The Mess We're In: Auckland's Housing Bubble from a Construction Sector Perspective.

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About this report

This report is one of an ongoing series on urgent contemporary policy issues in Aotearoa New Zealand. This series is action-oriented and solutions-focused with an objective of bringing academic research to bear on the economic, social and environmental challenges facing us today.

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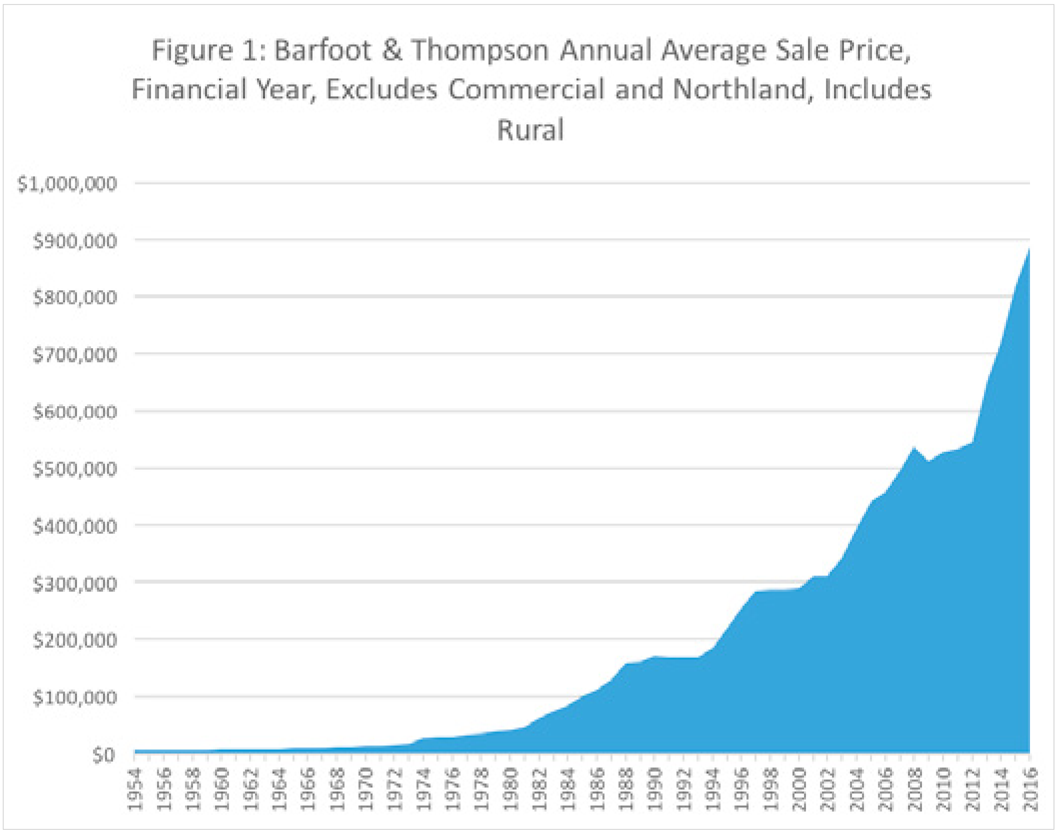
1: A Housing Bubble?

Facts are slippery things. They're open to interpretation. They're subject to review. They can both inform the creation of, and be affected by, policy and legislation. Most importantly, in the context of the political soundbite, they can be 'spun' to mean something that they are not. But the one thing they do not do is disappear just because we wish them away. The brutal reality is that facts neither care about your feelings or your politics. Not now and not ever.

So let's try some facts for size. The Auckland housing market is a bubble. It is very simple really.

What is a bubble? Essentially it is a state of affairs in which 'trade in an asset at a price or price range that strongly deviates from the corresponding asset's intrinsic value'.[1] At the moment the fundamentals of Auckland housing as a whole very much demonstrate that position. Mean household income in Auckland according to the last census in 2013 was $76,500. The census also showed that there are a fraction under 500,000 dwellings of all types in Auckland.[2] Mean property prices at the time of writing are around $900,000 (see Figure 1 below).[3] That gives Auckland housing an astounding $450 billion of notional capital value, as well as a greater than 10-times multiplier of median house prices over median household incomes.[4] If prices grew on average by 5 per cent per annum for the next 50 years that would equate to something around $5 trillion – or about one quarter of the United States' total deficit. Just tied up in Auckland real estate. Is this realistic and sustainable in a city of 1.5 million souls? No.



Source: Barfoot & Thompson Auckland data.

Another fact: this position will have to unwind one way or another. The proposition that any market can permanently sustain a decoupling of asset values from average incomes is just plain wrong.

There are two classic features that all bubbles share.[5] The first feature is that participants in the bubble market – primarily those profiting from capital appreciation of the bubble – will say that the fundamentals are different. They will say that this is 'strong sustainable growth reflecting value fundamentals', not a bubble. They will contend that the rules of economics have been rewritten. A 'new paradigm' has been established by 'forward thinking investors'.

Of course, as anyone who experienced the dot-com bubble of 1995–2000 will tell you, we have seen this behaviour before. Companies without distinct products, without proven business models and with little to compete over except a sexy name, vied to attract 'investor' – read 'speculator' – dollars. 'Cash burn' of investor money was seen as a good thing. Speculation drove stock prices. Feverish insider tips from pundits and investment experts recommended the next IPO and the likely profit. Fortunes were made. The real heavy hitters with clear business models and genuine prospects for success flew – and continue to fly: Amazon, Google, eBay and TradeMe.

All became household names with mass volumes of users and operating profits. However the more common situation was speculative losses almost overnight. Those that did not exit the market fast enough during 2000–2002 lost heavily as normal financial entropy reasserted itself. However the smart investors, who have the ability to create a market, knew that they could profit by supressing facts from the less smart investors of 'the herd'. Ultimately, the winners were the lawyers who engineered IPOs and stock splits, a handful of companies with real products to sell, and institutional investors who could stampede the herd to their own profit.

The second feature shared by all bubbles is that they burst. Every single one. Auckland housing will do just that. The question is whether the bubble decompression is gradual with a 'hiss' of released pressure, or explosive with a 'bang'. In reality we all know the truth. Can you honestly tell me that you do not struggle to suppress a laugh when you read the hyperbole of estate agents pushing their wares? Saying with a straight face that a damp, cold, mouldy house on an unkempt section in [insert your least favoured suburb] is a 'steal' at $1 million or has huge potential in an emerging family friendly location? The reality is that Occam's Razor is still alive and well within the minds of rational participants in the bubble market. In its simplest rendition, Occam's Razor proposes that, given two competing contentions, the contention with the fewest suppositions is most likely to be true. In this case, if an asset sounds ridiculously over valued compared to the typical buying power of the market, then it probably is. Is it really more likely that the rules of economics linking asset values to individual incomes have been permanently re-written in one small location in New Zealand? Or that something atypical is taking place in the market and normal entropy will reassert itself? Sadly Aucklanders with names currently on a sale and purchase agreement, signed a few years ago, are now vested in seeing the insanity continue and will talk accordingly.

