

Economic Note

What do falling Australian house prices mean for NZ?

12 December 2018

Are NZ house prices heading for a fall?

- New Zealand house price movements have tended to broadly track those in Australia, reflecting similar demand and supply side determinants. There is a close relationship between Auckland and Sydney prices.
- There is also evidence that since the Global Financial Crisis the relationship between house prices in the two countries has tightened as common influences look to have become more influential.
- Lower Australian house prices are a dampening influence on NZ house prices, but lower mortgage interest rates, still-elevated net immigration and underbuilding in NZ should help counterbalance any Australian drag.

Summary & implications

Australian house prices are falling. Could NZ house prices be next?

We find that *movements* in New Zealand and Australian house prices tend to be linked. Evidence of a long-run relationship between Trans-Tasman house price *levels* is a little murkier, but the relationship has tightened since the Global Financial Crisis. It could be that determinants of NZ and Australian house prices (including mortgage interest rates) may be moving more in sync with each other. Dynamics such as the hunt for yield across global asset classes and increased overseas investment in Australian and NZ assets could also be behind this. If so, global factors may increasingly have a bearing on Australasian house prices as opposed to domestic influences.

The New Zealand residential property market also tends to respond to similar demand and supply side determinants as the Australian market. However, the response of NZ house prices to these influences is more drawn out than in Australia.

House price movements in some regional NZ areas tend to be more tightly linked to Australian house prices than for others. Our regional analysis suggests that the linkages are reasonably close between house prices in Auckland, Sydney prices and (to a lesser extent) Melbourne. However, there are still differences between regional house price movements within the same country, which suggests that regional determinants also matter.

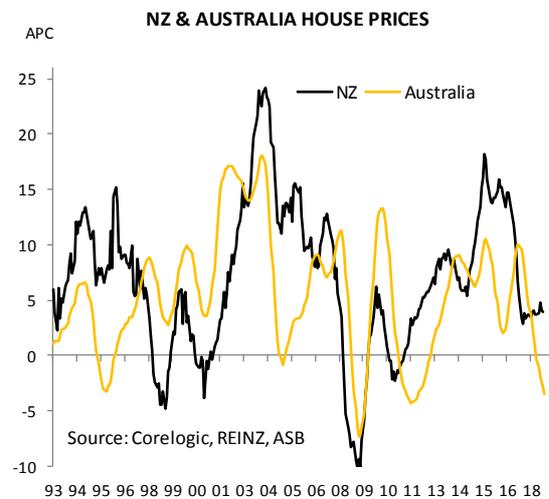
New Zealand price increases have significantly outpaced those in Australia over the past few decades. More sizeable increases in NZ house prices are consistent with Australia building more houses on a per-capita basis. NZ consent issuance has stepped up considerably of late, but it still pales in comparison to Australia. Our work suggests that increasing dwelling supply tends to dampen house prices, but there are regional contrasts. Of note, Auckland house prices tend to adjust more slowly to increases in dwelling construction than do other centres.

Lower Australian house prices will eventually have a dampening impact on those in NZ, but potentially lower NZ mortgage interest rates, still-elevated net immigration to NZ and underbuilding in NZ should offset any direct impact from lower Australian house prices.

Links between Australian and NZ house prices

Australian residential property prices are falling. Core Logic data for November 2018 confirm that Australian house prices are around 4% off their October 2017 peak. House price declines have been more acute in Sydney (close to 10% below June 2017 peaks) and Melbourne (around 6% lower).

What are the implications for the NZ housing market and wider economy? New Zealand residential property price movements tend to broadly track those in Australia. Given the falls evident in Australia, the concern is that similar weakness could be evident across this side of the Tasman and that overall NZ house prices fall. To date, NZ house prices are still going up, albeit modestly. There have been mild falls in Auckland house prices since the start of the year.



We note there are some key differences between the NZ and Australian markets. Likely due to much higher average incomes, the median dwelling price in Australia (around AUD800,000) is considerably above that of NZ (NZD560,000).

The Reserve Bank of Australia (RBA) remains watchful. In its November [Statement](#) of Monetary Policy, the RBA cited various demand and supply side factors contributing to the recent lull in house prices. **Similar to NZ these include stretched affordability, slowing investor demand, and reduced demand from foreign buyers given restrictions on purchases of established dwellings.** The recent declines in Australian house prices need to be put into context given previous strong gains. Australian house prices rose more than 40% from early 2012 to late 2017. Sydney prices rose nearly 75% over that period, with Melbourne prices up 60%.

The RBNZ is concerned over high household debt, but the recent softening in the nationwide housing market in NZ prompted the 2019 relaxation of both owner-occupier and investor loan-to-value ratio restrictions (LVRs) in the November Financial Stability Report (FSR). The RBNZ did warn, however, that higher capital requirements for banks could be on their way, could see (historically very low) retail mortgage interest rates drift higher. We will be examining the impact of the LVR restrictions in a forthcoming note.

