



The home affordability challenge

Suite of policy reforms needed in New Zealand

NZIER public discussion paper
Working paper 2014/4, July 2014

About NZIER

NZIER is a specialist consulting firm that uses applied economic research and analysis to provide a wide range of strategic advice to clients in the public and private sectors, throughout New Zealand and Australia, and further afield.

NZIER is also known for its long-established Quarterly Survey of Business Opinion and Quarterly Predictions.

Our aim is to be the premier centre of applied economic research in New Zealand. We pride ourselves on our reputation for independence and delivering quality analysis in the right form, and at the right time, for our clients. We ensure quality through teamwork on individual projects, critical review at internal seminars, and by peer review at various stages through a project by a senior staff member otherwise not involved in the project.

NZIER was established in 1958.

Authorship

Each year NZIER devotes resources to undertake and make freely available economic research and thinking aimed at promoting a better understanding of New Zealand's important economic challenges. This paper was funded as part of this public good research programme.

A version of this paper was also published in the Summer 2014 issue of Housing Finance International (HFI), the journal of the International Union for Housing Finance.

This paper was prepared at NZIER by Shamubeel Eaqub. It was quality-approved by Jean-Pierre de Raad.

The assistance of John Stephenson, Dr Kirdan Lees and Deborah O'Connor is gratefully acknowledged.



ISSN 1176-4384 (online only)

L13 Grant Thornton House, 215 Lambton Quay | PO Box 3479, Wellington 6140
Tel +64 4 472 1880 | econ@nzier.org.nz

© NZ Institute of Economic Research (Inc) 2014. Cover image © Dreamstime.com
NZIER's standard terms of engagement for contract research can be found at www.nzier.org.nz.

While NZIER will use all reasonable endeavours in undertaking contract research and producing reports to ensure the information is as accurate as practicable, the Institute, its contributors, employees, and Board shall not be liable (whether in contract, tort (including negligence), equity or on any other basis) for any loss or damage sustained by any person relying on such work whatever the cause of such loss or damage.

Contents

1. Key points.....	1
2. Scene setting: high house prices and their implications.....	3
2.1. House prices are high.....	3
2.2. Why does it matter?.....	5
3. Why are house prices high?.....	8
4. Supply: Too much and too little.....	9
4.1. Is land supply constrained?.....	9
4.2. Supply: Easy money.....	12
5. Demand: Shelter vs investment.....	15
5.1. The need for shelter.....	15
5.2. The cause célèbre of home ownership.....	16
5.3. Renting is a poor substitute.....	16
5.4. Investor demand.....	18
6. Policy options.....	24

Appendices

Appendix A Embedded capital gains expectations.....	25
Appendix B References.....	25

Figures

Figure 1 Unlocking home truths: issues and policy options.....	2
Figure 2 House price to income ratio.....	3
Figure 3 House price valuation metrics.....	4
Figure 4 House price overvaluation 2013.....	5
Figure 5 Home ownership rate.....	7
Figure 6 Years to buy a home in Auckland.....	7
Figure 7 Supply, demand, finance and price interactions.....	8
Figure 8 Housing costs relative to household income.....	9
Figure 9 House vacancy rate.....	10
Figure 10 Slow housing supply response in Auckland and Wellington.....	11
Figure 11 Responsiveness of housing supply and house price increases.....	11
Figure 12 Borrowing Capacity @ \$100,000 income.....	13
Figure 13 Debt and house prices relative to income.....	13
Figure 14 Sources of housing demand growth.....	15
Figure 15 Rental conditions in selected countries.....	17
Figure 16 Composition of transactions by type of purchaser.....	19
Figure 17 Real house price inflation.....	21
Figure 18 Real house price inflation over various time periods.....	21
Figure 19 Saving through housing versus equities.....	22

Tables

Table 1 Capital gains expectations based on gross rental yield and required rate of return.....	20
---	----

1. Key points

New Zealand has very high house prices relative to incomes, rents and our global peers. House prices are out of kilter.

This is a serious concern due to the potential effects on:

- **financial stability** – a widespread collapse of house prices could cause significant financial sector turmoil
- **economic performance** – debt-fuelled consumption, driven by expectations of everlasting capital gains, throttles businesses and the export sector
- **social stability** – buying a house is increasingly out of reach for new generations, which is anathema to New Zealand's home owning culture.

The national obsession with house prices is thus no wonder. Nor are the frequent calls for action from many corners, each with their own solution. When one considers the causes, it becomes clear that it's too simplistic to look for single solutions. The housing market is complex and the very high house prices are caused by the interaction of many different factors. Solutions will be equally complex.

This paper tells the story of how the different factors impact on the housing market:

- at the heart of the New Zealand housing market is a culture of home ownership and housing investment
- this is reinforced by relatively easy access to credit compared to other types of investments. This access to credit has become easier over time
- there are tax advantages to property ownership, real and perceived
- housing supply is slow to respond to demand, creating frictions that drive prices temporarily higher
- renting is not comparable to home ownership, because New Zealand has one of the least renter-friendly rental policy settings in the world.

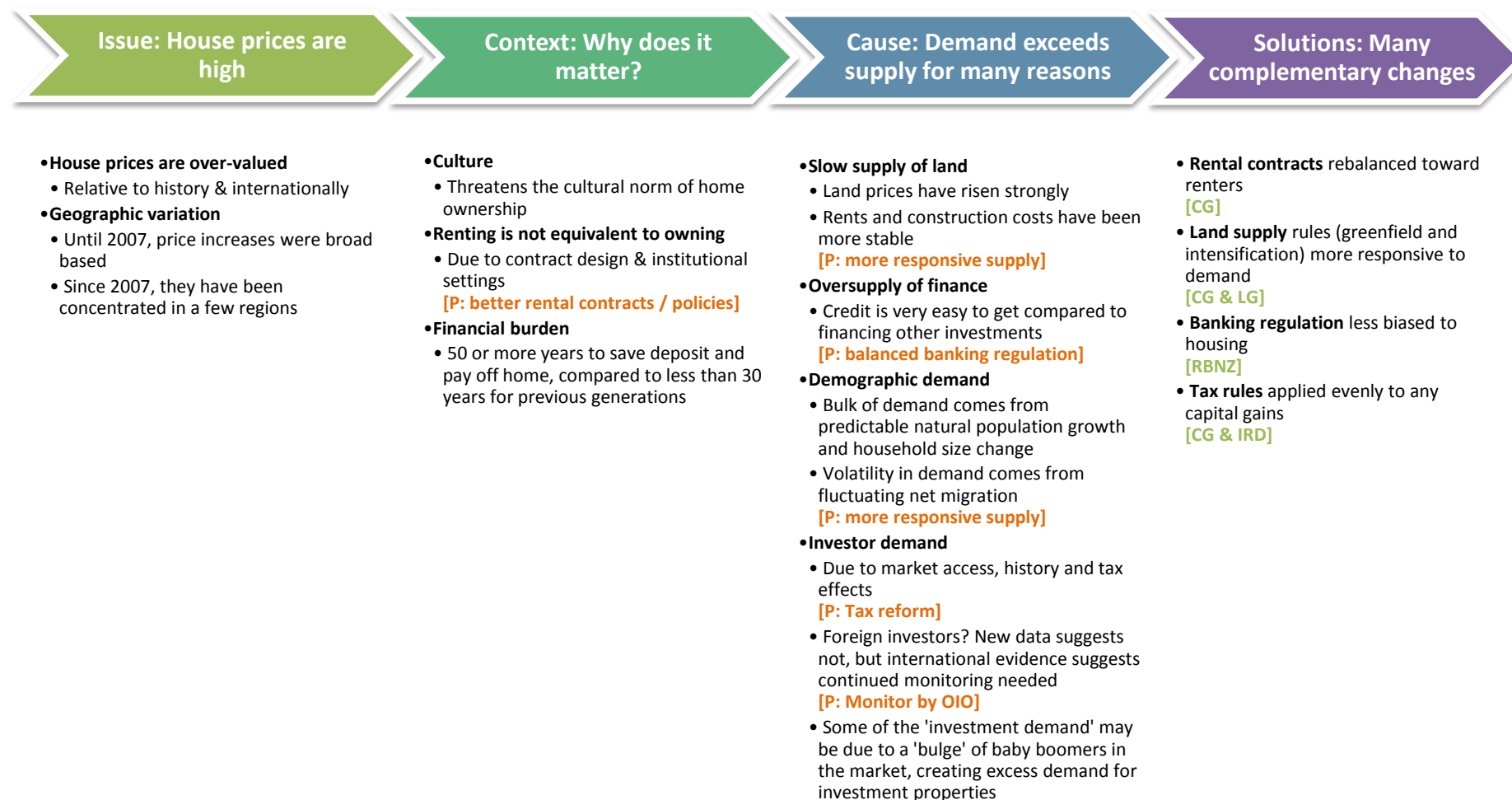
This is a complex story, and each strand deserves in-depth research. The purpose of this paper is to paint a picture of the market and its influences, to give guidance on where to look for solutions. It is not to evaluate policies in any depth at this point.

But the conclusion is clear. There is no easy or quick fix to New Zealand's over-valued housing market. Whether house prices spiral up or down, the impacts of the necessary policy solutions will not be seen immediately. Not one single change will be enough. The solutions need to be a complementary set – it's like taking a Swiss-army knife to a knotty problem.