One of the problems with bubble behaviour is that as a society we like to pretend the problem is not as desperate as it seems. Excuses are attempted to demonstrate that current behaviour is not the same as that of the last bubble in memory.[6] This creates a dynamic tension in the market between the clear winners ('It isn't that bad!') and losers ('It is worse than we've seen before!') in the speculation taking place around an asset subject to bubble-like behaviour in the economy. The voices of the winners remain the strongest for a substantial period of time, while the voices of the losers only gradually gain momentum, usually too slowly for significant rectification efforts to be implemented until beyond the event-horizon of collapse. Bubbles are hard to recognise in real time, only conclusively identified retrospectively. It is hard not to think that economics students will be rolling their eyes in decades to come at the repeated warnings and obvious signs in the catastrophic New Zealand housing bubble of the early 2000s: 'Those crazy fools. Couldn't they see it? It was all so obvious.' You can practically hear the knowledgeable academics and students bemoaning the stupidity of missing the blindingly obvious.

Based on the facts, then, we can see that we have a housing bubble as house prices increasingly exceed their fundamental value, that is, the income they generate as assets.[7] It is indeed a classic asset bubble by any measure. We know for a fact that it will burst eventually. But all those currently winning are loathe to recommend substantive change that will drive the market away from a winning position – or at least 'winning' as the beneficiaries see it.

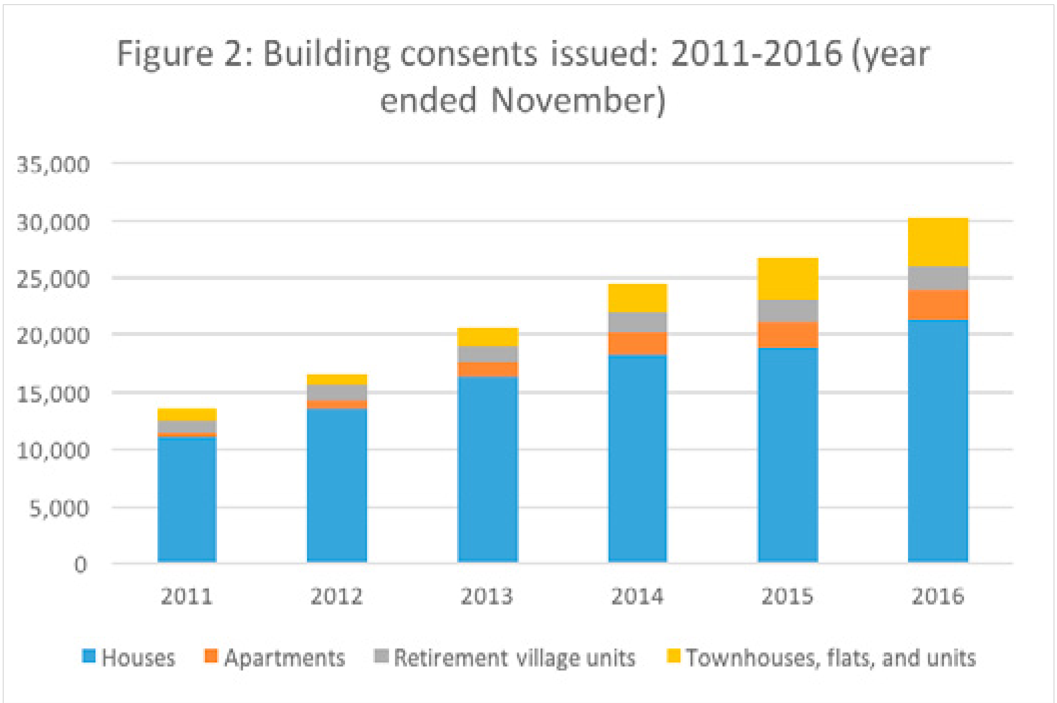
Ultimately, whatever the cause of the bubble, the only way to get out of this situation is by making more houses available for purchase by customers. So how to achieve this?

2: Reality of the Housing Market

Affordability has become a key campaigning issue adopted by government and opposition. We hear it consistently from New Zealand's various pundits, commentators and the political class. However the New Zealand affordability crisis is in reality based on the pricing of housing as a scarce commodity in an asset market, rather than a pricing being linked closely to the cost of producing the product *per se*.

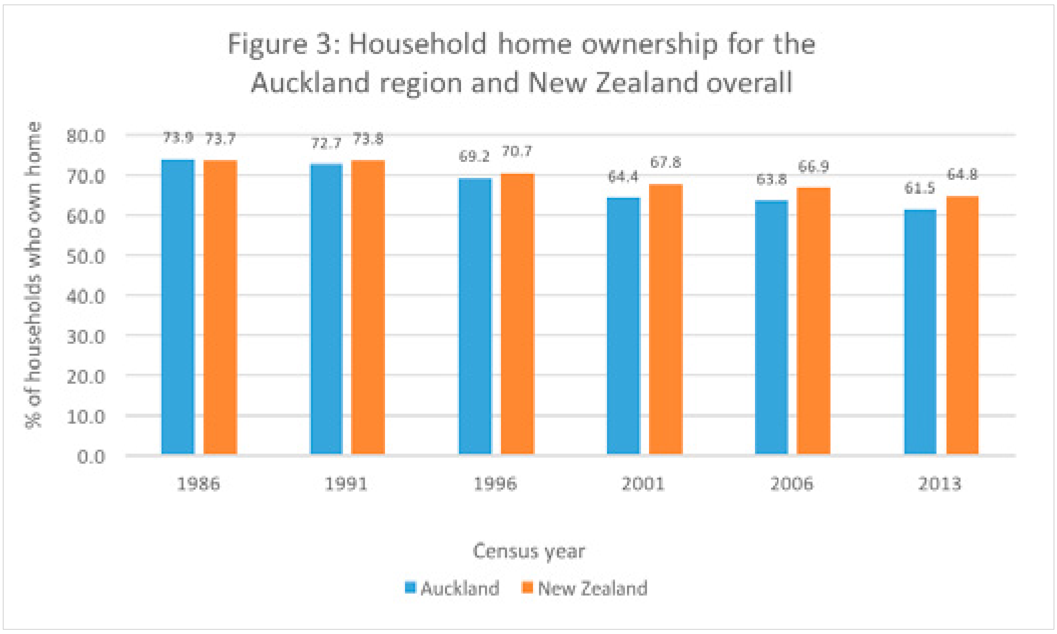
Property market commentators and strategists in recent years have repeatedly indicated a scarcity of houses for sale in the 'affordable' bracket. This led to the Auckland Housing Accord and its frequently updated monitoring reports.[8] Apparent scarcity increases the febrile atmosphere and drives up tender and auction prices, as well as the frequency of auctions as the preferred mechanism of sale. Indeed real estate insiders over recent years have been particularly bullish in advocating the efficacy of auctions in the Auckland market, especially in light of feverish demand. While auctions nationally represent around 25 per cent of total sales, in Auckland it is closer to 60 per cent.[9] The recent slowdown in the Auckland market has meant that auctions are increasingly ineffective, to the surprise of many.[10] But how large is the housing deficit for the Auckland population? Is homelessness now within the mainstream experience of families? Reports from media indicate some families living in cars in short term emergency circumstances;[11] and troubling reports of overcrowding and use of garages and sleepouts as permanent accommodation.[12]

