Group.

I Page and J Fung (2008b). 'Housing Typologies – Current Stock Prevalence'. Beacon Pathway Ltd. www.beaconpathway.co.nz/images/uploads/Final_Report_EN6570%288%29_Housing_Typologies_Current_Stock_Prevalence.pdf

IC Page, WR Sharman, and AF Bennett (1995). 'New Zealand House Condition Survey 1994', BRANZ Study Report SR062.

PriceWaterhouseCoopers (2009), 'Kiwisaver – Evaluation of Supply-Side Impacts', for the Ministry of Economic Development, November 2008. www.med.govt.nz/upload/67844/Evaluation-of-KiwiSaver-Supply-Side-Impacts.pdf

PriceWaterhouseCoopers (2009), 'Weathertightness – Estimating the Cost', for the Department of Building and Housing, July 2009.
www.dbh.govt.nz/UserFiles/File/News/WHRS/pdf/PWC-weathertightness-estimating-cost-full-report.pdf

The Productivity Commission (Australia) 2004. *First Home Ownership: Inquiry Report*, Productivity Commission, Melbourne, 2004, p 5. www.pc.gov.au/projects/inquiry/housing/docs/finalreport

Radio New Zealand transcript, 5 January 2010. 'Warwick Quinn from the Registered Master Builders' Federation Warns the Cost of Building a House Will Rise, Because of Higher Prices for Timber'.

Reserve Bank of New Zealand (2009). Reserve Bank of New Zealand Monetary Policy Statement, September 2009. www.rbnz.govt.nz/monpol/statements/0094172.html

Reserve Bank of New Zealand (2009). *Reserve Bank of New Zealand Financial Stability Report*, November 2009.

Reserve Bank of New Zealand (2004). 'Asset Prices and Monetary Policy', address to the Canterbury Employers' Chamber of Commerce. www.rbnz.govt.nz/speeches/014812.html

K Saville-Smith and R Fraser (2004). 'National Landlords Survey: Preliminary Analysis of the Data', The Centre for Research Evaluation and Social Assessment (CRESA), Sustainable Housing Research Series, April 2004. www.cresa.co.nz

scoop.co.nz, 'Lifestyle Blocks Replace Farms', 7 October 2008. www.scoop.co.nz/stories/BU0810/S00137.htm

scoop.co.nz, 'Oversupply of Coastal Property Affects Prices', 14 August 2008. www.scoop.co.nz/stories/BU0808/S00207.htm

C McDonald and M Smith (2009). 'Developing Stratified Housing Price Measures for New Zealand', Reserve Bank of New Zealand Discussion Paper, DP2009/07, August 2009. www.rbnz.govt.nz/research/discusspapers/dp09_07.pdf

M Smith (2006). 'What Do We Know About Equity Withdrawal by Households in New Zealand', Reserve Bank of New Zealand, prepared for the RBNZ Workshop: 'Housing, Savings, and the Household Balance Sheet', 14 November 2006.

S Snively (2009). 'What is Housing – (Consumption Good, Investment Good, Asset Class, Industry, Infrastructure), and What Role Does it Play as an Automatic Stabilizer?', PricewaterhouseCoopers, prepared for RBNZ and CHRANZ Workshop: 'After the Boom – Where to From Here?', 9 July 2009.

Statistics New Zealand (2006). 'New Zealand: An Urban/Rural Profile'. www.population.govt.nz/sitecore/content/statistics/Home/Publications/BusinessPerformanceEnergyAndAgriculture/urban-rural-profile-update.aspx

Statistics New Zealand (2009). 'New Zealand Definition of Homelessness', Statistics New Zealand, July 2009. www.stats.govt.nz/reports/developments/homelessness-definition.aspx

C Steindel (2007). 'How Worrisome is a Negative Saving Rate?', Federal Reserve Bank of New York, Current Issues, Vol 13 (4). www.ny.frb.org/research/current_issues/ci13-4/ci13-4.html

S Stillman and DC Maré (2008). 'Housing Markets and Migration: Evidence from New Zealand', Motu Working Paper 08-06, Motu Economic and Public Policy Research, April 2008.

stuff.co.nz, 'Reserve Bank Eyes Dairy Farm Debt', 11 November 2009. www.stuff.co.nz/business/industries/3053045/Reserve-Bank-eyes-dairy-farm-debt

2025 Taskforce (2009). 'Answering the $64,000 Question: Closing the Income Gap with Australia by 2025', 30 November 2009.

USA Today (2009). 'Mortgage Crisis Robbing Seniors of Golden Years', 5 June 2009. www.usatoday.com/money/economy/housing/2009-06-04-foreclose-mortgage-seniors_N.htm

The Waikato Times (2009). 'No Housing Shortage as Rents Stay Stable', 4 September 2009.

The Wall Street Journal (2002). 'Fannie Mae Enron?', *The Wall Street Journal*, 20 February 2002. online.wsj.com/article/SB1014169323358510560.html

Glossary

Affordability	This refers to the price (usually of a house or housing) relative to the amount a buyer is able to pay.
AS	The Accommodation Supplement is a weekly payment that helps New Zealanders pay their rent, board or cost of owning a house.
ATA	The Auckland Transition Agency was established by the Government to amalgamate the councils across the Auckland Region into the new Auckland Council by October 2010. The focus of the agency is on the processes required to establish the Auckland Council. Tasks have been divided into work-streams to ensure the timeline is met.
BCITO	Building and Construction Industry Training Organisation – an organisation appointed by the Government to develop and implement industry qualifications for the building and construction sector.
BRANZ	The Building Research Association of New Zealand is an organisation that provides independent services to the building and construction industry in New Zealand, Australia and Asia. BRANZ opinions or advice have no status in law but are generally held in high regard by the industry. Services include testing and research, education, product appraisal, and technical advice. The BRANZ Group comprises BRANZ Ltd (an independent association owned and directed by the building and construction industry in New Zealand), and BRANZ Inc, which is a significant investor in industry-good research and the dissemination of knowledge to the wider building and construction industry.
BRAC	The Building Research Advisory Council advises BRANZ on information needs and strategic direction. Members are drawn from across the building and construction industry.
Building consent	A consent issued by a building consent authority for building work to begin in accordance with the approved plans and specifications.
CHRANZ	The Centre for Housing Research Aotearoa New Zealand was established by Housing New Zealand Corporation in 2003. The Corporation has provided initial research funding aimed at 'kick-starting' the housing research sector, with an expectation that CHRANZ will become increasingly independent by attracting research funding support from other stakeholders.
Consumption good	A consumption good or service is one that is used (without further transformation in production) by households, non-profit institutions serving households (NPISH) or government units for the direct satisfaction of individual needs or wants or the collective needs of members of the community. This definition is sourced from stats.oecd.org/glossary/detail.asp?ID=433
DBH	The Department of Building and Housing was established in November 2004. It brings together, in one organisation: building and housing sector policy functions; related regulatory functions; and dispute-resolution services.
Dwelling	A dwelling is any building or structure, or part of one, that is used (or intended to be used) for the purpose of human habitation. It can be permanent or temporary, and includes structures such as houses, motels, hotels, prisons,

