Insights

Topical commentary on the Auckland economy

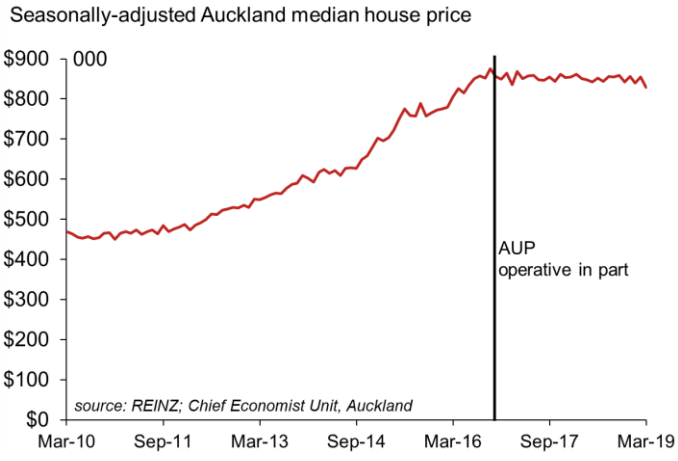
May 2019

What Unitary Plan land price changes teach about flooding the market

- The Auckland Unitary Plan (AUP), which zoned for about one million more dwellings in existing urban areas in Auckland, became operative in November 2016.
- Seasonally-adjusted house prices peaked in October 2016. Over the following months, property prices fell about 4% and were then flat for over two years. At the same time, construction costs have increased, implying that land prices have fallen.
- Our modelling shows that, controlling for other characteristics that make a property valuable, land prices in urban areas have fallen 5.8 to 6.6 percent since the AUP became operative.
- There are at least four pieces of evidence that, taken together, indicate that the AUP has lowered overall land prices (while properties that were upzoned sell at a premium to those that were not). Lower land prices are good. But the modest reduction in price from the AUP suggests that rushing to rezone huge swathes of un-infrastructured greenfield land is unlikely to reduce land prices significantly.

Get rich quick! (if you bought before the AUP)

It is two and half years since the Auckland Unitary Plan (AUP) became operative in part in November 2016. The AUP is the largest statutory change in land-use policy in New Zealand history. In fact, most of Auckland was rezoned for higher density development than allowed under the old zoning regulations, enabling about one million additional dwellings to be built in existing residential areas.



In the years prior to the AUP, property prices increased rapidly in Auckland. In seasonally adjusted terms, median prices first broke the half million-dollar mark in June 2012. Less than a year

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and a half later in November 2013, they were over $600,000. By October 2016, seasonally-adjusted median house prices peaked at $875,000. Two weeks later, the AUP became largely operative. The ***first*** piece of evidence that the AUP affected prices is that prices immediately fell about 4% and, since then, have remained remarkably flat.

Construction costs continued climbing

The ***second*** piece of evidence that the AUP lowered land prices is that construction prices are up about 7.5% since 4th quarter of 2016, even as property prices have remained flat. Therefore, it stands to reason that land prices must have fallen since the time the AUP was introduced.

Property sizes have not changed

The ***third*** piece of evidence is that the sudden fall and then flattening of property prices is not a function of a change in what is selling. The median property sold each quarter since 2012 is almost identical in dwelling and land size.

Empirical evidence proves logic correct

The Chief Economist Unit has written a lot about housing in Auckland over the past couple of years. We have looked at possible ways to fund greenfield infrastructure fairly and the increasing amount of higher-density brownfield development taking place under the AUP. We have also looked extensively at the characteristics that add value to properties.

What we had not yet done is examine land prices separately from the range of other factors that affect individual property prices. The focus of this work is land in brownfield[1] areas. Specifically, we address the questions:

- Have land prices in brownfield areas changed over time?
- Have land prices decreased since the AUP became operative?

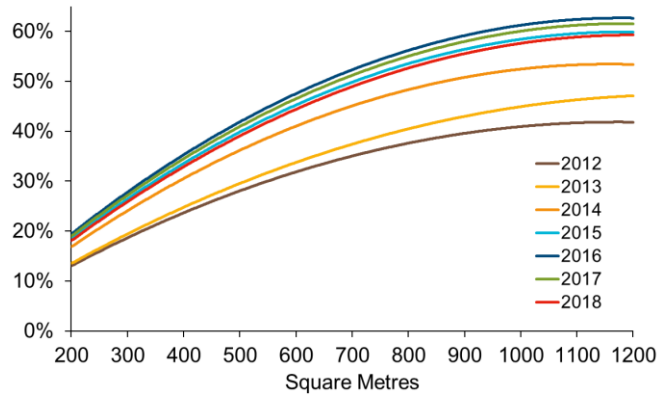
To investigate, we used a model similar to our previous work. The price of a property is a function of the characteristics of the house (size, age, condition, construction type), the neighbourhood (primarily demographic characteristics), and the land (size, school zones, distance to amenities).