In reality the demand for dwellings in New Zealand and Auckland in particular is not quite so clear cut when we look at expansion, numbers and expectations. Over the past eight years since the Global Financial Crisis, the net migration gain in New Zealand has increased from around 15,000 to 69,000 in 2016.[13] Most head to Auckland, the remainder to the regions. As recently as December 2016 migrants settling in Auckland has been estimated at close to 40,000 annually.[14] This number has been broadly matched by the increase in building consents in Auckland and nationally. Statistics NZ shows a consistent rise in monthly consents from around 1,000 approvals in March 2011 to nearly 3,000 approvals in November 2016.[15] This equates to a rise in dwelling completions of about 30,000 per year (see Figure 2 below) nationally with around 12,000 per annum reported in Auckland.[16] This is close to the estimate of housing needed to cope with increased population coming from all sources – assuming not all incomers live alone. The upward pressure on house prices is admittedly not helped by immigration, but immigration is not the crux of the problem. It is a neat polemical explanation that can be rolled out to blame 'others' while diverting blame from our own behaviour. The bulk of the demand is coming from internal New Zealand sources.



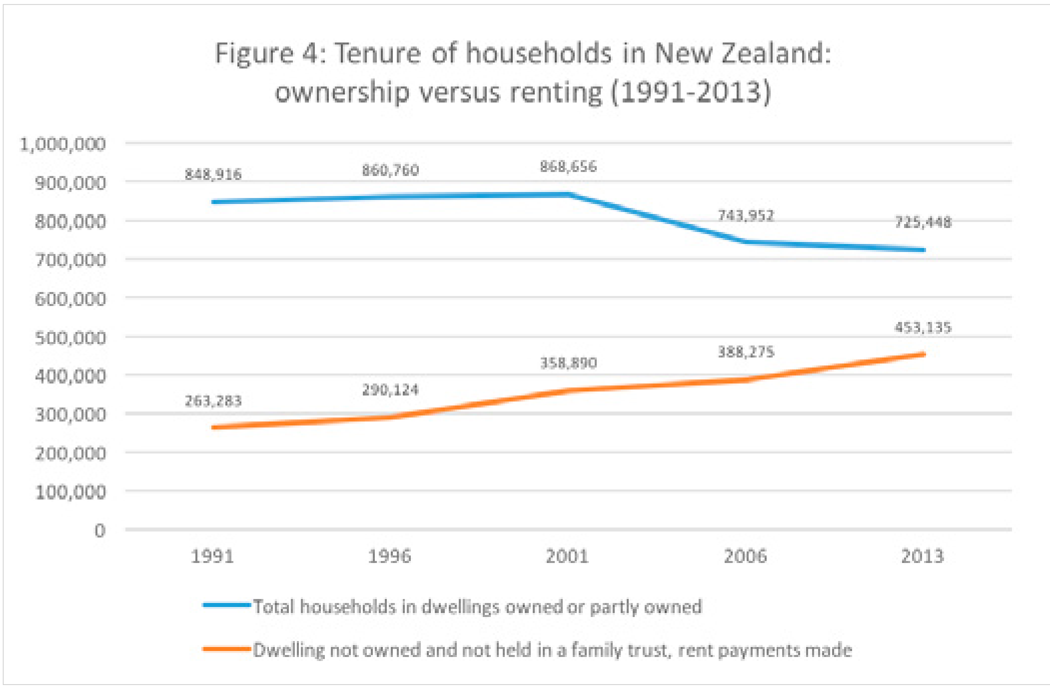
Source: Statistics NZ: Building Consents Issued: November 2016 (published 19th January 2017).

We can see that numbers of dwellings have gone up broadly in line with the increase in the population from immigration and other sources. The true source of the problem we currently have is expectations of lifestyle, space and personal wealth. In recent years there has been a dramatic shift in the make-up of the population in Auckland. An increase in the proportion of renters as opposed to owner occupiers in the market is the most obvious trend. The 2013 rate of 61.5 per cent owner occupancy is substantially down from 73.9 per cent in the 1986 census (see Figure 3 below).[17] This is the direct result of the rise of property investment, of buy-to-let, as the principle retirement funding mechanism for many.



Source: Statistics NZ: Dwelling and tenure type tables for Auckland from 2013 Census (updated 15 July 2015).

Property investment in New Zealand is an extremely cost- and tax-efficient mechanism for those with the means to expand their capital holdings by leveraging increased asset values to fund further acquisitions. We are bombarded by adverts daily for 'investment professionals' to advise on procuring buy-to-let investments. That said, it is not a difficult proposition to make money on property investments in a rising market, irrespective of the advice given. Thus property speculation is what is fundamentally affecting prices and values in the market at present. Investors with significant equity can leverage further purchases. This forces the market still higher, generating more equity for those on the ladder. A classic spiral. Alongside this, in the Auckland market in particular, the numbers of renters has steadily increased as a proportion of all dwelling over the years (see Figure 4 below). The expense of renting has led to the inability of many – so-called 'generation rent' – to save sufficient capital to form a deposit for dwelling purchase (see Figure 5 below).



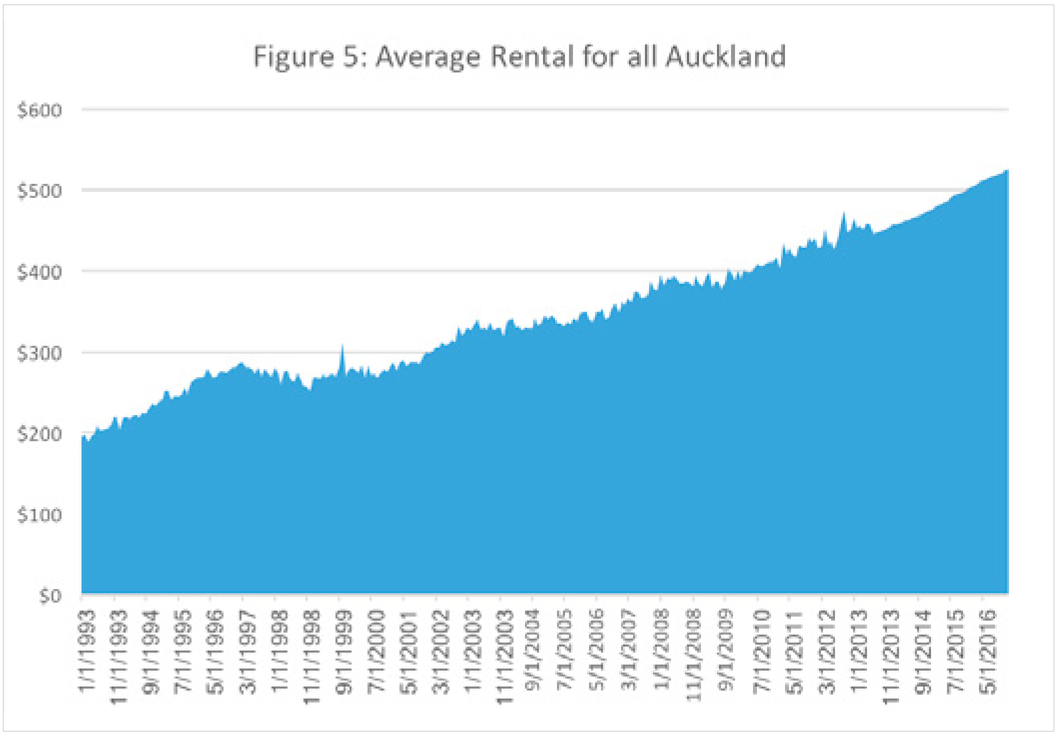
Source: Statistics NZ: 2013 Census QuickStats about housing (updated 30 April 2014).