	motor homes, huts and tents. There can be more than one dwelling within a building – for example, an apartment building where each separate apartment or unit is considered a dwelling.
Effective demand	The quantity of housing that individuals are willing and able to buy. It encompasses the full range of market forces, including the state of the overall economy, the household's economic position, the tastes and preferences of investors and consumers, the availability of funds, and the price and availability of rental housing.
Efficient Vacancy Rate	This is equivalent to the natural or equilibrium vacancy rate for the rental market where there is sufficient turnover of rental properties to accommodate demand from renters. (Source: Australian National Housing Supply Council, *State of Supply Report*)
Federal Reserve	The Federal Reserve System of the United States is the central bank of the US, and regulates the country's monetary and financial systems.
Gateway Housing	The Government is considering developing Crown-owned land for first-home buyers to have use of the 'ready-to-build' sections (either free or leased for a maximum of 10 years) to build new homes on, provided construction begins within one year. The Government may consider funding the development of this land for new houses and subsidising the cost of leasing the land to first-home buyers over 10 years. This initiative may be provided directly, or in partnership with community housing organisations.
GUEDO	The Government Urban and Economic Development Office is a key hub for government in Auckland, with representatives from the Ministry of Economic Development, Ministry for the Environment, Ministry of Transport, Department of Labour, Department of Internal Affairs, Department of the Prime Minister and Cabinet, The Treasury, Department of Building and Housing, and the State Services Commission. It was established in 2005 and initially given the task of creating a shared policy presence in Auckland in order to achieve greater alignment of central government priorities and effort towards sustainable development of the Auckland region. Its focus has shifted to supporting the amalgamation of the councils across the Auckland region, and to working closely with the ATA to implement policy over the transition.
HIF	The Housing Innovation Fund was set up to foster collaboration among local authorities, the Government (through Housing New Zealand), and local organisations and businesses to provide housing for low-income New Zealanders or those with special needs. The Government has confirmed $20 million for the HIF in 2009/10, of which $15 million will be available under general funding and another $5 million under innovative housing. See also 'Maori Demonstration Partnerships project'.
HNZC	The Housing New Zealand Corporation is the largest non-private housing landlord providing social housing in New Zealand. The Corporation also advises the Government on housing matters.
HOEP	The Home Ownership Education Programme is fully funded by the Government and aims to provide all the necessary and relevant information to people thinking about buying their first home.

HPU	The House Prices Unit was a special unit set up in the Department of the Prime Minister and Cabinet in late 2007 to study and better understand the housing market and house prices. The unit published a report, *House Price Increases and Housing in New Zealand*, in March 2008.
Homelessness	'Homelessness' refers to people not having a regular dwelling or house to live in; these circumstances largely come about because these people cannot afford or are unable to maintain regular, safe and adequate housing. Homelessness indicates inadequate housing in a society.
Household	A household is either one person who usually resides alone, or two or more people who usually reside together and share facilities (such as eating facilities, cooking facilities, bathroom and toilet facilities, and a living area), in a private dwelling. People who usually live in a particular dwelling, and are members of a household in that dwelling, but who were absent on Census night, are included, as long as they were reported as being absent by the reference person on the dwelling form. (Source: Statistics New Zealand)
Housing costs	This refers to the amount of expenses on a house and its on-going maintenance. It includes expenditure on rents, bonds, mortgages, property rates, and building-related insurance.
IMF	The International Monetary Fund is an organisation of over 180 countries working to foster global monetary co-operation and related work. This report uses data and information from IMF for analysis.
Infill	A term used to describe the construction of one or more entities in a gap that exists within an otherwise continuously built-up frontage.
Investment good	In the context of the housing market, houses that are bought in the expectation of gaining a return are considered investment goods.
IRR	Income-Related Rent. Housing New Zealand charges IRR for tenants on low incomes. Qualifying tenants will pay rent of no more than 25% of their income. IRR is only available to Housing New Zealand tenants.
Leaky buildings	Housing and other buildings that are leaking and causing decay to the cladding, structure and interior. For information about building to achieve weathertightness, or dealing with a leaky building, see the Weathertightness section of the Department's website at www.dbh.govt.nz/weathertightness-index, which includes information about the Weathertight Homes Resolution Service.
Lot	A legal description on a Certificate of Title
MDP	The Maori Demonstration Partnerships project – a Housing New Zealand initiative that aims to partner a number of iwi groups to develop affordable housing for Maori. Source: www.hnz.co.nz/hnzc/web/about-us/our-publications/maori-housing-trends.htm
MSD	Ministry of Social Development
MUL	A Metropolitan Urban Limit – sometimes called 'Urban Limits' or 'growth boundary' – is a planning technique used to define urban limits and limit sprawl on rural areas. It is a line drawn on regional planning documents to define the allowed extent of urban zoning.