The changes need to include:

- reform of regulations that favour mortgages over other types of lending
- removal of the tax advantages of real estate investment over other investments
- easing of planning rules that slow land and house supply
- reform of rental policy so renting becomes more palatable and a comparable alternative to home ownership.

Figure 1 Unlocking home truths: issues and policy options



Source: NZIER

Notes: P are policy issues and in green are relevant authorities (CG=central government, LG=local government, RBNZ=Reserve Bank of New Zealand, IRD=Inland Revenue Department, OIO=Overseas Investment Office) to implement change)

2. Scene setting: High house prices and their implications

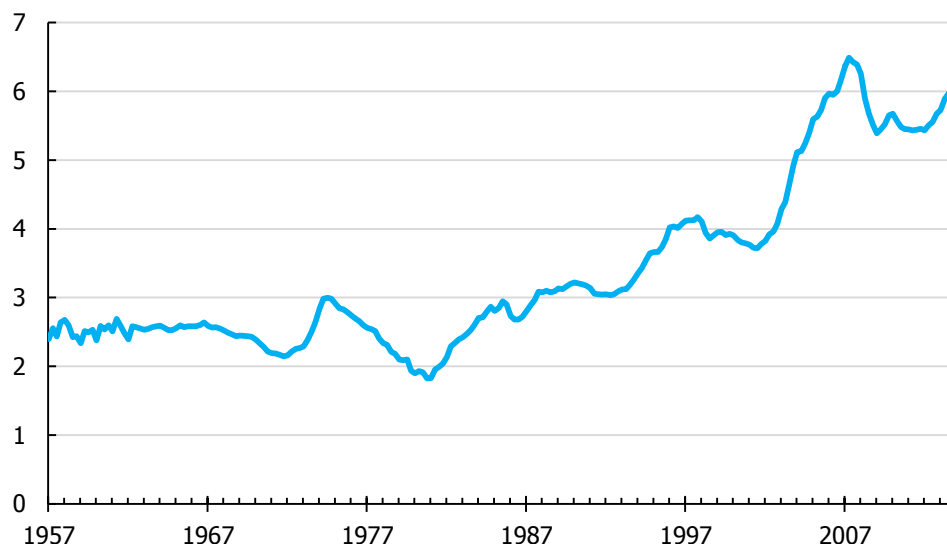
2.1. House prices are high

New Zealand house prices surged from 2001, outstripping general prices, rents and incomes. They are now at near record highs compared to historic and global benchmarks.

The average house price rose from the long-run benchmark of three times the average annual household income to six times (Figure 2).

Figure 2 House price to income ratio

Average house price as a multiple of average annual household income



Source: QVNZ, Statistics NZ, NZIER

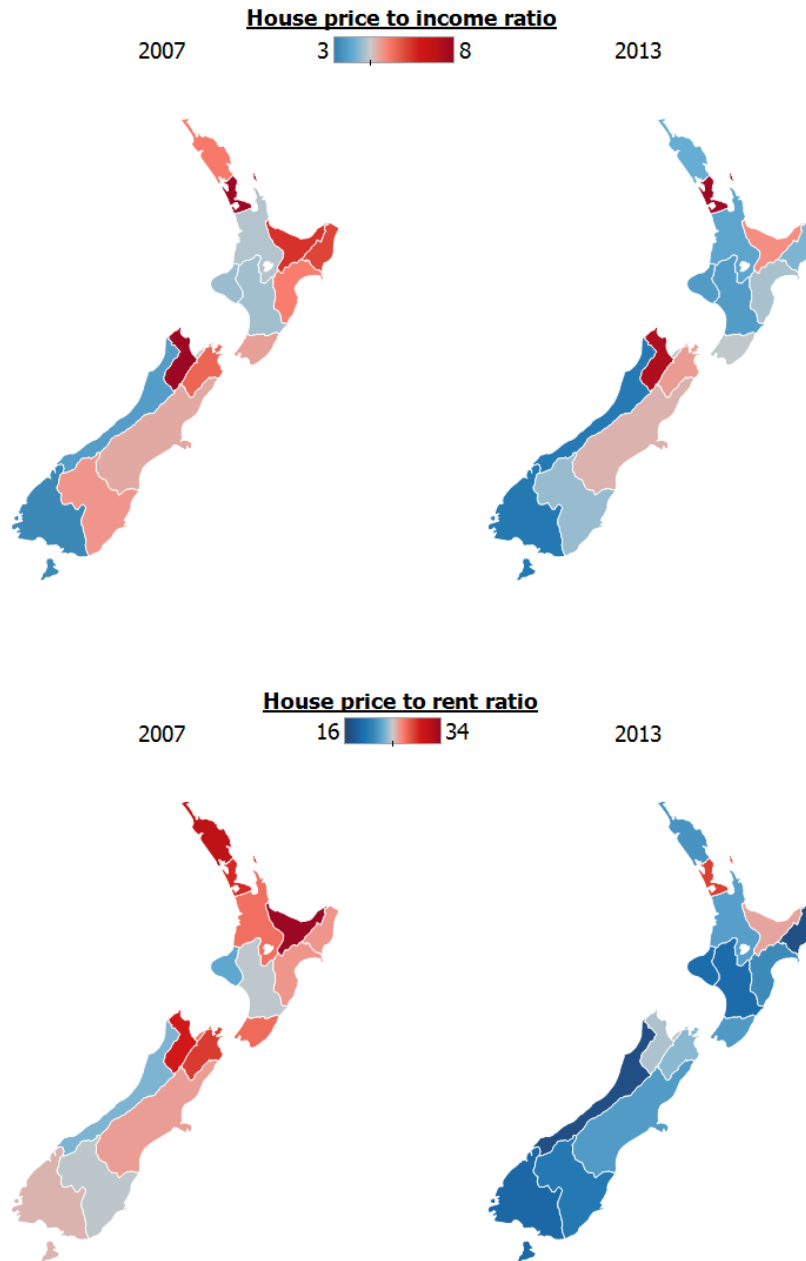
House price gains during 2000-2007 were synchronised across regions, suggesting regions were exposed to similar drivers. House prices then cooled during the recession, and most regions now have house prices more in keeping with the long-run average.

There is increasingly a geographic divergence in house prices, and a few regions are unaffordable relative to their incomes. This reflects some obvious differences between regions, e.g. popular retirement locations, where the residents are income-poor but asset-rich. Popular holiday home destinations also appear over-valued, because the locals do not have as high-paying jobs as those purchasing holiday homes – distorting the statistics.

Canterbury house prices surged over recent years due to earthquake damage reducing the supply of habitable housing. But the surge in Auckland house prices has occurred without such 'one-off' factors, and Auckland is now one of the most expensive cities in the world.

Figure 3 House price valuation metrics

Average house price and average annual rent to average annual household income



Source: QVNZ, Statistics NZ, MBIE, NZIER

2.2. Why does it matter?

Very high house prices are a risk to financial, economic and social stability. In this section we explore these risks.

2.2.1. Risk to financial stability

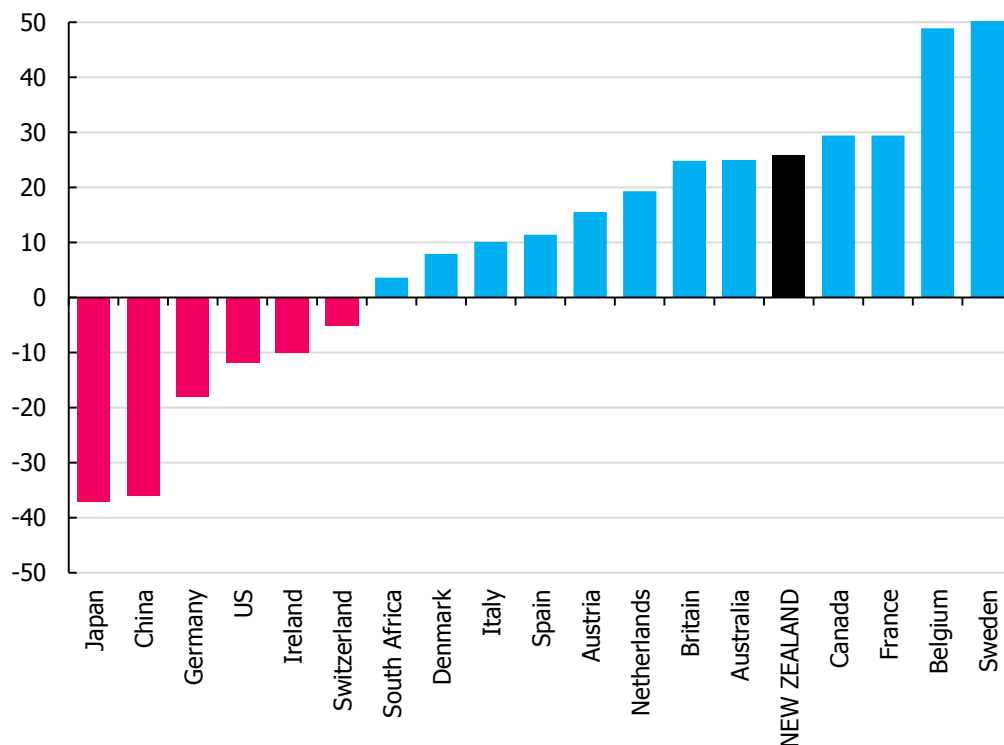
Financial risk is usually the most obvious and immediate concern. Most recently, during the Global Financial Crisis (GFC), house prices slumped, causing significant financial sector turmoil. This was seen in the US and Ireland in particular.