Circa 2005–2006, as readers may recall, the housing market was dubbed 'unsustainable' and a 'dangerous bubble'. Nevertheless, six years later, following the Global Financial Crisis, we are in a very different place, if anything a worse place. The government response to the Global Financial Crisis was to put downward pressure on interest rates. That made expensive mortgages cheap and thus spurred house price growth. Interest rate reduction did little to stem job losses and business closures. But this had a major effect on house price inflation, sending both Auckland's – and to a lesser extent Christchurch's – house values to stratospheric levels. Indeed, in spite of recent house price growth, affordability – which is a measure of income versus housing expenditure – has changed little since the peak of the Global Financial Crisis, because interest rates have gone down.[18]

Interestingly, Auckland has little-to-nothing to do with the housing market in the rest of the country. Securing a modest starter home in Greymouth with an affordable mortgage? No problem. How about a large residence close to the CBD and shopping in Wellington at the seat of government? Very reasonable in spite of the effects of the resident political and governmental employers paying good salaries. But the wider media contains articles on a daily basis about how young, low income, critical worker families find it impossible to buy a home in our largest city. The imposition of a 20 per cent loan-to-value ratio (LVR) on mortgages to dampen demand has apparently made the difficult task of getting on the housing ladder yet more unobtainable. Generating sufficient savings to put a deposit on a home is becoming seen as unachievable.

More recently, as the market in Auckland has moved beyond the reach of middle and lower income families, it has widely reported that the 'Auckland effect' has started to impact prices in the regions. Cities such as Wellington, Tauranga and Hamilton have seen significant increases in median house prices. Mostly this is associated with Auckland-based buyers establishing themselves on the housing ladder more rapidly than by saving for the huge deposits necessary for an Auckland purchase. Typical median pricing around Auckland is around $1 million, depending on the suburb,[19] necessitating up to $300,000 as a deposit for new entrants into the housing market. Comparatively speaking the housing values demonstrated outside Auckland are modest in comparison.[20]

So are we in a bubble? Yes we are in a bubble. No question. And within the pantheon of the potentially guilty, property investors (or more correctly speculators) are the prime suspects for future prosecution. The reality of the situation is that this property bubble, with its accompanying lack of housing affordability, is also a tax efficient, cost efficient investment opportunity for those citizens and investors with surplus resources. What other investment products have capital from interest and inflation growth of close to 10 per cent per annum?



Source: Barfoot & Thompson (note that the database changed in mid-2013, hence the reduced variability).

3: Productivity and Builder Behaviour

Prior to the most recent spasm of the housing affordability crisis in Auckland from 2012–2016, productivity initiatives were the *agenda du jour* that drove behaviour and new initiatives in the construction industry.[21] Both government and the media waded into this conversation. There's been plenty of blame thrown around, especially toward the building industry, on account of construction process costs,[22] planning,[23] materials costs,[24] productivity, skills,[25] regulatory framework [26] and materials importation.[27] These issues are the usual suspects when discussion moves to issues of systemic construction problems. Huge efforts were made in targeting and addressing these increasingly granular issues for the construction sector. As a result, ever more verbose explanations of the problem have been brought to the public.[28] Sadly we are in danger of producing the most precisely located shipwreck in the ocean of house-building history.

Irrespective of the policy issues and quick-fix solutions raised, the problem for housing construction is actually quite simple. As citizens of this country, we all recognise the basic rules of the economic game, even if we don't agree with them. New Zealand operates as a free market, capitalist economy. We have buying decisions. We can accumulate wealth or spend it on what we wish. Home ownership is encouraged. Owner-occupancy is heralded as a cornerstone of settled and civilised society. However it is not compelled. You do not have to own a house. It is a choice. You do not have to own multiple dwellings. This too is a choice. The 'Kiwi dream' is well recognised and understood. A freestanding family home on a 'quarter acre of heaven' remains the popular aspiration, to the extent that it is still erroneously perceived as a universal norm. But this model of ownership is not one that pertains in most other countries. Apartment living is the norm. Nevertheless, the choice many New Zealanders seek to make is that of a large property with some land. That aspirational choice is what now needs to be forced or encouraged to change.

Yet the choices of society and investors are not the whole story. The industrial flip-side of market choices is significant. Just because a producer can produce more of its principal products, no one can compel higher production. In other words, *you can't force a commercial operation to take on more business than it wishes to cope with*. The producers in the construction sector – the builders, contractors, developers and so on – want to have a life as well. They want to go on holiday, to go fishing, to leave time for all the lifestyle choices that New Zealand is famous for. You cannot compel a commercial entity to accept more procedural, long-term and short-term risk than it wishes to bear. A critical point for all older builders is that, within living memory, they have experienced major housing booms and busts. So they will only take on as much work that allows them to continue to reliably earn a living, without taking on board any supplementary risk. If they were to build at a rate that forces down unit costs of houses, then they would effectively be building themselves out of a job.

What about the rate of productivity in the construction sector? As NZIER has argued extensively, construction has historically had very poor productivity growth.[29] According to commentators in general and government in particular, this is a major driver of housing (un)affordability. Rubbish. The reality is that productivity is not synonymous with affordability – and never will be. Productivity is only relevant to affordability if a builder passes on the productivity savings to the customer directly. Otherwise, increased productivity will actually only increase the profitability of construction companies. Is it economically rational for builders to pass on all savings to a purchaser? Of course not. Conversely, if a builder can sell a house at a high price in a hot market, is there any reason for them to pass on the savings? Business is not the same as a charity, particularly for builders. This is another of those inconvenient facts: productivity is an input parameter that helps constructors to improve or maintain their margins, but it does not necessarily affect affordability.

4: Land Supply

The same myopia clouds the issue of land availability.

Just like for productivity gains, land availability is an input parameter for housing affordability, not an output parameter. Although the process of converting bare land to a completed house is relatively simple to understand, there are very clear decision points and value additions that drive the sequence to ultimately deliver a house.

Bare land has value as farmland, but the cost and rate of return is low from $5,000 per hectare to $205,000 per hectare for horticultural uses.[30] However once the land has been flagged for house construction, value per hectare dramatically increases (depending on location). Once buried infrastructure such as drainage, power and water are in place, the value increases to around $10-16 million per hectare in Auckland (based on current sections for sale in Pukekohe and Riverhead as examples).[31] By comparison, construction is a very small element of the price escalation.