NBDT	Non-Bank Deposit-Taking institutions – A 'deposit taker' is defined as a person, other than a registered bank, that offers debt securities to the public, within the meaning of the Securities Act, and is in the business of lending money or providing other financial services. The definition explicitly includes building societies and credit unions. (Source: www.rbnz.govt.nz/finstab/nbdt/3397279.html)
NMUA	National Multiple Use Approvals are issued by the Department of Building and Housing for building designs to be 'pre-approved' for Building Code compliance if they are to be replicated regionally or nationally. The NMUA service is designed to create time and cost savings to builders, by eliminating the need for local Building Consent Authorities (BCAs) to assess standard designs for replication for Code compliance. Volume builders can pass their savings on to consumers; and BCAs will have more time to process complex building plans. More information is available at www.dbh.govt.nz/nmua-service.
NHSC	The National Housing Supply Council, Australia, provides forecasts, analysis and policy advice to the Minister for Housing and publishes an annual State of Supply Report on the adequacy of land supply and construction activity to meet demand and improve affordability covering a 20-year forecast period.
OCR	The Official Cash Rate (OCR) is the interest rate set by the Reserve Bank to meet the inflation target specified in the Policy Targets Agreement. The OCR influences the price of borrowing money in New Zealand and provides the Reserve Bank with a means of influencing the level of economic activity and inflation.
OECD	The Organisation for Economic Co-operation and Development coordinates policy for developed countries, including New Zealand. Data and information are sourced from the OECD and analysed to compare how New Zealand fares relative to other OECD countries.
ONS	The Office of National Statistics in the United Kingdom is the UK Government's key producer of the country's statistical data and information.
Property IQ	A subsidiary of Quotable Value that provides a range of online property information in New Zealand, including the website www.qv.co.nz.
QV	Quotable Value, New Zealand, is a major valuation and property information provider. QV also produces a regular time series on house-price changes. See also 'Property IQ'.
RBA	The Reserve Bank of Australia is Australia's central bank, responsible for maintaining the stability of the financial system and monetary policy in Australia.
RBNZ	The Reserve Bank of New Zealand is New Zealand's central bank. Its functions and powers involve managing monetary policy and carrying out other activities to promote financial stability.
REINZ	The Real Estate Institute of New Zealand is a national representation of real estate agents in New Zealand.
Ringfencing	Where an investment property is bought with borrowed funds and the rental income is less than the interest and other operating costs (such as rates,

	insurance, repairs, depreciation and management), the resulting loss for income tax purposes can currently be off-set against the investor's taxable income from other sources. Tax legislation could be changed to limit or 'ringfence' the ability of investors to deduct losses from other sources of taxable income so that they can only deduct those losses from future rental profits.
RSS	The Rent Support Subsidy was introduced by the New Zealand Housing Corporation to replace the Rent Relief Subsidy (RRS) and is available for the Corporation's properties where community housing organisations are providing residential support services. (Source: www.networknorth.org.nz/file/regional_updates/september_2006.pdf)
SNZ	Statistics New Zealand is New Zealand's national statistical office. It administers the Statistics Act 1975, and is the country's major source of official statistics.
SoFIE	The Survey of Family, Income and Employment is an eight-year-long survey conducted since 2002 to collect data on New Zealanders' circumstances and lifestyle, and on factors that affect these aspects of people's lives.
Territorial authority	A city or district council (as listed in Schedule 2, Part 2 of the Local Government Act 2002) that is responsible for community wellbeing and development, environmental health and safety (including building control, civil defence, and environmental health matters), infrastructure (roading and transport, sewerage, water/stormwater), recreation and culture, and resource management, including land use planning and development control.
TWG	The Tax Working Group is coordinated by the Victory University of Wellington in partnership with the Treasury and Inland Revenue to address key medium tax policy challenges facing New Zealand. The group released a final report in January 2010, recommending changes to the existing tax system.
Underlying demand	The quantity of housing needed to accommodate the number of households in the population. The number of households is based on the natural population increase and on migration, which in turn are influenced by other economic, social and cultural factors. See also 'Effective demand'.
WHL	The Welcome Home Loan is a no-deposit housing loan scheme offered to eligible first-home buyers. The Housing New Zealand Corporation supports the scheme by providing the participating lenders with Lenders Mortgage Insurance. (Source: www.welcomehomeloan.co.nz)
WHRS	The Weathertight Homes Resolution Service was established through the Weathertight Homes Resolution Services Act 2002 to help owners of buildings who have suffered damage to their properties due to water ingress. The WHRS provides free assessments to determine the extent of the water damage, and provides mediation or adjudication services to help resolve the issues.
Weathertightness	The resistance of a building to the weather. Weathertightness is not necessarily waterproofing. A building is weathertight when water is prevented from entering and accumulating behind the cladding in amounts that can cause undue dampness or damage to the building elements. That is, moisture may occasionally enter a weathertight building but be able to harmlessly escape or evaporate. The Building Code clause relating to protecting buildings from moisture is E2, External Moisture. Failure to design and build effectively for weathertightness has resulted in 'leaky buildings' causing rot.

Appendix A: Organisations Consulted by DBH

Auckland City Council

Auckland Regional Council

BRANZ Limited

Centre for Housing Research Aotearoa New Zealand

Department of Labour

DTZ New Zealand Limited

Government Urban and Economic Development Office

Hamilton City Council

Housing New Zealand Corporation

Land Information New Zealand

Massey University

Motu Economic and Public Policy Research

National Housing Supply Council

New Zealand Institute of Economic Research

Property IQ

PricewaterhouseCoopers New Zealand

Real Estate Institute of New Zealand

Reserve Bank of New Zealand

Statistics New Zealand

The Treasury

University of Otago

Wellington City Council

Appendix B: Forecasts for Regional Dwelling Consents

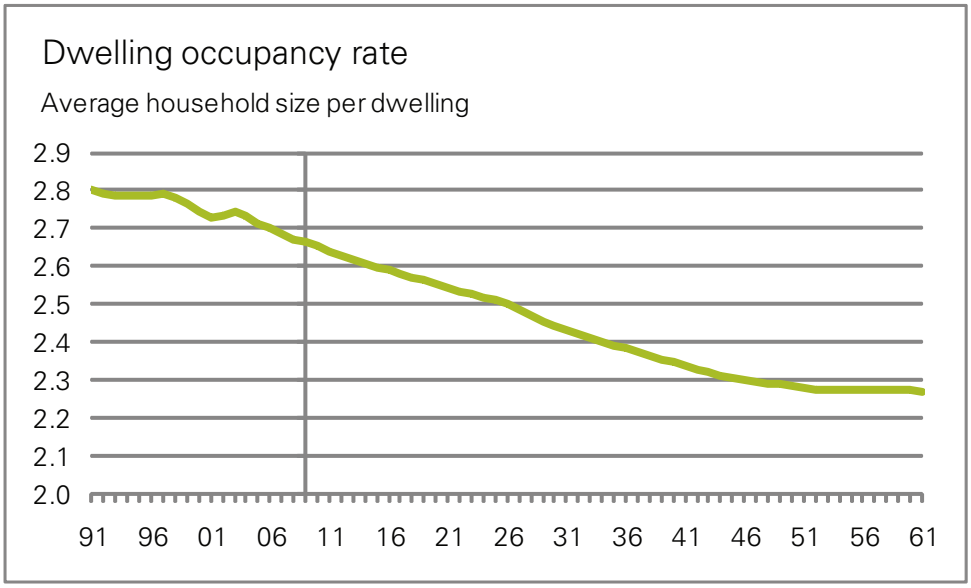
INTRODUCTION

This report from Infometrics presents October/November 2009 forecasts of dwelling consents for New Zealand's 16 regional council areas out to the March quarter 2031.