To ascertain how close the linkage is between Australian and New Zealand house prices, we conduct some statistical tests. The table summarises the results of tests for Granger causality¹ that are used to see if annual movements in house prices for Australia tend to lead those in New Zealand, and vice versa. **The test results suggest that while there is a positive two-way relationship between Australian and NZ house prices, the direction of causality is stronger running from Australian to New Zealand house prices rather than the other way around.**

Variable	Impact of variable on these prices					
	NZ	Akl	Wgn	Aus	Syd	Melb
NZ		3.0***	4.12***	3.1***	3.64***	5.23***
Akl	1.53		2.8**	2.42**	2.38**	3.13**
Wgn	1.23	2.23**		3.52***	4.47***	3.1**
Aus	7.5***	6.02***	3.29***		5.15***	3.22***
Syd	8.9***	7.8***	3.03***	2.05*		2.23**
Melb	3.7**	3.6**	5.56***	1.61	1.93	

* 10% level of significance, ** 5% level, *** 1% level

Similar tests for regional house prices show similar joint causality, although the direction is stronger running from Australian centres to New Zealand ones. Sydney house price movements also tend to have a stronger lead for Auckland house price movements than they do for prices in Melbourne or Wellington.

¹ We conduct [Granger Causality](#) tests from the 1992 to 2018 period to see if, *movements* in Australian house prices can provide useful information on the direction for NZ house prices in future. Data are monthly and all series tested are stationary.

While *movements* in house prices appeared to be linked, statistical tests for [cointegration](#) do not confirm that a long-run relationship exists between the *level* of NZ and Australian house prices from the 1992 to 2018 period. These tests also failed to confirm that a long-term relationship existed between Sydney and Auckland house prices or other centres. There was no evidence of a long-run relationship between Auckland and Wellington house prices, suggesting that regional factors were also an important determinant.

TABLE 2: ENGEL GRANGER COINTEGRATION TESTS
Z-statistics, 2008-sample

Variable	Impact of variable on these prices					
	NZ	Akl	Wgn	Aus	Syd	Melb
NZ		-0.8	-0.9	-25.7***	-17.5*	-18.7*
Akl	-0.1		-2.3	-23.9**	-27.9***	-23.3**
Wgn	-2.3	-0.3		-4.6	-2.2	-9.8
Aus	-22.3**	-28.9***	-8.1		-33.7***	-6.0
Syd	-15.5	-36.9***	-5.4	-36.9***		-34.3***
Melb	-14.6	-16.9*	-5.8	-5.7	-10.5	

* 10% level of significance, ** 5% level, *** 1% level

Tests using data from 2008 could not reject that a long-term relationship exists between NZ and Australian house prices (see table). The relationship is particularly tight between Auckland and Sydney house prices. **Clearly, something has changed. Determinants of NZ and Australian house prices may be moving more in sync with each other (e.g. mortgage interest rates). Prices in both New Zealand and Australia may also be increasingly driven by common influences not captured in our analysis.** Dynamics such as the hunt for yield across global asset classes and increased overseas investment in Australian and NZ assets could also be behind this.

NZ and Australian house price drivers

Nationwide Analysis

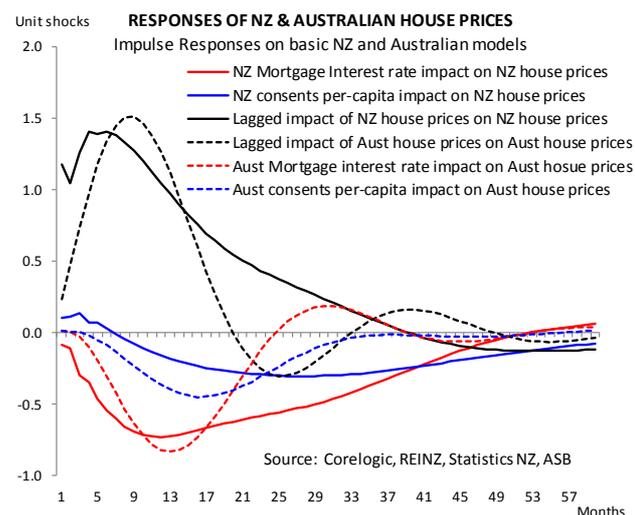
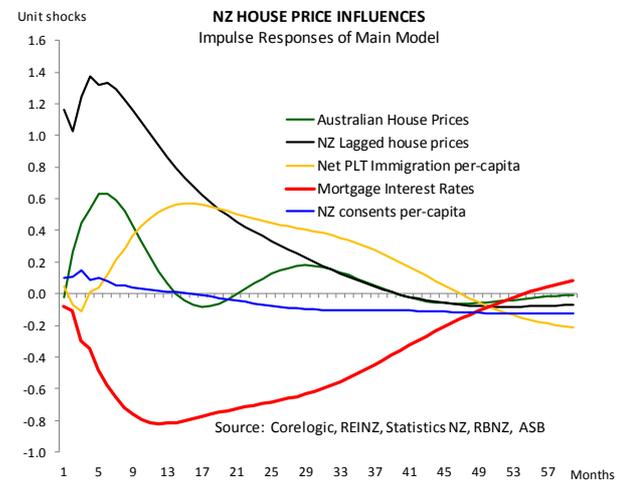
To shed more light on the relationships between the NZ and Australian housing markets, we build a vector autoregressive (VAR) model. Variables include NZ and Australian house prices, net permanent and long-term (PLT) immigration to NZ per-capita, NZ dwelling consents per-capita and NZ mortgage interest rates.