At each stage within that process there is always a strong urge to do nothing with the land, to spend no further money and allow appreciation to take place with zero further capital exposure. As soon as work starts on the ground for improvement and infrastructural additions, this represents attributed costs to the owner. It also increases the absolute need to ensure that any onwards sale more than covers the capital expenditure on improvements. This is the very simple reason for why Auckland has seen multiple special housing areas (SHAs) announced that, after years of development, have relatively few developed houses in place. Each year developers put in place infrastructure for just those properties that they know they can sell, plus maintain a market for the future. Most SHAs currently in operation release about 10–15 per cent of the total number of titles, thus sustaining the value of the sections that would otherwise collapse if sections were 'dumped' onto the market.

Simply put, acquisition takes place when profitable onward sale to developers can be guaranteed. Land and infrastructure development takes place when profitable onward sale to speculative builders (or private buyers) can be guaranteed. Speculative builders commit to build only when clients have committed funds to initiate the building process. Speculative builders can only realistically mobilise to a site once the buyers have committed to build the most expensive houses that a builder has on standard drawings (or alternatively bespoke designs).

The unpalatable fact is that government and council can 'free up' as much Crown land as they like, and reduce planning controls through the Auckland Unitary Plan.[32] For argument's sake, let's double the total number of dwellings allowable to around one-million in Auckland (the number is irrelevant in the final analysis). Consents are rarely time bound – given the so-called 'use it or lose it' clauses in consents – but just because a builder or owner gains a consent for a section, they are not uniformly compelled to exercise that consent. By purchasing the consent, land developers or speculators add to the residual value for on-selling at a profit. If a 'use it or lose it' clause is introduced, the cost of gaining consents is an order of magnitude less (from $10,000–30,000 for a combination of resource and building consents on a dwelling) than the annual inflation we have seen in section values over recent years, typically an average of between 10 and 15 per cent per annum.[33]

Think of it this way: land is just one type of 'material' in the construction process, just one factor of production. It is obviously important, but availability of material does not in itself imply higher rates of production. Imagine Toyota got an additional million tonnes of sheet steel dumped outside one of their factories at zero cost. Toyota may up their production to a point, up to the optimum rate of the factory. But their brand is quality focused, so they are not likely to want to undersell their brand. Are they likely to build a new factory because some cheap materials are available in the short term? Probably not – unless this newly available factor of production can be guaranteed. This is analogous to the current situation with regard to land in Auckland. The industry has finite capacity, is fearful of a bust period and is planning for the future – hence the apparent volume constipation.

In any case, merely making more land available for development by selling Crown land, or permitting subdivisions, or easing green belt restrictions, will not radically change the market. Because no one is compelling land acquisition; no one is compelling development; no one is forcing builders to build. The market cannot be forced to operate at a loss, or at a rate of production it does not wish to operate at. Ergo, the consequence will be very limited increases in total output – in this case, constructed houses.

The only way to increase the total number of houses constructed on newly available land is to compel its rapid development ahead of the market. Anything less simply allows the market to settle at an equilibrium that sustains prices and values at the limit of what is supportable by the general public. What that translates to, in reality, is that government needs to compel industry through the profit motive and economies of scale as they have done so in the past; specifically, by building council- or co-owned housing for low income households.

5: Builder's Costs

There are some caveats to the discussion so far.

Larger houses are more expensive to build because their costs increase lineally – that is, on a wall-by-wall basis. However, as houses increase in wall lengths, their floor area increases at a square function and their total volume increases on a cubic function. Therefore, the costly fixed elements of expenditure – scaffolding, corner structures windows, and so on – form a lesser component of the overall costs. Thus, a bigger floor area house can be constructed for a lower unit rate (typically around $2,000/m2 for a 250m2 home) at a greater profitability level for a developer than a smaller, supposedly 'affordable' house (typically around $3,000/m2 for a 120m2 home).

In other words, the economics of construction perversely compel speculative builders to build the largest, most expensive houses possible. Even more perversely, those same economics drive builders to construct low-density housing: single storey, stand-alone properties that require less scaffolding and structures to support multi-floor patterns. Similarly, regular members of the public who seek to build their own house are incentivised to construct the largest house possible on their land, since residual values are increased in the longer term and the unit cost per square metre added is relatively low compared to 'affordable' housing.

Builders have historically been at the bottom of the profitability pile, averaging around 6–7 per cent profit margins with relatively high risk profiles and business mortality compared to other sectors of the economy.[34] It is therefore no surprise at all – given the free market economic context – that all of the 'affordable' new dwellings in the much vaunted SHAs are not actually being constructed – to the point that they are being rescheduled for 'normal', less affordable housing. Cheaper housing in less desirable areas – such as Otara – is simply not as profitable for builders and therefore not prioritised. It has been alleged that affordable homes in SHAs are converted into the de facto land bank of developers.[35]

Another mechanism being touted for reducing builder costs is prefabricated housing.[36] However, the history of the New Zealand construction industry has been strewn with various attempts to improve productivity and reduce costs through the introduction of building systems and prefabrication. Unfortunately the lack of scale inherent in our tiny market reduces the total adoption. The net effect is that a minimal amount of new technology and systems are introduced, meaning that builder profitability stays low. This lack of profitability and scale further discourages investment into new technology. One final disincentive is the pervasively negative view that prefabricated building is cheap, shonky and relatively low value compared to the bespoke, low productivity housing that is the norm across the sector.

In sum, we have the ideal conditions for a self-reinforcing status quo, even though we have an industry that is crying out for increased cost-effectiveness, better quality, and faster construction rates. If there was ever a market for a guidebook on how not to do it, the New Zealand construction market in general – and housing market in particular – has a great story to tell.

6: Attitudes and Understanding of General Public

At the heart of affordability is knowledge – or lack of it – among the general public.

The public are relatively poorly informed about the construction industry, its technicalities, and the fundamental issues that drive housing unaffordability. The public acquires its perceptions from personal understanding, from the media, and from politicians (translated by the media). Given that politicians respond to both public opinion and the media, it is not surprising that they project polemics.

A widely held myth is that house prices – which is actually the price of the house plus the land – are synonymous with construction cost. Since house prices are very high in spite of more land being made available and more construction taking place, the construction industry is perceived to be inefficient. Industry costs are seen as too high. Since big construction companies and developers are involved, they are seen to be exploiting the public, to be using their market position and power to take advantage of the Kiwi battler. Profits are too high, taken from the poorest in society.

Right? Wrong. This myth is dangerously simplistic and an easy sell for politicians to voters who can't see how they'll ever get a piece of the Kiwi dream.

Think a little harder. Do we actually see any of the large materials manufacturers and builders making astronomic profits in the housing sector? The performance of these companies in the NZX does not show it. Are overseas corporations buying into our construction gravy train? Not so much. New Zealand is actually seen as a tiny market globally, prone to boom and bust, with mobilisation costs too high to warrant long-term commitment.

New Zealand is a nation with a total population of 4.6 million, about the same as the city of Sydney, Australia. But that tiny population is spread over a set of islands slightly larger than the land area of the United Kingdom, about 260,000 km2. Economically, we suffer from the tyranny of distance on multiple levels. In the first instance, New Zealand is far from other sources of labour, suppliers and markets. In addition, there is a tyranny of distance within our own economy between our major population centres, which adds costs and reduces the efficiency of our industries. Unfortunately, our population has developed world-standard expectations in terms of value for money and productivity, without considering the inherent structural inefficiencies of our economy. Consider a comparison with Sydney: over four-million people whose requirements for construction are serviced by some 420 builders' merchants. By contrast, New Zealand has a similar population yet over 800 builders' merchants spread from Kaitaia to Bluff. Yet still we wonder why our materials costs and overheads are higher by comparison with Australia.