Many banks failed, following sharp increases in bad debts. This was compounded by job losses across the economy, and these influences reinforced each other, creating a spiral into one of the deepest recessions since the Great Depression of the 1930s.

New Zealand has avoided this risk so far, despite house prices falling during the GFC, and the widespread collapse of finance companies. New Zealand was helped by a resilient banking sector, which did not participate in recklessly risky behaviour, unlike many financial institutions in the US. However, by some international measures New Zealand houses remain overvalued by 26%, and thus are at risk of a sharp correction (Figure 4).

Figure 4 House price overvaluation 2013

Overvaluation in relation to income (%) – deviation in house price to income ratio from historical average



Source: The Economist, QVNZ, Statistics NZ, NZIER

2.2.2. Risk to economic stability

Even though New Zealand avoided financial sector calamity, the economy was very weak. This was in part related to the housing market. In the decade preceding the housing market peak in 2007, the economy was increasingly reliant on house price gains to fuel house construction and consumer purchases.

This increased reliance on the housing market reduced the resilience of the economy in various ways. The main channels were:

- concentration of household investments, which made household spending and investment vulnerable to house prices rather than general economic conditions
- increased reliance on borrowing, which increased short term debt-laden spending, but caused a long hangover when households deleveraged
- increased borrowing sourced from offshore, which lifted the New Zealand dollar. In turn this reduced export sector diversity and the economy's resilience to shocks. When the dollar fell during the recession, exports did not rebound as in previous cycles
- credit (at the margin) redirected away from business to housing, which restricts the growth of new businesses and our future economic potential.

2.2.3. Risk to social stability

Houses have become unaffordable for many, but particularly for the younger generations that have been raised with a cultural expectation of home ownership. This creates a sense of inequity amongst younger generations.

The cultural expectation of home ownership is ingrained. Home ownership rates rose for almost a century, until the early 1990s. But now, home ownership rates are the lowest since 1951 (Figure 5 Home ownership rate). Since 2001 house prices rose sharply, and home ownership rates by people aged 30-39 have fallen from 55% to 43%.

There are of course many reasons for changes in home ownership rates. Changes in participation in tertiary education, student loans, female workforce participation, patterns in marriage and childbearing are all likely to have impacted on home purchasing decisions.

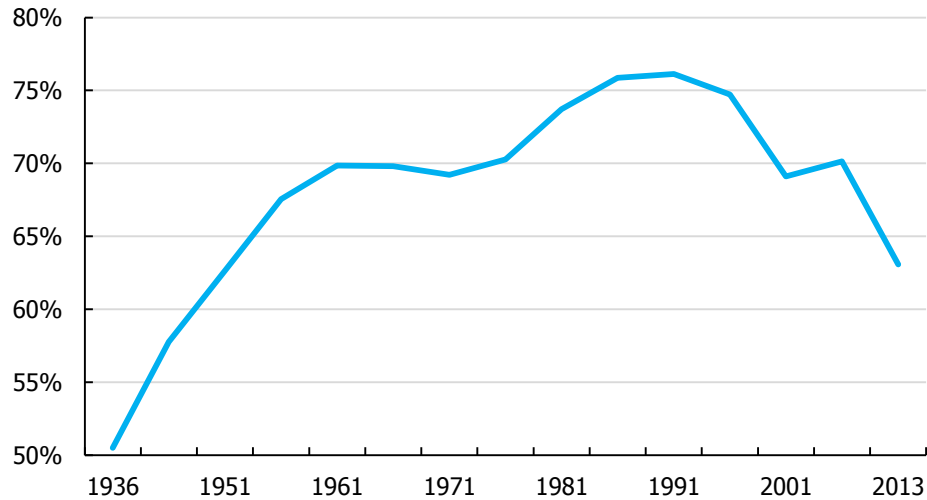
But there is no doubt that there is an intergenerational gap in the 'purchasing power' of first home buyers now and twenty years ago. Those purchasing homes in the early 1990s could have saved a deposit and paid off the mortgage within 30 years. But for a home purchaser in Auckland now, it will take at least 50 years to buy a home (Figure 6 Years to buy a home in Auckland) – leaving little time to accumulate other retirement savings. It also means the home owner is in debt, and thus more vulnerable to financial shocks, for a longer period of their working life.

The difference in generational outcomes can lead to significant social tensions. In the first instance, there can be a breakdown in social cohesion between the older 'haves' and the younger 'have-nots'.

If house prices remain overvalued relative to incomes, the current intergenerational difference in ability to purchase houses could increase inequality in wealth and living standards.

Figure 5 Home ownership rate

Owner occupier share of all defined tenures

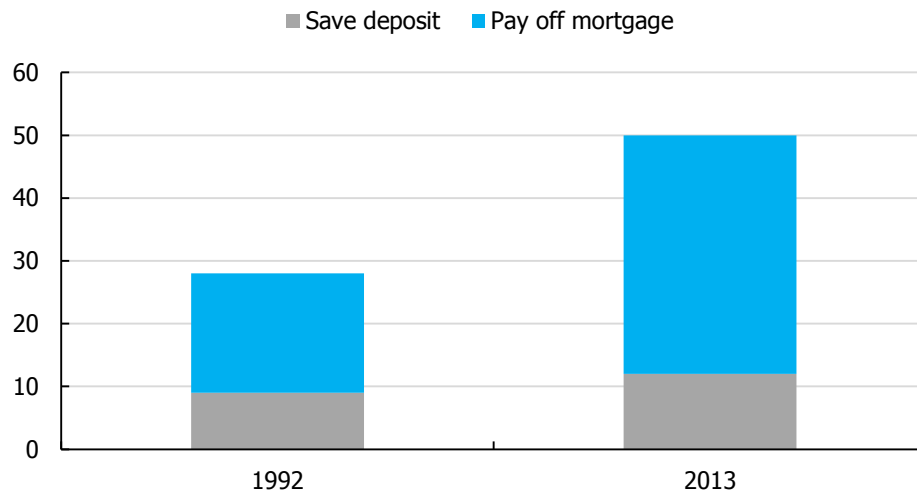


Source: Statistics NZ, NZIER

Note: Excludes responses that cannot be accurately defined

Figure 6 Years to buy a home in Auckland

Vertical axis = years to buy home. Horizontal x-axis = year of home purchase.



Source: NZIER

Assumptions – save 15% of income for 20% deposit, 6% mortgage rate, 1/3 of income in mortgage repayments, for an average income household buying an average priced house.

This could persist across generations: children of existing home owners can hope to inherit valuable homes. But children of non-home owners may never own their own homes – depriving them of the traditional route of saving through a house and the possibly of social mobility.

The importance of financial literacy and the importance of investment alternatives to housing become more important if fewer younger people are able to save and invest in housing. Clarity and uniformity of tax and other incentives for all forms of investments is increasingly important.

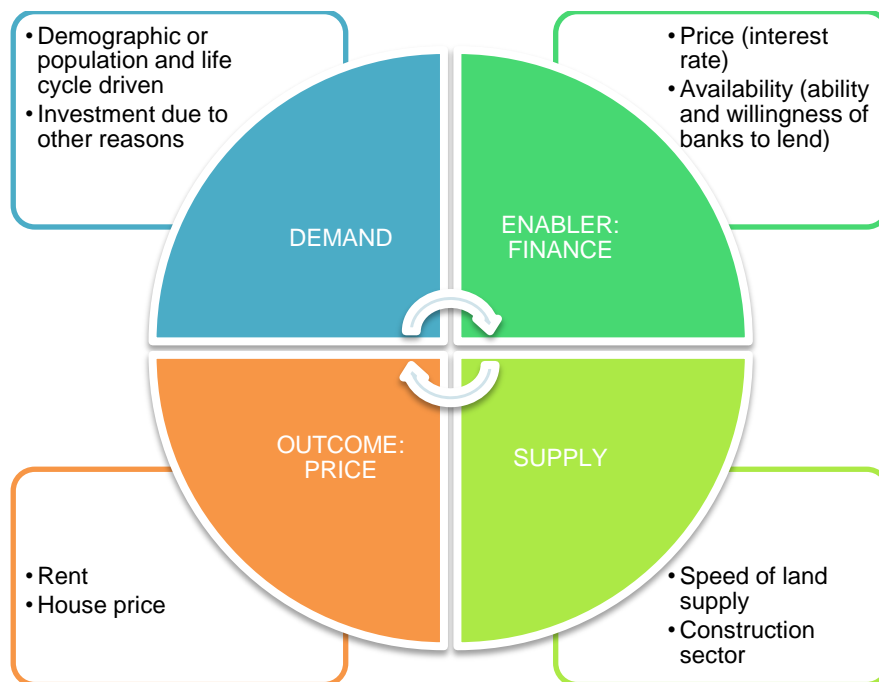
3. Why are house prices high?