METHOD

National dwelling forecasts

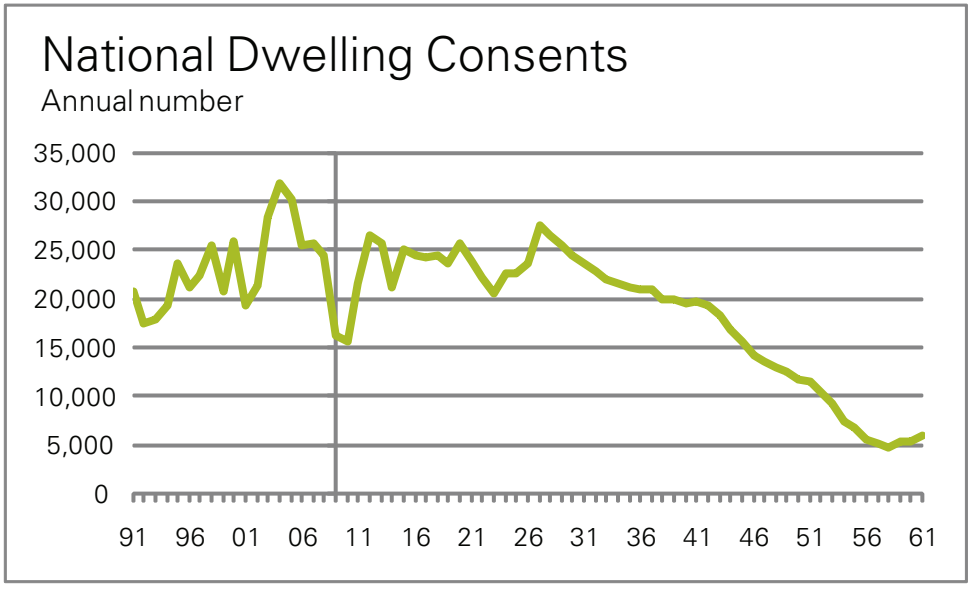
The forecasts are based on Statistics New Zealand series 5 national population projections, which use medium assumptions for fertility and mortality and assume annual net inward migration of 10,000. National dwelling-consent forecasts are assumed to meet underlying demand for dwellings. Statistics New Zealand projects that the national population will increase from the current level of 4.31 million to 5.09 million by 2031. Given the expected age profile of the population, this will mean that the number of occupied dwellings will increase from 1.62 million in 2009 to 2.09 million in 2031. This projection presumes continued declines in the dwelling occupancy rate, from around 2.7 people per household to under 2.3 per household in the 2050s (see Graph 1).



Graph 1

Our national consent forecasts assume that the number of unoccupied dwellings will remain constant at its 20-year average of 4.8% of the total housing stock. Finally, Infometrics projections of national dwelling consents, based on its analysis of past trends, assumes that each year 0.06% of the national dwelling stock will be scrapped. This is the average of dwellings scrapped over the last two decades.

Forecasts of national dwelling consents out to 2061 are presented in Graph 2. This is presented here to demonstrate the trend if New Zealand's demand for new dwellings beyond 2031 is lower than the levels predicted for the next 20 years. While the forecast out to 2061 assumes lower demand as reflected in dwelling consents, it also assumes that both the vacancy and scrappage rates remain constant. This shows that results are sensitive to the choice of population projections used to underpin the forecasts. The number of dwelling consents could potentially be greater than presented in Graph 2, if population growth is greater than implied by the series 5 population projection, and if scrappage and vacancy rates are different from those indicated by the past averages (which is possible, given the potential for weathertightness problems generated by building designs between 1996 and 2004 to become more evident in later years).



Graph 2

Regional dwelling forecasts

Regional dwelling forecasts can be generated based on Infometrics' forecasts of regional economic activity. Infometrics' long-term national GDP forecasts are based on a simple labour production model where economic activity depends on the size of the labour force, its work intensity (hours worked) and the productivity of that labour. Long-term projections of employment growth are influenced by the age mix of the population and its human capital, based on qualification attainment. Essentially there are three critical forces expected to influence employment trends in coming decades:

- the ageing of the baby boom generation,
- continued increases in longevity and higher health status at older ages
- increased female labour market participation, reflecting sustained improvements in female qualification attainment.

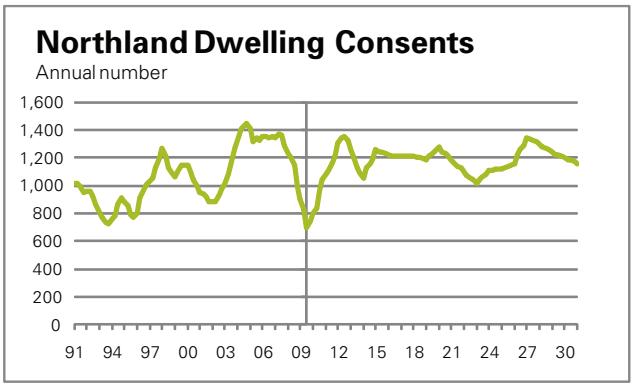
The net impact of these factors is for modest rates of employment growth, averaging 0.7% pa over the next two decades. With labour productivity growth expected to grow at its long run average of 1%pa, and 0.3%pa decline in the hours worked by the average worker, this leads to an expectation that economic growth will average 1.4% pa during the next two decades.

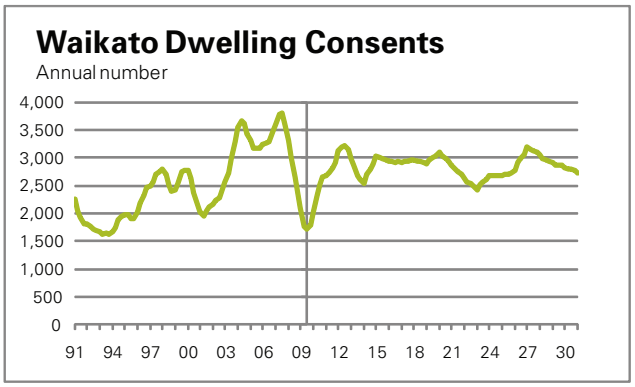
The projection for national economic growth places a ceiling on our forecasts for regional economic activity: the sum of regional activity is constrained to reconcile exactly with expectations of national activity. A two step approach is used to derive forecasts of regional activity. First forecasts and assumptions about key economic variables (e.g. the terms of trade, world interest rates, domestic inflation, government activity) are used to derive forecasts of production in individual industries at the national level. Then regions' share of each industry's production is forecast to generate forecasts of industrial production in each region.