The public also conflates three issues:

- *cost-to-build* – this is the going rate for construction of a property based on the floor area and finish standard if the customer is commissioning and paying for the build themselves, but does not incorporate land cost;

- *price-to-purchase* – this is the amount of money a customer will pay for a property if the they purchase the property from the developer (incorporating the developer margin and the cost of land);

- *property value* – this is the current value of the property in the market place if it goes to sale today (usually including real-estate agent fees). In a market, this is the true value of a property.

This is a common source of confusion and worth clarifying. Currently around 30,000 consents are issued annually for constructing new dwellings in New Zealand (see Figure 1). This is a 1–2 per cent increase on the total number of dwellings already in New Zealand, around 1.7 million. But how is the price and value of each of these new dwellings evaluated at the point of purchase? The cost-to-build for an individual dwelling is almost irrelevant to its property value, which is instead determined by this simple question: what are other similar properties selling for? The price of each discrete property is based on the property value of the residual 98+ per cent of the housing stock.

Take, for example, the total cost-to-build of a 200m2 building in Devonport, which includes the costs of the consents, materials and labour. Now compare this to the total costs of an identical building in Otara. The cost-to-build would be much the same, yet the property value, the value of the dwelling in the marketplace, might be five times higher in Devonport, perhaps as much as $4 million. Land price in the area is a highly significant influence on total property value in this case. Consider trying to sell a $4 million house of any type in Otara in the current market. The cost, the price and the value are not synonymous. Now consider a 1920s villa constructed in Devonport. What was the cost-to-build at the time, even adjusted for notional inflation and revaluation of currency? The villa would have been constructed for just a few thousands of dollars (or pounds). But what is the property value based on current market conditions? This is likely to be several millions of dollars even though it is built to standards of quality and insulation that are very different to today's.

The principle determinant of current property value (i.e. the true value) is the land the property sits on in this case. In effect we need to view a house as a commodity subject to supply and demand fluctuation over time, much like the milk solids value that New Zealand consistently views as an indicator of potential economic success. Traders in the market buy or sell the commodity on perceptions of availability of supply, future demand, and ability to resell with a margin. The cost to produce in this situation is only loosely related to the value of the commodity in the market. Just ask any dairy farmer whether the real costs of production are factored into the price per kilo of milk solids. Housing is much the same. The commodity value of the property at the time of sale is a product of a basket of utilities embodied in the property including, inter alia, availability, desirability, value growth potential, proximity to amenities, proximity to city centre, availability of credit, quality of nearby properties, local school rankings, and so on. Accordingly, property value is largely independent of the cost of materials used to construct it. As the government attempts to reduce the input costs through land availability, this will ultimately have minimal effect on housing affordability because of the residual values that the vast majority of the population are keen on maintaining: home owners are invested in preserving or increasing the value of their properties; similarly the practices of land development and industry norms will act to maintain the status quo if possible. What counts for affordability is ultimately the output parameter of the construction process. What is the output parameter? The property value of houses (not cost-to-build or price-of-purchase) in the Auckland market in particular, as well as more broadly in New Zealand.

What is politically difficult to accept is simple to state. Improving housing affordability equates to reducing housing values. Period. We cannot leave it to the market to sort out the problem, because the market will always act as the market does. As we have seen, developers will always seek first to develop the land in the most expensive suburbs with the highest demand. Builders will seek to build large, low-density houses with the highest profit margins and lowest overhead costs. House buyers will always seek to maximise the size of house on a section to maximise value for money and residual value for on-sale. Inhabitants of popular suburbs will seek to limit the numbers of new developments in order to maintain residual house values as high as possible. To summarise, all the key factors in play in the housing market are stacked in favour of the status quo and the maintenance of very high valuations on property.

It would take an especially socially responsible person to voluntarily support a substantial reduction in the value of the largest single asset they own for the greater good of society. Given that such people are likely to be rare, do politicians plan to take such a position? Probably not. Politicians of all parties will cite affordability as 'urgent', as being 'of critical importance to society', and indeed 'something to be actioned' immediately – but ultimately all of these things are best to happen somewhere else, outside their own constituency. Urban densification and de-gentrification as poorer families move into historically expensive suburbs are not attractive to existing residents as valuations flatline or decline. Politicians making these sorts of commitments to densification and intensification – even in a safe seat – is unlikely, akin to turkeys voting for Christmas.

It is therefore no surprise to see that the Auckland Unitary Plan has expedited government policy for expanding land availability and intensification. The touch of genius politically is that local politicians, rather than national politicians, take the blame for change and suffer the reactionary electoral effect. The touch of tragedy, as already argued, is that these reforms can't entirely solve the problem they attempt to fix.

7: Where to Next?

The fact is that, on housing, we are in a mess. A huge mess. The bubble is inflating further and, as a society, we are – for entirely rational reasons – continuing the behaviours that created it. To quote Albert Einstein: "We cannot solve our problems with the same thinking we used when we created them". The solution to this mess is inevitably governmental policy that compels market behaviour. We cannot leave matters to the free market and then continue to be stunned by the inconvenient fact that the market acts in its own best interests. Developers, builders, house buyers and the public all act for their own best interests. These stakeholders will not act as charities, *pro bono publico*. To think otherwise is naïve in the extreme.

Generally speaking, we have close to the appropriate numbers of dwellings both in Auckland and nationally to house our population. The rate of housing construction is broadly in line with our expanding population. The problem is not in the domain of housing quantity per se, but in that of housing ownership in the short to medium term. More people want to own a house – either to live in or as a capital accumulating investment – than there are houses available for sale. Perversely the principle purchasers in the market already own properties and are using the leverage offered by equity in existing property holdings to facilitate further purchases. This artificial scarcity is what is behind the asset bubble that Auckland housing currently demonstrates.

The effect nationally is apparent in the form of a 35-year decline in owner-occupancy, with 64 per cent of housing as owner-occupied in 2015 compared to 74 per cent in 1991.[37] This is especially manifest in Auckland – sitting as it does in the area of highest population and economic activity growth – is particularly dramatic. Home ownership in parts of Auckland like Otara are reportedly as low as 38 per cent.[38] This coverage generates scarcity and panic buying behaviours, which further exacerbate the problem.[39] Accordingly, much of the current problems can be addressed by changing the current paradigm of housing investment and ownership. We collectively need to align the people who wish to own properties with the properties that we currently have in the economy. What does that mean? We can significantly boost house availability (thus affordability) through policy measures that manipulate the housing commodity market. This can be done by building large numbers of state-owned properties not subject to the housing commodity fluctuation.

A meaningful response to the housing bubble will have two things at hand: sticks and carrots. Starting with the sticks, there are various ways to take pressure out of the market by disincentivising property speculation and the buy-to-let model for additional property acquisition. Typical methods adopted by governments around the world include a capital gains tax that could be incremented according to the number of properties held. However we need to focus on the broader solution of delivering large numbers of properties outside of the normal market delivery rate. In other words, we need to get ahead of existing demand, which is currently attenuated by the drip-feeding of properties into the market to maintain values.