In the most basic sense house prices are high because demand exceeds supply. House prices are a reflection of many push and pull factors. It is not immediately clear which factors are dominant in causing overvaluation in house prices.

Regardless, the end result is the interaction of all of these factors, rather than just one single driver. This also means that there is no 'one solution to rule them all'.

Figure 7 Supply, demand, finance and price interactions

A stylised representation of the interrelated influences



Source: NZIER

Figure 7 summarises the different factors and forces in the housing market. The *demand* for housing can be for living in or for investment purposes – so household formation and investment demand can be important drivers.

The realisation of demand into a house purchase is enabled by the price and availability of finance, because few can afford to buy a house with accumulated savings alone.

The *supply* of houses is comprised of two parts, the supply of land and the construction of buildings. The regulatory and economic factors in determining their supply are different. Their prices have also behaved very differently in the past, so it makes sense to look at them separately.

The supply and demand factors, supported by finance, influence the price of housing: rents and the costs of home ownership. They interact with each other. For example, when house prices are rising, investor demand may increase as more chase capital gains, but reduce owner occupier demand as ownership becomes more expensive.

4. Supply: Too much and too little

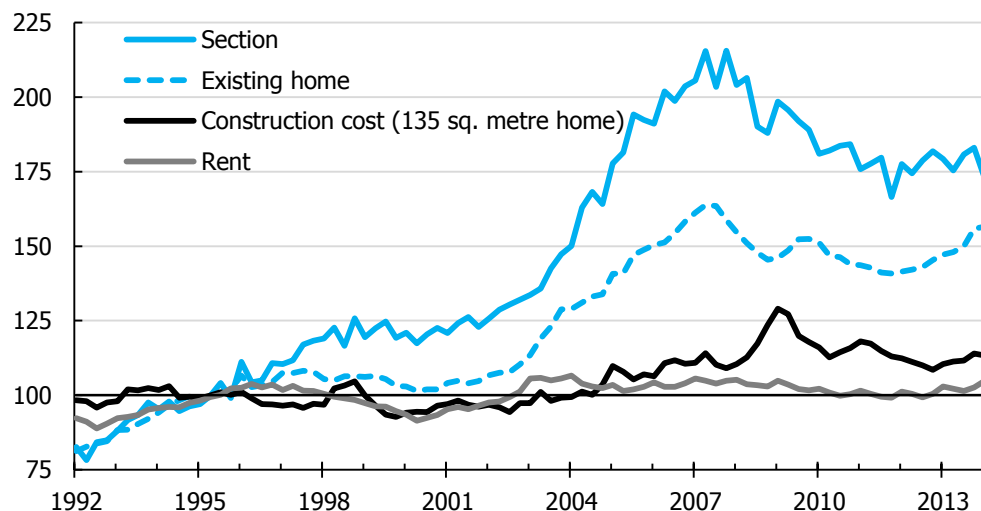
Not all components of housing costs are 'too high'

The cost of housing and its components have not all risen at the same pace:

- land prices have risen sharply. Although they eased following the housing market peak in 2007, they remain high relative to historical figures
- existing home prices are very high relative to income, but as construction costs have not risen much, the increase largely reflects land prices
- construction costs rose during the construction boom and fell during the recession, although they remain a little higher than the historical average
- by contrast, rents have been broadly stable, relative to incomes over time.

Figure 8 Housing costs relative to household income

Index (1995=100)



Source: Statistics NZ, REINZ, NZIER

4.1. Is land supply constrained?

Land prices show that there is a constraint in land supply, or that there is a persistent excess of demand relative to the speed of supply.

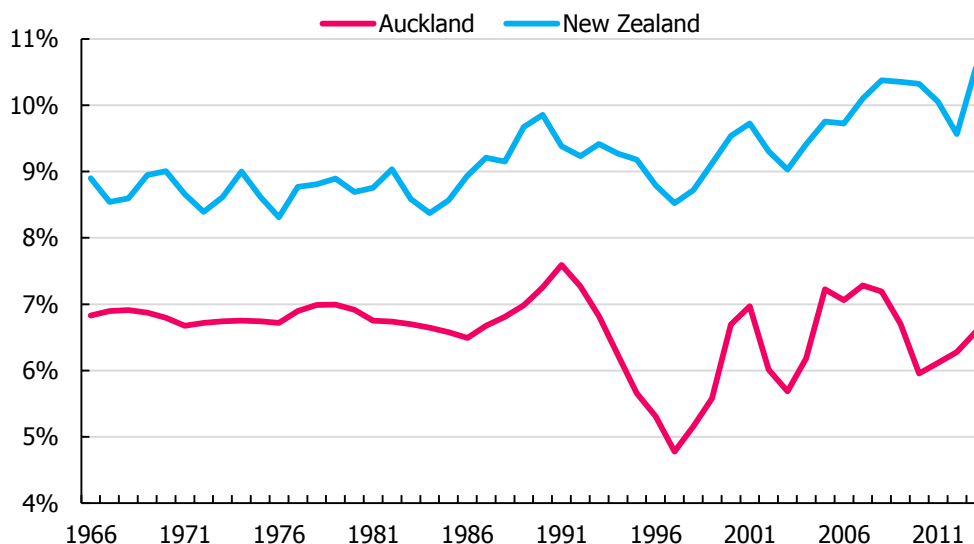
However, when we look at vacancy rates and rents, it is not clear that this is leading to a 'shortage' of housing.

At a very broad macro level, we can look at the stock of unoccupied dwellings as a measure of slack, similar to the unemployment rate in the labour market. Consistent data beginning in 1966 shows that the national housing vacancy rate has typically ranged between 8%-10%, but rose to higher levels more recently.

In Auckland, the housing vacancy rate fell sharply in the mid-1990s, when a surge in immigration was not immediately met with increases in supply. But supply responded with a lag and the vacancy rate returned to the historical average by 2000 (Figure 9).

Figure 9 House vacancy rate

Unoccupied % share of all houses



Source: Statistics NZ, NZIER

Our analysis of the housing vacancy rate suggests two possible issues:

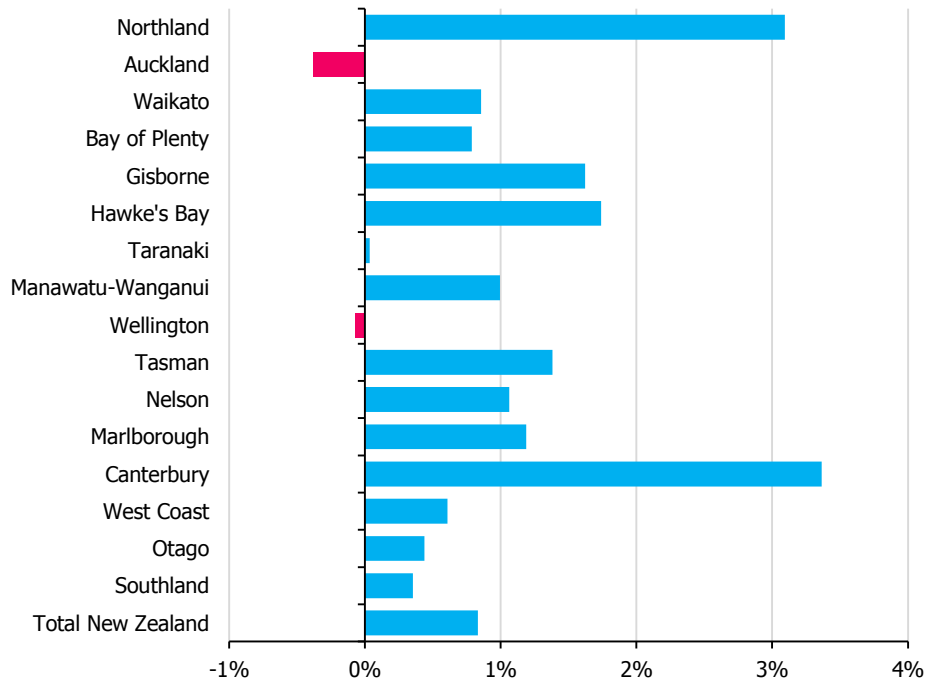
- the speed at which new land is supplied
- the speed of new construction.

We find that housing supply growth is responsive to household formation in most regions, with Auckland a notable exception (Figure 10). This might explain Auckland's persistently low housing vacancy rate and relatively high level of house prices, but other factors, such as better employment and income opportunities, are also important drivers.

Figure 11 suggests that the supply response was probably not the dominant force on house price gains during 2001-2006, when the housing boom was in full swing. This may be reflecting a strong economy, rapid debt accumulation and self-reinforcing expectations as well. The relationship between housing supply and house prices becomes more evident in the 2006-2013 period.