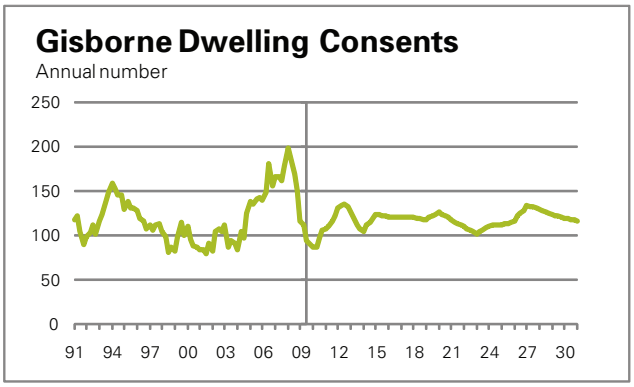
Forecasts for dwelling consents in each region were estimated based on the respective region's share of national dwelling consents, the region's share of construction activity, and the region's share of national economic activity. Quarterly data was used, and seasonal effects were accounted for. The actual forecasts for each region are not provided here but are available on request.

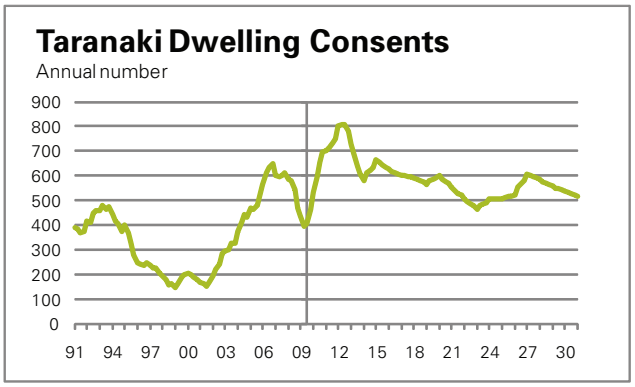
RESULTING PROJECTIONS BASED ON ANALYSIS OF DWELLING CONSENTS

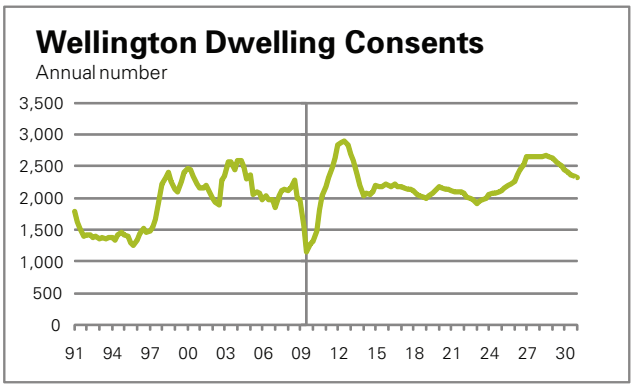
Projections based on the dwelling consents analysis are presented in graphical form below. These generally indicate that the recent downturn in house building activity represents market overshooting. This will be followed by a mini-boom over the next few years before construction activity settles down to more stable levels. In most cases the sustainable level of house construction is above current levels, but below the peaks of the last decade.