The obvious strategy would be commissioning substantial numbers of state homes, or co-owned homes, that adopt a model similar to the UK Housing Association. The economic mechanism for this type of project would be a time-bound requirement to deliver a fixed number of homes within a specific time, possibly using a public-private partnership for both delivery and maintenance of the asset. Such a deliberately created surplus of housing introduced ahead of normal market supply would force down rents in the buy-to-let property market throughout the city. This in turn would reduce rental yields and make rental property ownership substantially less cost-effective. Reducing rental yields would make such investments far less attractive to property speculators and significantly increase the cost of capital servicing to these purchasers. A similar effect could be produced by introducing caps on the total number of property holdings that an individual or trust could possess, which would compel the sale of surpluses. These are all significant sticks with which to persuade the market to be more realistic in terms of holdings and thereby influence the critical metric of affordability.

However the very opposite has been occurring. For years, policy makers have chosen to sell state houses and drive down the country's total number of social housing places, thereby transferring residents of state homes to the private sector. Perversely, the government has also provided accommodation supplements for beneficiaries to help pay for commercial rents, thereby sustaining high rental yields and making buy-to-let ownership more attractive still. Despite this, there is still strong electoral resistance to a capital gains tax, and the imposition of property holding limits would be hugely difficult to enforce.

A more sophisticated alternative to the sticks approach is to hold a carrot in the other hand – that is, to adopt incentives that encourage buy-to-let landlords to sell their properties in the short term, while at the same time disincentivising them from buying back for the same purpose. The ideal effect would be to 'vire' properties from the rental property sector to the owner occupancy sector – that is, to transfer them from one account to another. One strategy would be to use tax law and capital gains protection (assuming the prior introduction of a capital gains tax) as an incentive to sell rental properties into the owner-occupier sector. For example, allowing one-off investment of capital gain on rental property sale to enter tax free into a Kiwisaver account. This would have the effect of freeing up more property and capitalising the NZX for future investment in the economy.

Come what may, the mess we are in is not one that will succumb easily to policy impositions. There are no easy options. The cruel fact is that the bubble is growing and extant. It will correct itself – no doubt about it. The correction will come in one of two ways. If the correction is violent it will most likely come from either a global credit crunch along the lines of a second Global Financial Crisis, or locally in the form of a significant national calamity. Alternatively the correction will come accompanied by the flatline hiss of the stagflation: zero or minimal capital growth for years while inflation eats away at underlying values. The economics of a bubble means that normal entropy will eventually reassert itself. Indeed this was predicted by the author in 2015.[40] At the time of writing, the preliminary signs of a stagflation effect have appeared in the Auckland and Hamilton markets.[41] Perversely doing nothing is actually a policy decision that will ultimately succeed! And needless to say, when this eventually does come to pass, the inevitable correction will be framed as the failing of the construction industry with its infamous boom/bust cycle. *C'est la vie*.

But the focus on the supposed failings of the building industry, foreign investors, or any other of the plethora of scapegoats is all obfuscation. The fact is that the operation of the housing commodity market is the source of the problem. It will also be at the root of the solution. Doing nothing about that underlying reality is an abdication of responsibility by government and planners. Government policy to manipulate the housing commodity market will make the difference. This needs to be accepted – by government, by local government, by the public.

Notes

1 King, Ronald R., Smith, Vernon L., Williams, Arlington W., van Boening, Mark V. (1993). 'The Robustness of Bubbles and Crashes in Experimental Stock Markets'. In Day, R. H.; Chen, P. (eds.) *Nonlinear Dynamics and Evolutionary Economics*. New York: Oxford University Press.

2 Auckland Council (2014). 'Auckland Dwellings and Households: Initial Results from the 2013 Census'. Report Prepared by Social and Economic Research Team; Research, Investigations and Monitoring Unit (RIMU), Auckland Council, May 2014.
http://www.aucklandcouncil.govt.nz/EN/planspoliciesprojects/reports/Documents/aucklanddwellingshouseholdsinitialresults2013census201405.pdf

3 Barfoot & Thompson (2016). 'December 2016 Suburb Report: Rent, House Prices and Yield', December 2016: https://www.barfoot.co.nz/market-reports/2016/december/suburb-report

4 Cox, Wendell and Hugh Pavletich (2017). '13th Annual Demographia International Housing Affordability Survey: 2017'. Belleville, IL: Demographia, p. 24.

5 Chancellor, E. (1999). *Devil Take the Hindmost: A History of Financial Speculation*. New York: Penguin; & Teeter, Preston; & Sandberg, Jorgen (2016). "Cracking the enigma of asset bubbles with narratives". *Strategic Organization*, February 2016.

6 Krupp, Jason (2012). 'No signs of Auckland housing bubble yet', A*uckland Now*, 2nd May 2012: http://www.stuff.co.nz/auckland/local-news/6839900/No-signs-of-Auckland-housing-bubble-yet; & One News (2014), 'Auckland house price inflation of 8.5% 'not a bubble' – Wheeler', 12th November 2014: https://www.tvnz.co.nz/one-news/new-zealand/auckland-house-price-inflation-of-8-5-not-a-bubble-wheeler-6127858

7 Greenaway-McGrevy, Ryan (2015). 'Bubble Trouble'. *Briefing Papers*, 26th July 2015 (last accessed 7/2/2017): http://briefingpapers.co.nz/2015/07/bubble-trouble/

8 See Auckland Council & Ministry of Business, Innovation and Employment (2013), *Auckland Housing Accord* and *Auckland Housing Accord Monitoring Reports* at the MBIE portal (last accessed 15/2/2016): http://www.mbie.govt.nz/info-services/housing-property/housing-affordability/auckland-housing-accord

9 Nichols, Lane (2015). 'Record auctions pushing up house prices'. *New Zealand Herald*, 25th April 2015: http://m.nzherald.co.nz/property/news/article.cfm?c_id=8&objectid=11438224

10 Ninness, Greg (2016). 'Auction Results: Barfoot & Thomspon took 162 residential properties to auction last week, had sold 57 by the end of the following day', www.interest.co.nz, 20th December 2016: http://www.interest.co.nz/property/85335/auctions-results-barfoot-thomspon-took-162-residential-properties-auction-last-week

11 Bath, Brooke (2016). 'More than 500 cars park up to support homeless families in south Auckland'. www.stuff.co.nz, 16th June 2016: http://www.stuff.co.nz/national/81153216/More-than-500-cars-park-up-to-support-homeless-families-in-south-Auckland

12 Collins, Simon (2016). 'Auckland's unaffordable housing crisis bites hardest for young adults'. *New Zealand Herald*, 14th April 2016: http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11622374; & Campbell, John (2016). 'Life in an overcrowded, cold home'. Radio New Zealand (RNZ), 16th May 2016: http://www.radionz.co.nz/news/regional/304019/life-in-an-overcrowded,-cold-home

13 'New Zealand's Migration Gains (Losses) to July of each year': http://www.enz.org/migrants.html