Figure 10 Slow housing supply response in Auckland and Wellington

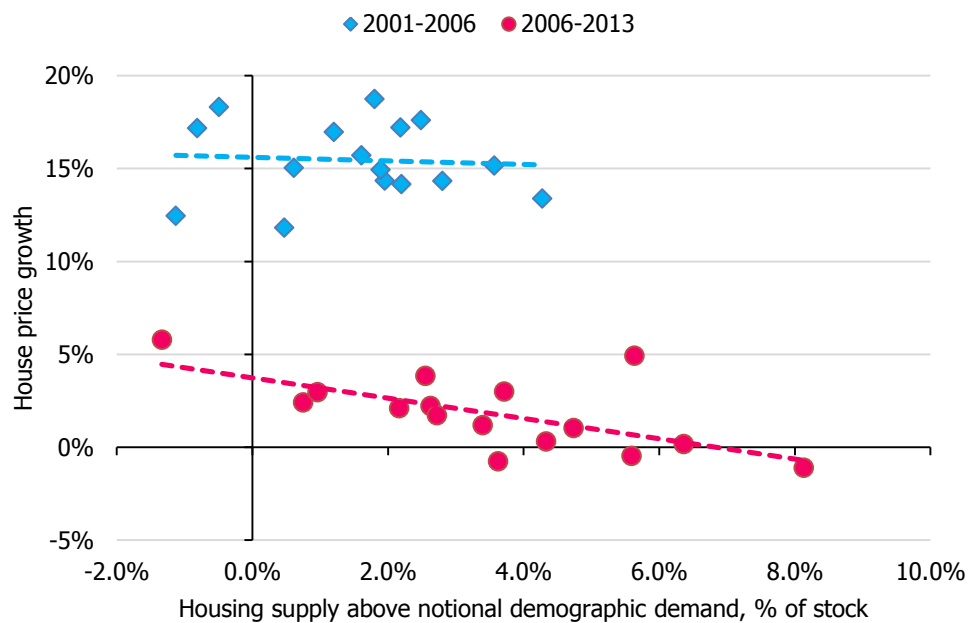
Realised supply growth exceeding notional demographic demand; % of stock, 2006-2013



Source: NZIER

Figure 11 Responsiveness of housing supply and house price increases

House price growth on y-axis; housing supply responsiveness on x-axis; each dot represents a region



Source: Statistics NZ, QVNZ, NZIER

Auckland has some special geographic constraints

Our spatial analysis¹ shows that Auckland's geography is a key constraint. Auckland is narrow – squeezed between two harbours. That makes it difficult to build efficient transport links and makes land close to the city centre extra scarce relative to other cities. As a result, Auckland's house prices tend to be more expensive than in other comparable cities.

Policies on land-supplying greenfield sites, density and height restrictions, and transport can cause a build-up in, or help to alleviate, these pressures.

The draft Auckland Unitary Plan had extensive options for greenfield developments, and densification through infilling and building up. However, these proposals were significantly scaled back during the community consultation phase. The Auckland Unitary Plan still significantly allows for greater land supply. The Auckland Housing Accord, agreed with the central government, also aims to supply 39,000 homes and sections over a three year period to 2016.

The Auckland Unitary Plan process shows that good intentions can be difficult to implement in practice – because the political economy favours incumbents. While the planning community is routinely vilified in its resistance to land supply, the actual experience shows that a broader “nimby” (not in my back yard) sentiment against intensification is a greater constraint. Constraints suit current home owners at the cost of the overall affordability to would-be purchasers, and at the cost of the prospects for Auckland.

While our analysis suggests that there are structural reasons why Auckland may be more expensive than other places, the premium for Auckland house prices will not continue to increase forever. Rather, recent increases reflect partly temporary structural issues and a large dose of speculation.

4.2. Supply: Easy money

A house is a large purchase that is typically debt funded. Banks are the primary source of funding.

Banks have traditionally lent mortgages on the following typical terms:

- 20% minimum deposit
- 20-30 year table mortgage²
- floating or fixed interest rates for up to 5 years
- mortgage payments at 1/3 of income.

However, these standards have loosened over time.

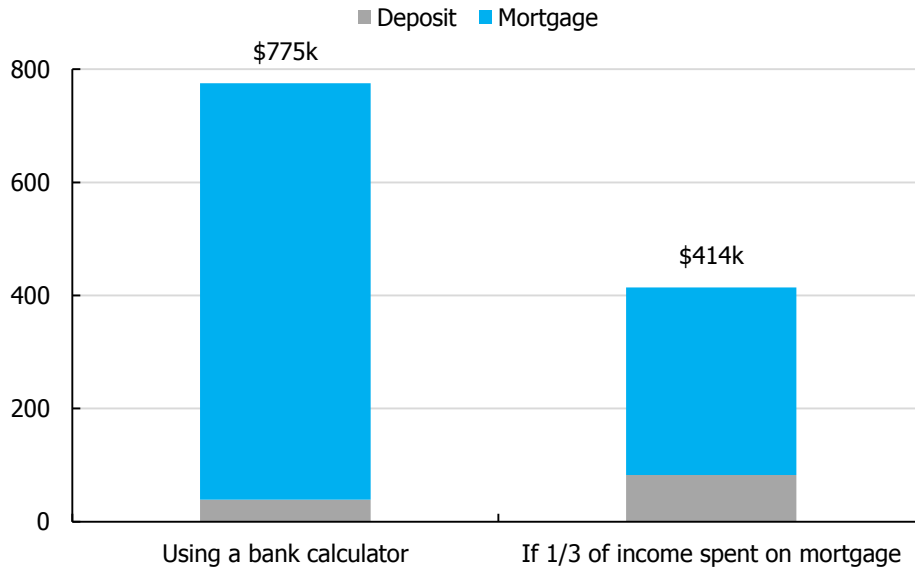
Using the traditional model a person with \$100,000 of annual income could buy a house worth \$414,000, with a \$331,000 mortgage. But now, banks are likely to lend much larger sums. Using on-line bank calculators suggests that the same \$100,000 of annual income could buy a house worth \$775,000, with a \$735,000 mortgage. This represents a massive loosening of financial standards and has enabled more mortgage funds to be directed towards housing.

¹ Lees (2014).

² Table mortgages are common in New Zealand. The repayments do not alter over the life of the mortgage. At the beginning, most of each repayment is interest, by the end you're mostly repaying principal.

Figure 12 Borrowing capacity at \$100,000 p.a. income

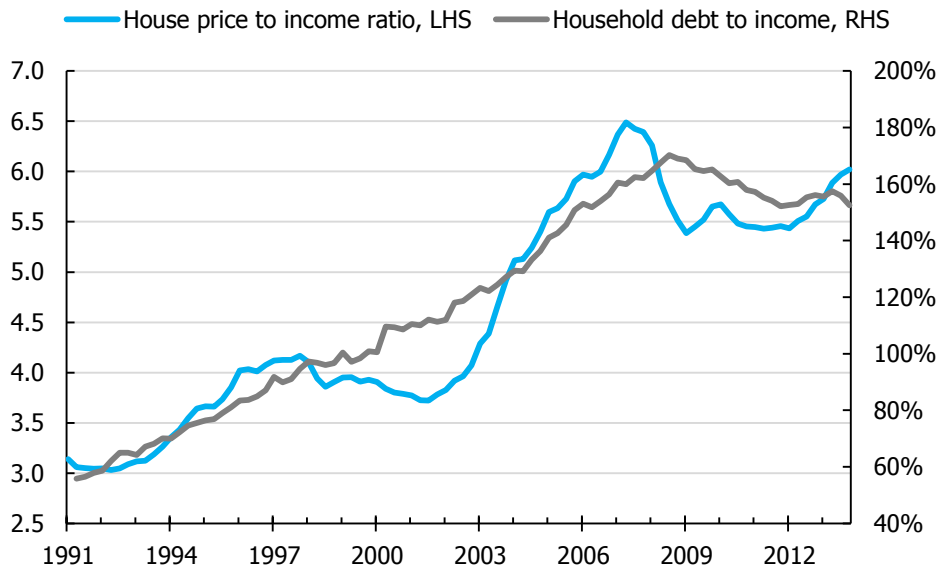
\$000s



Source: NZIER

Figure 13 Debt and house prices relative to income

% of income



Source: Statistics NZ, RBNZ, QVNZ, NZIER

The loosening of financial standards and rising household debt relative to income has happened over a long period of time. The increase in indebtedness has coincided with rising house prices relative to incomes. This suggests that increased household indebtedness has at least partly contributed to the increasing price of homes.

Restricting credit availability or an increase in credit costs could reduce these sources of pressure. However, we believe a more fundamental re-analysis of the banking sector is needed. Banks hold little investor equity capital – helped by rules that deem residential mortgages less risky. In this way the banking regulatory structure creates a preference for residential mortgage lending.

The Reserve Bank of New Zealand has responded to looser financial conditions by imposing macro-prudential requirements, including increasing capital requirements for banks, increasing funding requirements and restricting low deposit lending.

The RBNZ introduced low deposit lending restrictions in late 2013 – fearing that a renewed house price surge could pose risks to the financial system. This is a temporary measure and is likely to be unwound once house prices moderate.

Restricting low deposit mortgages will protect financially vulnerable buyers from a potential downturn in the housing market. But we prefer restrictions on high loan-to-income (LTI) mortgages. Restrictions on high loan-to-income mortgages directly address the key risk. It is not so much high house prices but the ability to service debt that threatens economic stability.

While macro-prudential tools can be helpful, we believe the RBNZ needs to take a broader view of economic risk emanating from the financial sector and increase the risk weights for housing, to reduce the regulatory lean towards mortgage lending relative to business lending.