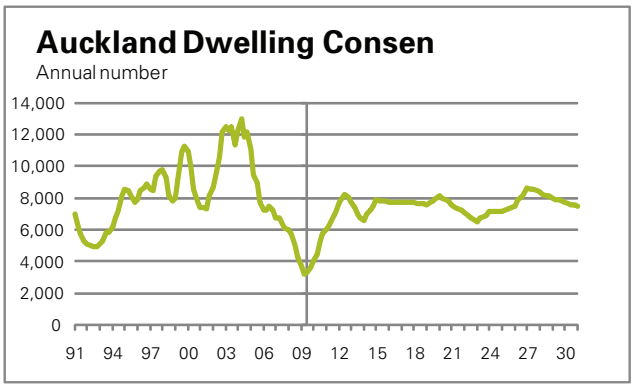


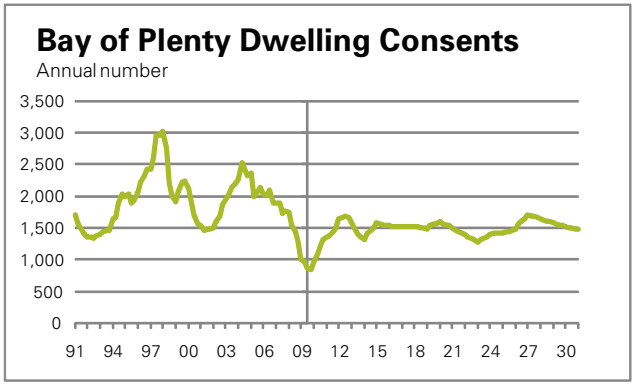


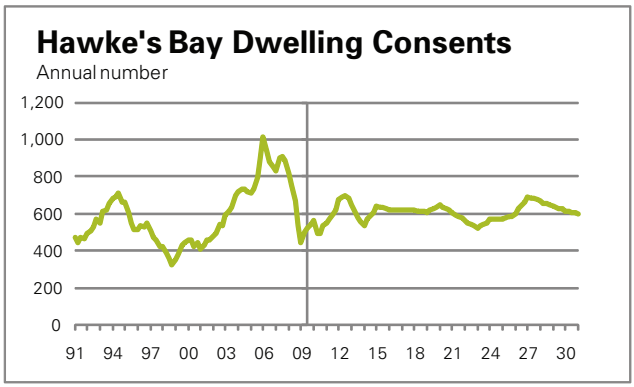


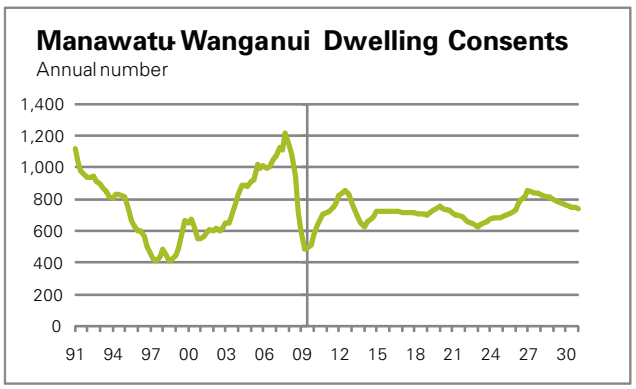


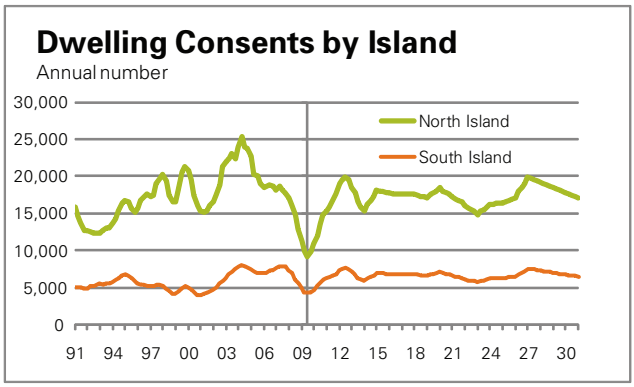


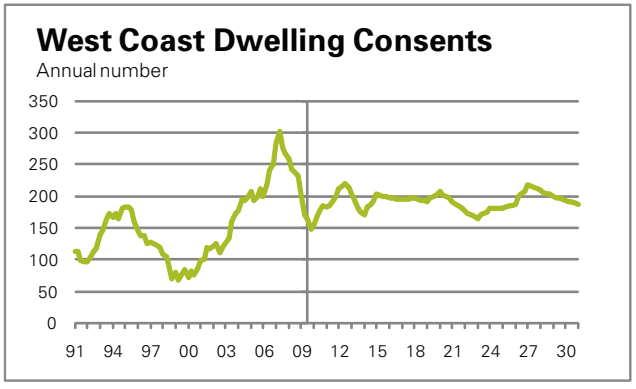


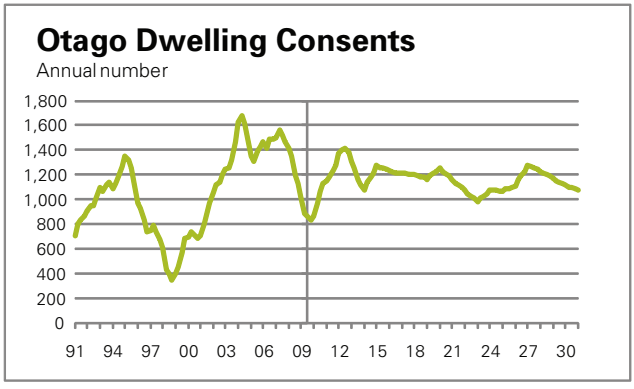

Bay of Plenty Dwelling Consents
Annual number
3,500
3,000
2,500
2,000
1,500
1,000
500
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30

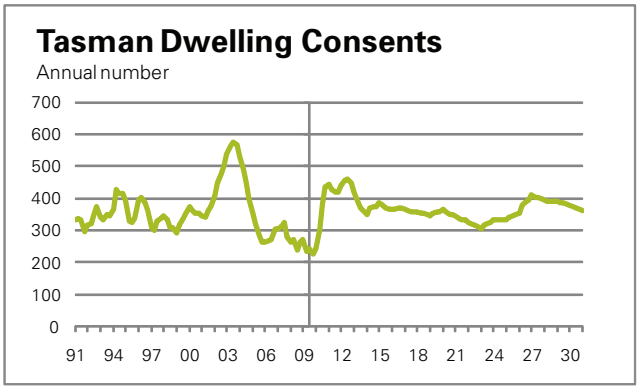

Hawke's Bay Dwelling Consents
Annual number
1,200
1,000
800
600
400
200
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30

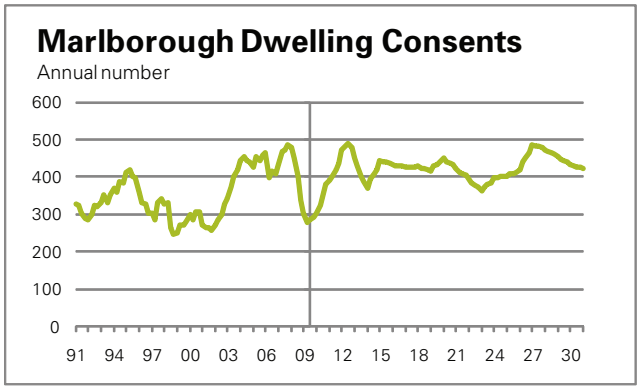

Manawatu-Wanganui Dwelling Consents
Annual number
1,400
1,200
1,000
800
600
400
200
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30

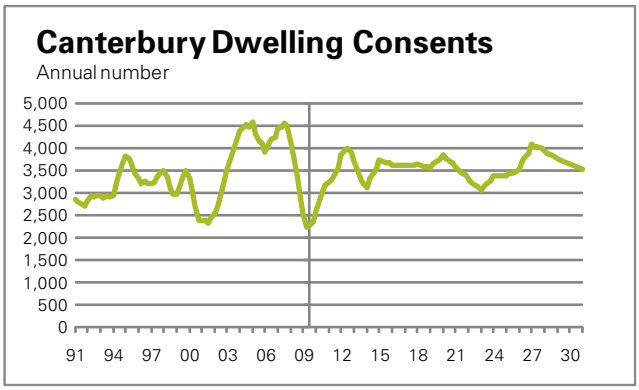

Dwelling Consents by Island
Annual number
30,000
25,000
20,000
15,000
10,000
5,000
0
North Island
South Island
91 94 97 00 03 06 09 12 15 18 21 24 27 30

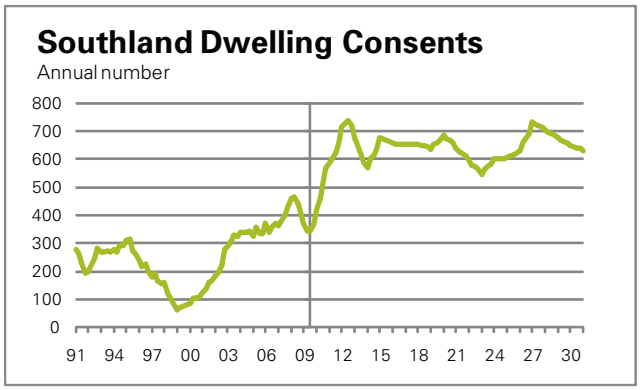

West Coast Dwelling Consents
Annual number
350
300
250
200
150
100
50
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30