14 Ninness, Greg (2016). 'No relief for Auckland's housing shortage and stretched infrastructure with record migration providing around 40,000 extra residents for the city in year to November'. www.interest.co.nz, 21st December 2016: http://www.interest.co.nz/property/85357/no-relief-aucklands-housing-shortage-and-stretched-infrastructure-record-migration

15 Statistics NZ (2016). 'Building Consents Issued: November 2016'. 19th January 2017: http://www.stats.govt.nz/browse_for_stats/industry_sectors/Construction/BuildingConsentsIssued_HOTPNov16.aspx

16 Furley, Tom (2016). 'Fewer houses to be built in Auckland than predicted'. Radio New Zealand (RNZ), 29th July 2016: http://www.radionz.co.nz/news/national/309675/fewer-houses-to-be-built-in-auckland-than-predicted

17 Goodyear, R & Fabian, A (2014). 'Housing in Auckland: Trends in housing from the Census of Population and Dwellings 1991 to 2013'. 17th December 2014 (Wellington: Statistics NZ): http://www.stats.govt.nz/browse_for_stats/people_and_communities/housing/auckland-housing-1991-2013.aspx

18 Statistics NZ (2017), 'Housing Affordability Tables': http://www.stats.govt.nz/tools_and_services/nzdotstat/tables-by-subject/housing-affordability-tables.aspx#hcir

19 www.enz.org.nz (2017), 'House Prices in Auckland', data sourced from Quotable Value Limited: https://www.enz.org/house-prices-auckland.html

20 Delmendo, Lalaine C. (2016). 'New Zealand's house price rises are decelerating. But for how long?' *Global Property Guide*, 8th December 2016: http://www.globalpropertyguide.com/Pacific/New-Zealand/Price-History

21 Ministry for Business, Innovation and Employment (2015). 'Outcomes of the Residential Construction Sector Market Study', Report Prepared for the Cabinet Economic Growth and Infrastructure Committee (Wellington: MBIE): http://www.mbie.govt.nz/publications-research/publications/building-and-construction/Cabinet%20paper%20-%20Outcomes%20of%20the%20Residential%20Construction%20Sector%20Market%20Study.pdf

22 One News (2015). 'Construction costs making it 'impossible' to build affordable homes - developer'. 24th February 2015 (TVNZ): https://www.tvnz.co.nz/one-news/new-zealand/construction-costs-making-it-impossible-to-build-affordable-homes-developer-6241175

23 Productivity Commission (2015). 'Using Land for Housing', September 2015 (Wellington: Productivity Commission): http://www.productivity.govt.nz/sites/default/files/using-land-for-housing-final-report-full%2C%20PDF%2C%204511Kb.pdf

24 Gibson, Anne (2016). 'Demand hikes price of housing materials'. *New Zealand Herald*, 21st January 2016: http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11577047

25 Auckland Construction Skills Alliance and Auckland Construction Industry Partners (2016). 'Submission to Productivity Commission: Inquiry into New Models of Tertiary Education', May 2016: http://www.productivity.govt.nz/sites/default/files/sub-new-models-of-tertiary-education-86-auckland-construction-skills-alliance-and-auckland-construction-industry-partners-3755Kb.pdf

26 Productivity Commission (2014), 'Regulatory institutions and practices', June 2014 (Wellington: Productivity Commission): http://www.productivity.govt.nz/sites/default/files/regulatory-institutions-and-practices-final-report.pdf

27 New Zealand Customs Services (2014). 'Tariff concession on residential building materials.' Media Release, 27th June 2014: http://www.customs.govt.nz/news/updates/pages/Tariff-concession-on-residential-building-materials-27062014.aspx

28 Productivity Commission (2012). 'Housing affordability inquiry'. March 2012 (Wellington: Productivity Commission): http://www.productivity.govt.nz/sites/default/files/Final%20Housing%20Affordability%20Report_0.pdf

29 Eaqub, Shamubeel (2012). 'Construction productivity: An evidence base for research and policy issues'. NZIER report to the Building & Construction Sector Productivity Partnership, 5th July 2013 (Wellington: NZIER): https://nzier.org.nz/static/media/filer_public/6e/73/6e73e3ad-7973-42ed-8b30-aa57df2bba78/nzier_report_to_productivity_partnership.pdf

30 Bayleys Research (2015). 'Property Research: Rural', (Auckland: Bayleys Research): https://www.bayleys.co.nz/media/2d03e6f7-87e9-41eb-bbbc-56736e6cb508

31QV.co.nz (2017). 'Residential Sales Prices' (last accessed 1/2/2016): https://www.qv.co.nz/resources/residential-sales-prices-by-suburb

32 Auckland Council website (last accessed 15/2/2017): http://www.aucklandcouncil.govt.nz/en/planspoliciesprojects/plansstrategies/unitaryplan/pages/home.aspx

33 Delmendo, Lalaine C. (2016). 'New Zealand's house price rises are decelerating. But for how long?' *Global Property Guide*, 8th December 2016: http://www.globalpropertyguide.com/Pacific/New-Zealand/Price-History

34 Page, I. (2013). 'Building Industry Performance Measures'. BRANZ Study Report SR290: http://www.branz.co.nz/cms_show_download.php?id=e4c00c20f8b5fa37a5ce2545b3bd88b6e7003ff3

35 Harrowell, Chris (2016). 'Otara Special Housing Area vacant three years after being announced'. *Manukau Courier*, 23rd May 2016: http://www.stuff.co.nz/auckland/local-news/manukau-courier/79872411/otara-special-housing-area-vacant-three-years-after-being-announced

36 Burgess, J.C., Buckett, N.R. and Page, I.C. (2013). 'Prefabrication Impacts in the New Zealand Construction Industry', BRANZ Study Report 279: http://www.branz.co.nz/cms_show_download.php?id=2935644f1d998595f3a2d8f5e8167dd08a42a179

37 Trading Economics (2017). 'New Zealand Home Ownership Rates' (last accessed 1/2/2017): http://www.tradingeconomics.com/new-zealand/home-ownership-rate; Statistics NZ (2017) 'Dwelling and household trends: 1991–2015' (last accessed 1/2/2017): http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/dwellings-household-trends-1991-2015.aspx

38 Leslie, Demelza (2016). 'Auckland's home ownership rates "collapsing" – Labour', Radio NZ, 25th May 2016 (last accessed 1/2/2017): http://www.radionz.co.nz/news/political/304700/akl-home-ownership-rates-'collapsing'

39 Carson, Jonathan (2016). '"Panic buying" driving up prices in Nelson region.' *Stuff.co.nz*, 2nd August 2016 (last accessed 1/2/2017): http://www.stuff.co.nz/life-style/home-property/82730722/Panic-buying-driving-up-property-prices-in-Nelson-region

40 Tookey, John (2015). 'Auckland Housing: the all new South Sea Islands bubble?' Presentation for Auckland University of Technology (AUT), 10th August 2015 (last accessed 1/2/2017): https://livestream.com/accounts/5183627/events/4231934

41 Gibson, Anne (2017). 'House values drop in parts of Auckland, Hamilton', *New Zealand Herald*, 1st February 2017 (last accessed 1/2/2017): http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11791857

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