5. Demand: Shelter vs investment

5.1. The need for shelter

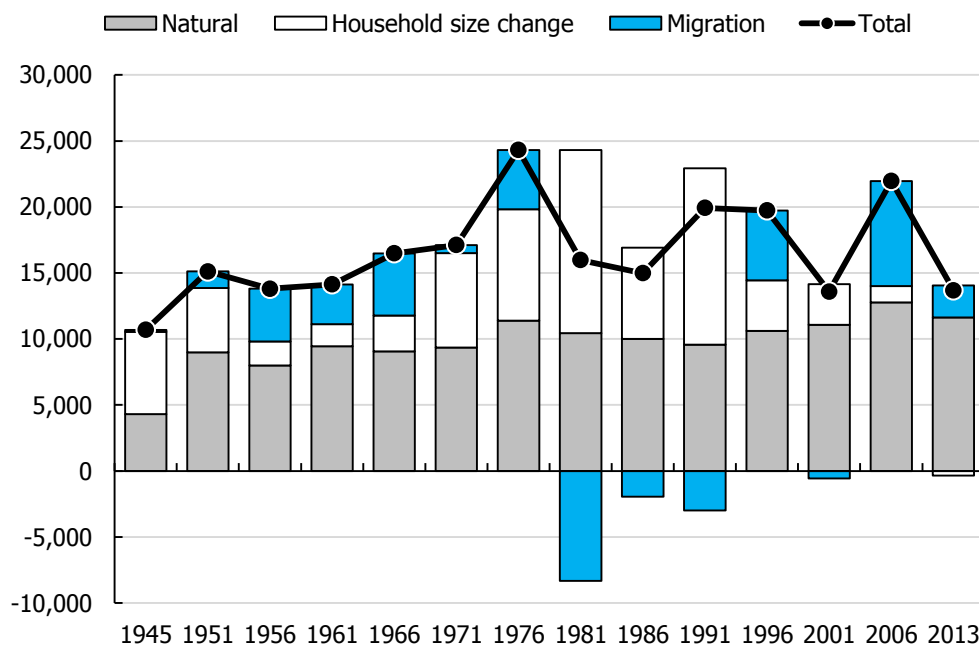
The bulk of housing demand comes from predictable natural population growth and household size change (Figure 14).

The variability or the cycle in population growth tends to come from immigration patterns. Migration flows can turn rapidly, but land and housing supply tends to be slower, which can create temporary house shortages (as in the 1990s) or surpluses in specific localities. This then tends to feed into pressure on house prices and rents alike.

Net migration has surged over the year to mid-2014. Net migration has accelerated from barely positive to nearly 37,000 people p.a. Two-thirds of the increase is due to fewer people leaving, and the rest is from returning Kiwis, more workers moving here, and more international students, in that order. Using the national average household size, this equates to around 13,500 additional homes. With the migration cycle, both the in- and out-flows matter for housing demand, and thus the necessary responsiveness of housing supply.

Figure 14 Sources of housing demand growth

Number of dwellings per year between censuses



Source: Statistics NZ (New Zealand Official Year Books), NZIER

5.2. The cause célèbre of home ownership

Home ownership is celebrated for a number of reasons. A Grattan Institute report³ cites a number of benefits:

- achievement and psychological reassurance by being part of the cultural norm
- reduced future housing costs through ownership (although this often ignores opportunity cost of funds tied up in houses)
- store of wealth for retirement and a safety net should they exhaust other wealth in retirement⁴
- security for borrowing, including for businesses. The cost of mortgages is usually much lower than for business borrowing
- greater stability of tenure thus improving social cohesion and civic participation.

Home ownership has some costs to home owners as well:

- concentrated exposure to one asset class with a significant amount of leverage / inability to diversify risks through other savings and investment
- typically less mobility than renters, meaning they may be less able to access employment opportunities elsewhere.

The evidence on the benefits and costs of home ownership are not equivocal. There is little evidence that other rich countries with low home ownership rates (Switzerland and Germany for example) have lower social cohesion or do less business investing, for example.

Nevertheless, there are strong *perceived* differences. In part, this perception is supported and magnified by rental arrangements.

5.3. Renting is a poor substitute

The cost of renting has remained broadly stable relative to income over many decades. But renting, particularly long-term renting, is often a poor substitute for home ownership. The rights and obligations are so different between renting and owning, that they may be considered different things.

The most relevant differences are:

- length of tenure
- freedom to customise the home for personal use (pets and minor alterations, for example).

Even though more New Zealanders are living in rented houses many are not able to enjoy the full benefits of having 'a home' because of the contractual and institutional arrangements for renting.

Renting and owning are both governed by contracts and institutional settings that define a person's rights and responsibilities. Many of the existing gaps between

³ Kelly (2013).

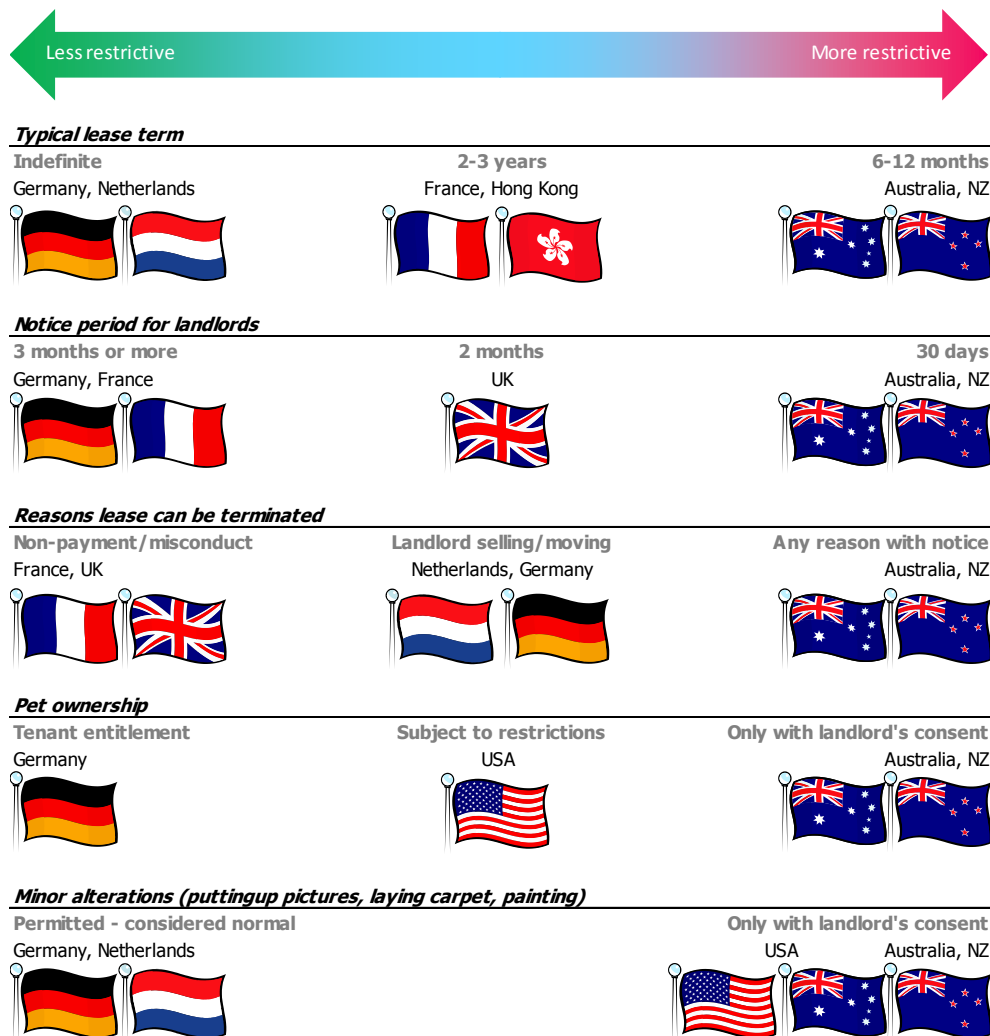
⁴ RBNZ figures show that as at December 2012 housing wealth made up 69% of household net wealth in New Zealand; <http://rbnz.govt.nz/statistics/tables/c18/> accessed 22 January 2014.

renting and ownership can be bridged, at least partly, through improved contractual arrangements.

Based on a sample of international comparisons by the Grattan Institute⁵, augmented by our analysis of New Zealand,⁶ Australia and New Zealand are some of the most 'restrictive' rental jurisdictions from the viewpoint of the renter. Lease terms are short, tenants can be asked to move with short notice, leases can be terminated on almost any condition as long as notice is given, and personal customisation is often difficult (pets, minor alterations, etc.).

Figure 15 Rental conditions in selected countries

Stylised rental settings



Source: Adapted from Kelly (2013)

⁵ Kelly (2013).

⁶ NZIER analysis.

These conditions provide protection for landlords and make it attractive (and feasible for small investors) to supply rentals. This suits specific segments of the market, but it is one reason why renting is different from owning.

By contrast, in countries like Germany and the Netherlands it is not uncommon for people to have long tenures and to refurbish their rented house or flat. These jurisdictions place high requirements on both tenants and landlords.

Until renting is a comparable option to owning – in terms of the design of rental contracts, professionalism of landlords and the various institutions related to renting – home ownership will continue to be seen as superior to renting.