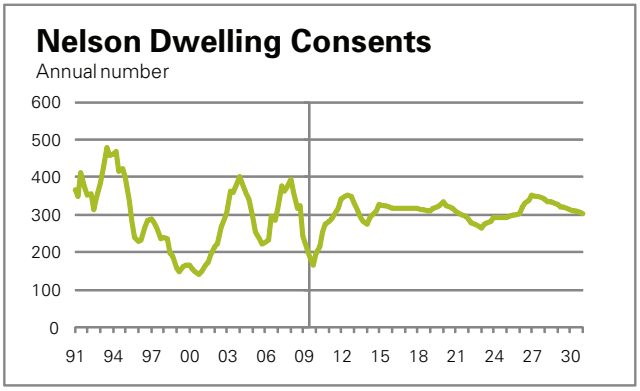

Otago Dwelling Consents
Annual number
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30


Tasman Dwelling Consents
Annual number
700
600
500
400
300
200
100
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30


Marlborough Dwelling Consents
Annual number
600
500
400
300
200
100
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30


Canterbury Dwelling Consents
Annual number
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30


Southland Dwelling Consents
Annual number
800
700
600
500
400
300
200
100
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30


Nelson Dwelling Consents
Annual number
600
500
400
300
200
100
0
91 94 97 00 03 06 09 12 15 18 21 24 27 30

Appendix C: The Review of Housing Statistics by Statistics New Zealand

Statistics New Zealand has undertaken a review of New Zealand's housing statistics and produced the Review of Housing Statistics Report 2009. The purpose of the review was to identify the enduring research and policy needs relating to housing statistics and ascertain the extent to which housing statistics are adequate for current and prospective information needs. The report then recommends actions required to address any significant shortcomings or gaps that the Official Statistics System needs to address in the field of housing, providing a framework for the development of housing statistics over the next 5–10 years.

Twelve recommendations were identified from six enduring research and policy topics. The following is an overview of the most significant recommendations:

- Research data sources that will help inform the demand for housing from first home-buyers, holiday homes, and property investors.
- Carry out research into the tenure and location choices of young people.
- Investigate different methodologies and data sources for quality-adjusted house and land price indexes.
- Investigate data sources around land available for residential housing.
- Improve the quality of official statistics available from consent forms.
- Investigate ways of measuring the productivity of the construction industry.
- Investigate and develop affordability measures.
- Improve existing data sources on the physical quality of the national housing stock.
- Continue research of measures and statistics on crowding and the homeless.

The Department of Building and Housing has been included in eight of the eleven recommendations and processes for implementation are currently underway.

- The next stage is to develop a plan for implementing the recommendations and monitoring progress.
- The first step will be to map out and agree the key milestones for the next 2–3 years – and initial plans for the years 3–6 and 6–9 – with all parties identified in the recommendations.
- A small group was established with members from Statistics New Zealand, HNZC and DBH to oversee the implementation plan. The first meeting of this group to discuss the implementation plan took place earlier this year.
- The draft implementation plan and timeline have now been completed, and circulated to the wider Housing Statistics User Group (HSUG).
- The wider HSUG will also be relied upon to share regular updates, progress of projects and co-ordination of relevant activities.

RECOMMENDATIONS FROM THE REVIEW OF HOUSING STATISTICS

Housing Demand

The Department of Building and Housing and Housing New Zealand undertake research into potential data sources (including administrative data) that will help to inform the demand for housing from:

- first-time homebuyers
- holiday homebuyers
- property investors (including New Zealand and foreign property investors).

The Department of Building and Housing and the Housing New Zealand Corporation analyse and publish Tenancy Bond data on the characteristics and distribution of private landlords.

The Centre for Housing Research, Aotearoa New Zealand (CHRANZ) undertake qualitative research into the determinants of tenure choice by 20–40 yr old households in the Auckland metropolitan area.

Housing Supply

Statistics New Zealand, with input from Quotable Value/PropertyIQ, the Treasury, the Reserve Bank, Housing New Zealand, and the Department of Building and Housing, lead an investigation into different methodologies and data sources for house and land price indexes with a view to confirming or upgrading existing measures, or developing new measures.

Quotable Value/PropertyIQ consider addressing the sharing of costs and access arrangements among government agencies, where a data set is required across multiple government agencies, and consider the possibility of making some public good statistics available free of charge on their website.

The Department of Building and Housing investigate potential sources of information about land available for residential housing (including serviced and unserviced lots).

The Department of Building and Housing and Statistics New Zealand work with territorial authorities to improve the quality of the official statistics available from the building consent form.

- The Department of Building and Housing, as part of their Sector Productivity Taskforce work, develop proposals to both measure and improve the productivity of, the residential construction industry.
- The Department of Building and Housing investigate ways of measuring labour productivity in the construction industry as part of their wider work programme aimed at improving productivity in the industry.

Housing New Zealand Corporation and the Department of Building and Housing with input from Statistics NZ should investigate potential data sources that could provide a regular estimate of private rental availability at a regional level.

Housing Affordability

Statistics New Zealand, the Department of Building and Housing, and Housing New Zealand, with input from the Ministry of Social Development, investigate the feasibility of developing a suite of affordability measures that will cover the ability of:

- households to meet the cost of buying their first home
- home-owners to meet ongoing housing costs
- renters to meet housing costs.

Housing Habitability

The Department of Building and Housing, the Building and Research Association of New Zealand (BRANZ) and Statistics New Zealand work together to improve existing data sources (survey or administrative) on the physical quality of the national housing stock.

Housing Suitability

The following agencies continue housing suitability research related to the following specific areas:

- Measures and statistics on crowding – Statistics New Zealand
- Enumerating the homeless – University of Otago, Wellington, and Housing New Zealand Corporation, with input from Statistics New Zealand.

Appendix D: The Role of the Department of Building and Housing in Monitoring Trends

The Department of Building and Housing is increasing its capacity to provide advice on emerging issues and trends that are likely to impact on, or are critical to, the performance of the housing and building sector in New Zealand. This includes factors such as demographics, land supply, affordability, productivity, and international trends, so that informed decisions can be taken by government, local government, the Department, and the broader sector. This will enable the Department to deepen its understanding of the sector and its key performance drivers, and in measuring for outcomes.

The Sector Trends and Performance Group in the Policy Branch provides advice on emerging issues and trends that are likely to impact on, or are critical to, the performance of the building and housing sector over the long term.

In the Department's Statement of Intent 2008–2011, the main deliverables required of the Sector Trends and Performance Group were to:

(1) Monitor and Evaluate trends and developments in the building and housing sector.

(2) Provide a framework for the monitoring and evaluation of sector performance.

These formed the Department's Medium Term Outcome Two in the subsequent Statement of Intent 2009–2012:

What are we seeking to achieve?

An enhanced housing and building market that provides an accessible range of houses and buildings that meet New Zealanders' economic and social needs.