By controlling for as many of the possible attributes that make a property valuable, we can make comparisons with few confounding effects. This avoids the common error where the value per square metre of a 400m^2 Remuera section is compared to the value per square metre of a 30-hectare farmland section near Dairy Flat. This erroneous argument usually concludes that Remuera is necessarily overpriced because land there is more expensive per square metre.

Additionally, our approach allows us to see if the price of land has changed over time, after controlling for the array of things, in addition to size, that make land valuable. To do this, we looked at all free-hold, arms-length sales of properties with between 200 and 1,200m^2 of land in brownfield areas that occurred between 2012 and 2018.

Roughly speaking, a house sold in 2012 on a piece of land that was 1,200m^2 would have cost approximately 42% more than a conceptually equivalent house with no land. By 2016, this premium was over 60%.

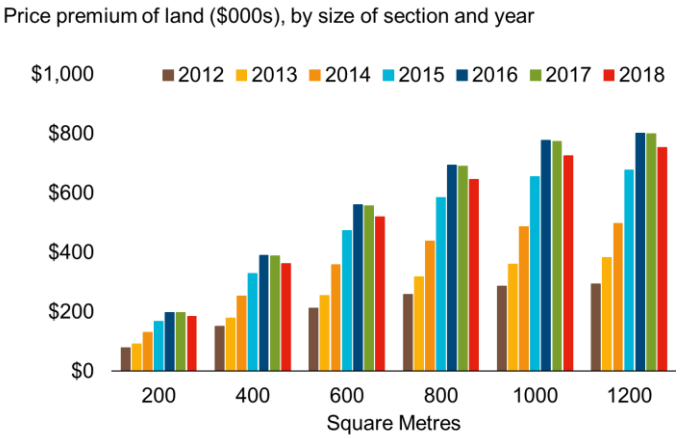
Price premium of land (%), by size of section and year



More importantly, the results show that, for any piece of land in our size range, the price premium follows a specific pattern. Each year from 2012 to 2016, the premium increases, sometimes massively. But the ***fourth*** piece of evidence is that 2017 is the first year of the AUP and was also the first year in the study period to see land prices fall, followed by a further decrease in 2018.

[1] Statistics New Zealand Producer Price Index Table: Outputs (ANZSIC06) - NZSIOC level 1

[2] While there is a conceptual definition of brownfield and greenfield, there is no statutory definition of what land is currently in each category. As in previous papers, as a proxy, we examined Auckland and determined which areas had already been developed. Areas that had already been developed by July 2016 (the nearest review point to the AUP becoming operative) are considered brownfield. The history of this analysis can be found here.



This pattern of decreases in the land price premium of 5.8% to 6.6% also fits with the logic that land prices must have fallen if construction costs have increased and property prices are flat. These figures correspond well with the observed construction cost increase of 7.5% over this time.

Let's not get carried away

The AUP more than tripled total housing capacity in Auckland. Since the AUP became operative, property prices have flattened, construction costs have risen, and land prices have definitively fallen in brownfield areas. These facts, when taken together, show that the AUP has certainly contributed to lower land prices.

Lower land prices are unequivocally good when aiming to provide more affordable housing. However, our analysis suggests that if the huge changes the AUP brought only lowered land price premiums by less than 7%, a view that flooding the market with ***un-infrastructured greenfield land further from jobs and other amenities*** will see land prices plummet seems massively flawed.

There are many external costs not captured in the land price associated with more expansive development – more congestion imposed on others, more emissions, sub-optimal use of existing infrastructure, isolated communities with poorer social outcomes, and non-viability of public transport. It behoves us to conduct far more methodologically-sound analysis of the real price differences between brown and greenfield areas after accounting for all these factors before we run headlong into that kind of decision.

How we did it

As in our previous studies, we used a log-linear hedonic price model with time and suburb fixed effects and standard errors clustered at the suburb and property level. The characteristics of properties that were controlled for include suburb demographics, school deciles, the double grammar zone, views, decks, garages, orientation, construction materials, condition, living area size, building age, distance to amenities (CBD, schools, green space, waterways, roads, beaches, wetlands, mana whenua sites, heritage sites), and section size.

Since we are concerned about land, we examined only sales including free-hold land. We used properties with between 200 and 1200m2 of land, as this covers over 90% of sales in urban areas and represents most of land available there.

The adjusted R^2 of the model was 0.86 and all variables of interest were highly statistically significant.

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