5.4. Investor demand

Housing is a popular investment choice. Nearly 75% of all household assets are in housing (and net equity in housing is 69% of net wealth). There is little variety in financial investments. Another 15% is in bank deposits and the remainder is spread across equity, bond and other investments.

Investors favour housing for a number of reasons. Bank finance for housing is easy to access, there is a perception of 'safety' and tangibility, and New Zealand does not have an effective capital gains tax. Housing is seen as a low risk, highly leveraged and untaxed investment option.

In addition, New Zealand has long tradition of investing in houses and historically it has been a good investment. Financial market crises, like the share market crash of 1987, have turned off generations from investing in alternatives to housing.

It is thus not surprising that investors are a large portion of the market.

5.4.1. Who is buying?

Investment properties are increasingly common relative to family homes. The number of households grew by around 10,000 a year over the past decade. A third of these households lived in their own home and the other two thirds in rented homes.

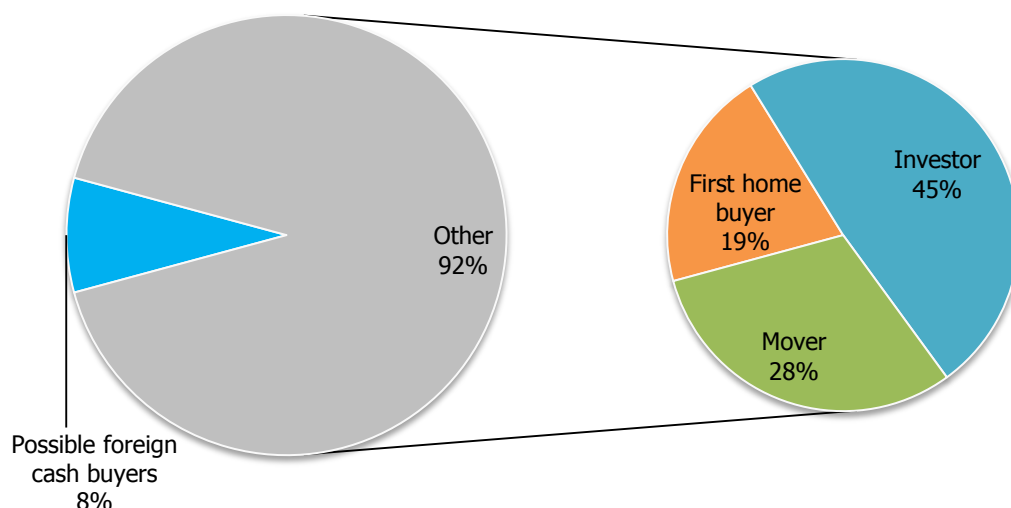
Transactions in the property market are dominated by investors and people moving to other homes. Investors account for 45% of annual transactions; 28% are people moving to other places and 19% are first home buyers. Other investors (including foreigners) account for the remaining 8% (Figure 16).

There is limited data on property investor characteristics. Nevertheless we observe that investors tend to employ a buy and hold strategy – consistent with retirement or long term investment motives. But they are accumulating stock, making investors a large part of the transaction market. Owner occupiers conversely tend to turn over houses more often – consistent with moving up the property ladder and with changes in life circumstances.

There is a fear that foreign investors are pushing up house prices in New Zealand. New Zealand does not have restrictions on foreign purchases of assets, except for very large assets and those that are deemed nationally sensitive (for example airports), which require Ministerial approval from the Overseas Investment Office. There is little official data as there are no legal requirements or restrictions.

Figure 16 Composition of transactions by type of purchaser

% of identified transactions, 2014



Source: NZIER analysis of custom data purchased from CoreLogic

Partial data suggest that fears of an influx of foreign investors are unfounded. The most commonly described foreign investor is someone who comes with a wad of cash or has borrowed large chunks of money offshore to buy a house in a posh suburb and leave it empty. The data simply do not support these anecdotal observations.

The data shows no obvious bulge in empty homes – indeed vacancy rates are not much higher than we would expect given economic circumstances. We also do not find evidence that the number of people buying houses without mortgages has changed much over time – based on an experimental dataset compiled from property transactions. Custom data we purchased from CoreLogic suggests that a maximum of 8% of houses are being purchased with cash only and other characteristics, which could include foreign purchasers.

Instead the typical purchaser appears to be a New Zealander investor (or a multiple property owner) who is after capital gains.

5.4.2. Required capital gains

The property transaction market (that is, houses that are bought and sold each year, rather than all homes) is heavily influenced by investors, as seen in Figure 16. The rental yields vary by region and investors' required rates of return can also vary. But we can infer the capital gains that investors expect by running scenarios of gross rental yield and required rates of return.

For example, Table 1 shows that, at the current national average gross rental yield of 4% and assuming a required rate of return on equity of 11% (the realised rate over the past 20 years), house purchasers are expecting capital gains of 8% per year in perpetuity. As different investors may have different costs of equity, we provide a range of estimates in Table 1. See also Appendix A.

In 2000-2007 house price inflation was similar to that level. But the pace was more sedate in previous decades, once high and volatile inflation is accounted for.

Sixty years of reliable house price data show real house price inflation of 2%-4% a year. The inflation premium should be 2%-2.5% (the RBNZ's target mid-point and historical average since the inflation targeting regime came into effect). So, historical precedent suggests a reasonable expectation of nominal capital gains is 4%-6.5% a year.

There is evidence that current house prices are embedding higher rates of capital gains expectations (7%-8% per year in perpetuity) than has been the experience over a long period of time (4%-6.5%pa).

Through the power of compounding, the difference between expectations of 4% or 8% capital gains per year are massive. At 8% a year capital gains, \$100,000 invested today would be \$4.7 million in 50 years' time. At 4% return, it would be \$711,000, or only 15% of the current amount an investor may be expecting. Given historical averages, the embedded capital gains expectations in current house prices are unsustainable.

Table 1 Capital gains expectations based on gross rental yield and required rate of return

% increase in house prices per year in perpetuity

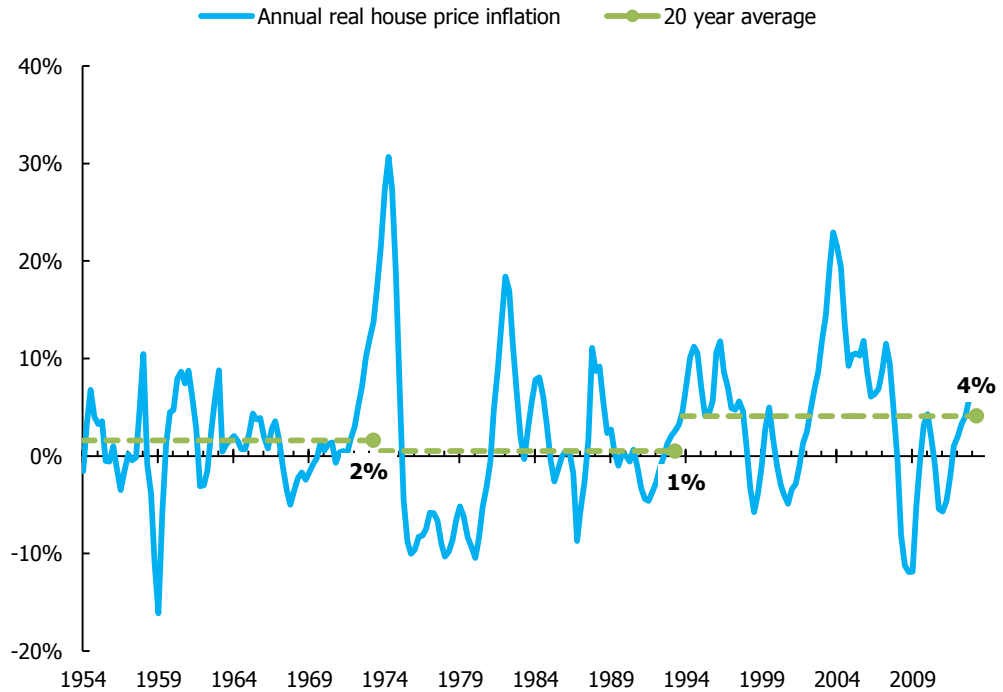
Gross rental yield ⁽¹⁾	Required rate of return ⁽²⁾								
	7%	8%	9%	10%	11%	12%	13%	14%	15%
0%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1%	6%	7%	8%	9%	10%	11%	12%	13%	14%
2%	5%	6%	7%	8%	9%	10%	11%	12%	13%
3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
4%	3%	4%	5%	6%	7%	8%	9%	10%	11%
5%	2%	3%	4%	5%	6%	7%	8%	9%	10%
6%	1%	2%	3%	4%	5%	6%	7%	8%	9%
7%	0%	1%	2%	3%	4%	5%	6%	7%	8%
8%	-1%	0%	1%	2%	3%	4%	5%	6%	7%
9%	-2%	-1%	0%	1%	2%	3%	4%	5%	6%
10%	-3%	-2%	-1%	0%	1%	2%	3%	4%	5%

Source: NZIER

Notes: 1. Gross rental yield = annual notional rent/average house price, does not include operation costs 2. Investors' required rate of return or the cost of equity