Why are we going to do this?

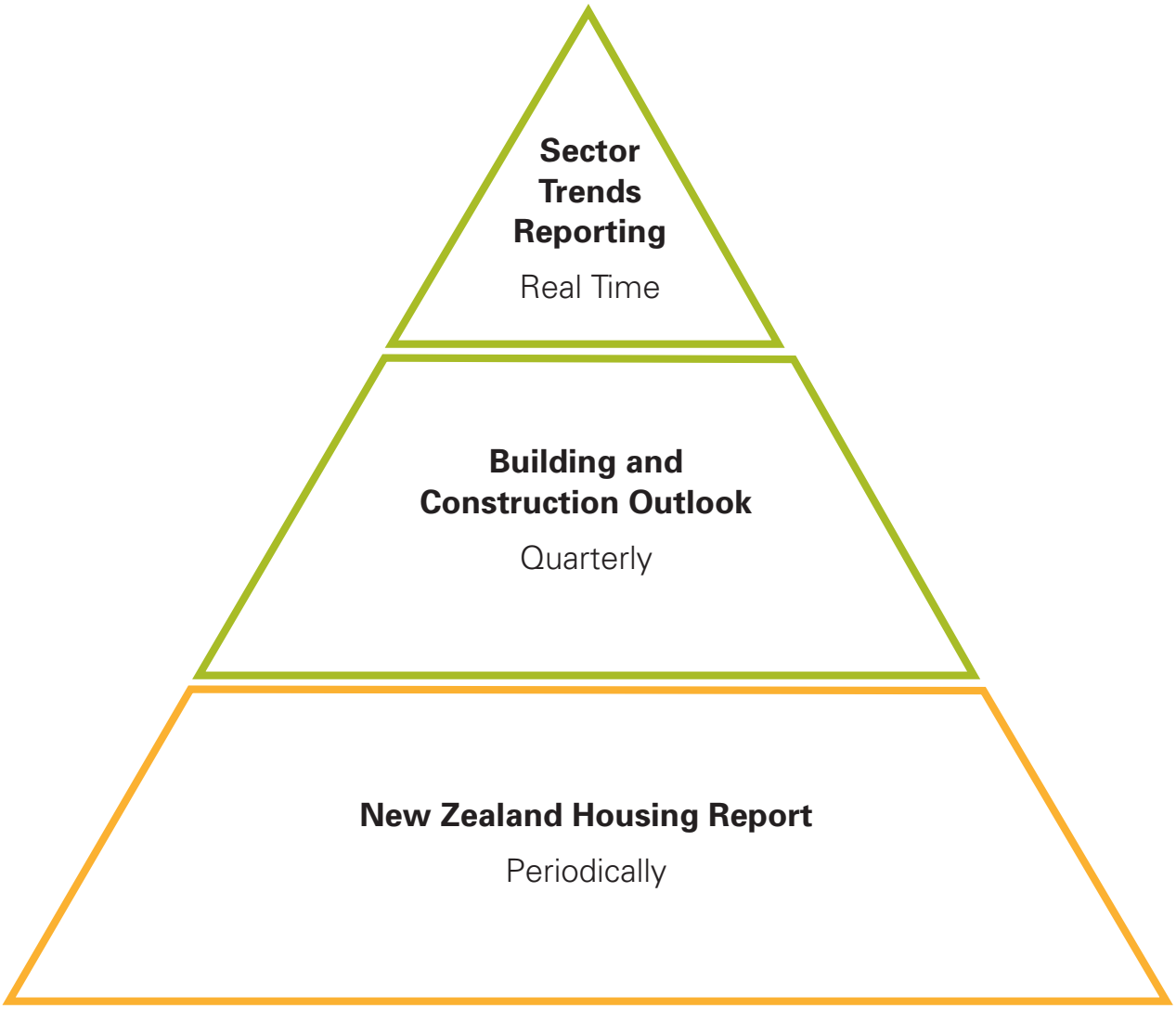
The building and housing market will perform more effectively if there is access to adequate quality and timely information to inform decision-making. The market will also perform more effectively if supported by effective policies and regulations that enable a wide range of housing choices for consumers that meet their needs.

What are the Government's priorities?

- To ensure ongoing confidence and investment in the housing sector, as this is critical in terms of economic activity, jobs and skill retention.
- To maintain the supply of housing at a reasonable level to ensure New Zealanders' housing needs are met and major supply issues do not start to emerge in the short to medium term.
- To see more effective management of the state housing asset and better use of the social housing stock.

What are we going to do?

- Monitor and evaluate sector trends and performance, and publish high quality, timely information on them to enable participants in the sector to make informed decisions.
- Provide information, advice and guidance that supports consumers and the sector.



In 2009, the Department introduced a framework encapsulating three Key Sector Reports to be released at regular intervals and to be freely accessible to the public.

Sector Trends Reporting

- Reports on data and factual information using graphs and brief explanatory notes.
- Released in 'real time' as data becomes available.
- A summary report will be released each quarter.
- For those interested in keeping informed on developments in the housing and building sectors as it occurs.
- Replaces the Department's Quarterly Sector Trends Report. [33]

Building and Construction Outlook

- Reports on trends in the construction sector drawing on key economic indicators, market intelligence, and news.
- Released on a quarterly basis.
- Provides commentary and insight on developments in terms of significance and relevance for future trends.
- For participants in the building and construction sectors wanting a current assessment of the industry and future prospects.

33 The current reporting system can be found at: www.dbh.govt.nz/sector-information. Archived issues of the Quarterly Sector Trends Report from March 2004 to June 2009 can be found at: www.dbh.govt.nz/trends-reports.

New Zealand Housing Report

- Reports on the state of the housing sector, including demand and supply issues based on known data and research
- Provides insight into the main issues that the housing sector faces currently
- Provides a platform for the sector to discuss and debate housing issues
- Highlights the current gaps in data and information about the sector and facilitates more information being collected and more research being carried out in the future.

As outlined in the Annual Report 2008–2009, the Department will continue to work to improve the collection and presentation of data on trends in the building and housing sector, to support decisions by businesses and local authorities as well as the Department's own policy development and advice.

An objective is to streamline outlooks and the reports in terms of focus and content based on usefulness and feedback from users.

Published in September 2010 by
Department of Building and Housing
PO Box 10-729
Wellington
New Zealand

This document is also available
on the Department's website
www.dbh.govt.nz

ISBN: 978-0-478-34361-8 (document)
ISBN: 978-0-489-34362-5 (web)

New Zealand Government