Figure 17 Real house price inflation

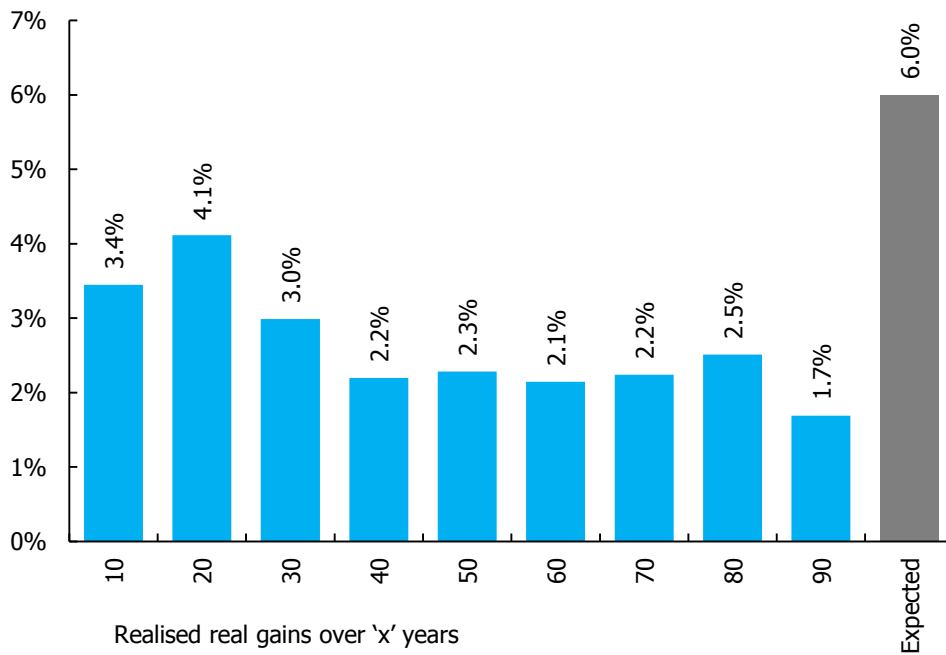
Real house price change, %



Source: QVNZ, RBNZ, Statistics NZ, NZIER

Figure 18 Real house price inflation over various time periods

Real house price inflation per year, %



Source: RBNZ, QVNZ, Statistics NZ, NZIER

5.4.3. Saving through houses

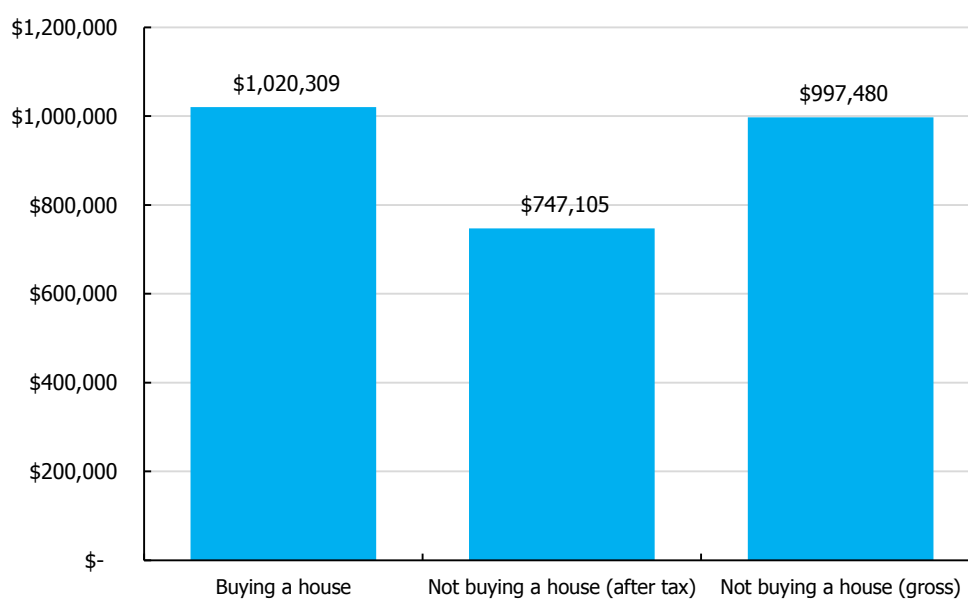
Saving through house ownership is a commonly cited reason for home ownership. However, with rents more or less flat and house prices up, rental yields are too low now to cover outgoings like mortgage payments, local authority rates, insurance, etc.

Figure 19 compares the equity position in 30 years' time of \$100,000 invested in equities or in a \$500,000 house, with a \$400,000 mortgage.

Using conservative assumptions, we estimate that households would be largely indifferent to saving through a house or in equities, except for the incidence of tax. Returns from equities are taxed, but while investment properties are taxed, turnover of owner occupied homes is not.

Figure 19 Saving through housing versus equities

Equity position in 30 years' time



Source: NZIER, based on the following assumptions:

Purchase price	\$ 500,000	Equity market return	4.5%	After tax in perpetuity
Deposit	\$ 100,000	House price inflation	4.5%	Per year in perpetuity
Debt	\$ 400,000	Deposit share	20%	Of house price
		Mortgage term	30	Years
		Interest rate	7.5%	Over life of mortgage
		Gross rental yield	4.5%	Of house price
		Rates, insurance, maintenance	1.5%	Of house price

Capital gains tax?

New Zealand is unusual in the OECD for not having a general or comprehensive capital gains tax (CGT), although specific capital gains are taxed, and some share and property gains are excluded.

CGT is sometimes suggested as a solution to dampening house price booms. But the evidence is not compelling: for example, Australia has had a record housing boom and it has CGT.

The rationale for a CGT would be to create an even tax setting, by applying taxes on all transactions in the economy: labour (income tax); consumption (goods and services tax); profit (corporate tax); and investment (CGT).

In principle, a CGT appears to broaden the tax base. Thus it could make for a more efficient tax system if additional revenue was used to lower other tax rates. In practice, a CGT often excludes the family home and is only applied to investment properties. And politicians who propose a CGT generally do not promise to use the revenue to reduce other taxes. Various other studies, including the Tax Working Group highlighted practical obstacles to a theoretically elegant tax and these issues have not yet been resolved.

Of course, current tax law already has the provision to tax gains from sales of houses purchased with intent to gain from capital gains. But this test is difficult to apply, as it requires judicial interpretation of how intent is defined.

6. Policy options

The community and policy-makers are rightly worried about very high house prices. They pose a number of economic and social risks.

This paper explains how complex the housing market is. This means there are no easy solutions.

Rather, we find a number of issues that justify the further investigation and assessment of a set of complementary policies:

- **make renting more attractive** – tenancy policy and agreements provide a lot of flexibility but this is a barrier to regarding renting as a substitute for owning. There are good examples of more balanced tenure and tenants' rights in the UK, Germany and Switzerland that support renting as a normal alternative
- **make land and house supply more responsive** – regulations and local politics, fuelled by nimby-ism, means greenfield development and intensification is not as responsive to demand as could be. But nimby-ism ignores the wider trade-offs. Auckland Council's chief economist recently noted that reduced regulations could be exchanged for greater local amenity, improved levels of service, financial compensation or some combination⁷
- **eliminate the property investment bias in banking** – current banking regulation does not fully recognise the systemic risk, and a higher capital requirement may be justified. The loan-to-value ratio requirement is an insufficiently targeted intervention
- **clarify the tax rules** – New Zealand already has taxes that apply to investment property, but their application is unclear and inconsistent. Clarifying the application will reduce the actual and perceived tax benefit of property investment
- **improve the data** – experimental title transactions data suggests that much of the turnover in the housing market is driven by investors and movers, not first home buyers or new entrants to the New Zealand market. There is little data available on the types of purchasers, which hinders evidence-based policy-making.

⁷ Reported in the New Zealand Herald, 10 July 2014, http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11290676.

Appendix A Embedded capital gains expectations

Dividend discount model [DDM]

The DDM states that the price of an asset (P) is the expected dividend (D) in the first year divided by the difference between cost of capital (r) and expected growth (g).

$$P = \frac{D}{r - g}$$

The DDM can be rearranged to show:

$$\frac{D}{P} = (r - g)$$

or

$$g = r - \frac{D}{P}$$

What we assume

From NZIER's analysis of realised returns over the past 20 years, the cost of equity for households is around 11%. Because an investment should be assessed over its life, we use a fixed rather than variable cost of capital in this context. We have provided a range in the document.

It is possible to also calculate a geared scenario, which requires a small adjustment to the yield calculation as well as the cost of capital. We consider this at the long term average mortgage rate of 7.5%, rather than the current historically low level of less than 6% as at January 2014.

We suggest using the ungeared estimates, as most households expect to pay off their mortgages, rather than retain some rate of 'terminal' or 'equilibrium' gearing in perpetuity (as businesses tend to do).

We assume home ownership has costs of 1% of property value per annum, accounting for rates, insurance and maintenance.

Appendix B References

Kelly, J-F., Hunter, J., Harrison, C., Donegan, P., 2013, Renovating Housing Policy, Grattan Institute, Melbourne.

Lees, K., 2014, Big city life? Challenges and trade-offs for Auckland city, NZIER Public Discussion Paper 2014/02.