The accompanying chart shows the impulse responses of the main NZ housing market model. NZ house price movements have considerable persistence, taking up to three years for an upswing to run out of puff.

NZ house prices also tend to respond to Australian house price movements, with a peak impact after about 6 months. Lower Australian house prices also would dampen NZ interest rates and consent issuance and support more net immigration into NZ, which is likely to indirectly support NZ house prices.

Our analysis also suggests that movements in NZ mortgage interest rates and PLT immigration have a significant impact on NZ house prices. A positive shock to net immigration tends to lift NZ house prices, with the peak effect in prices about 12 months after the increase in net immigration. NZ house prices are negatively impacted by increases in NZ mortgage interest rates, taking about 12 months to have the most significant impact on house price growth. The model also suggests a comparatively modest impact of increasing dwelling supply on house prices (peak impact after about 2 years), although a more dampening impact is evident if net migration is removed.

We also build two basic nationwide VAR models for NZ and Australia that include local and trans-Tasman house prices, consents per capita and local mortgage interest rates (see second chart). The impulse responses suggest that **Australian and New Zealand house prices tend to have broadly similar responses to a variety of determinants. However, it is noticeable that the impact on NZ house prices is more drawn out than for Australian house prices** from similar types of shocks.



Taking a longer-run view

NZ House Prices have increased nearly five-fold since the early 1990s (versus close to three-fold for Australia) and by 80% over the last decade (45% for Australia). **Viewing the ratio of the level of NZ to Australian house prices (see accompanying chart) suggests that increases in NZ house prices have considerably outpaced those in Australia over the last decade.** The increase in relative New Zealand house prices is despite New Zealand mortgage interest rates showing a structural decline of a similar magnitude to those in Australia.

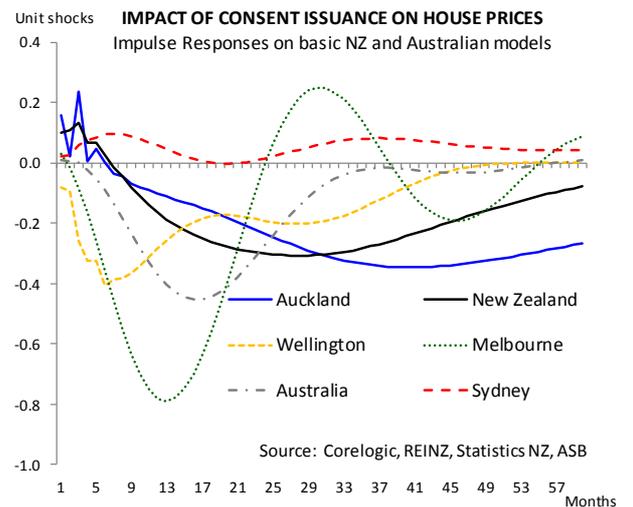
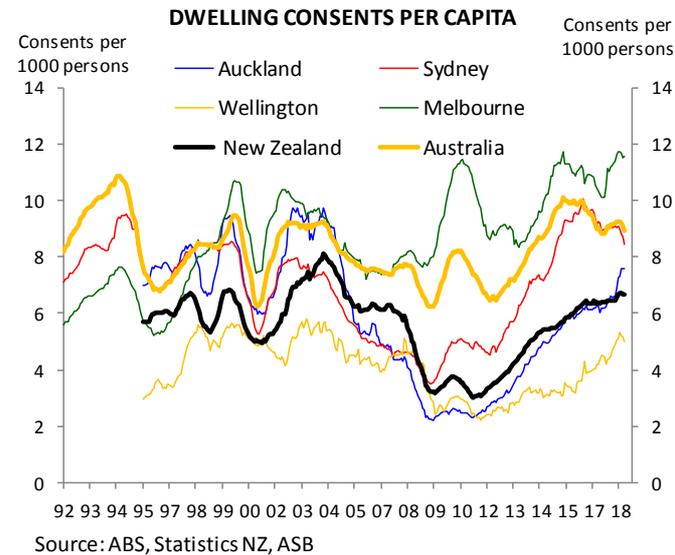
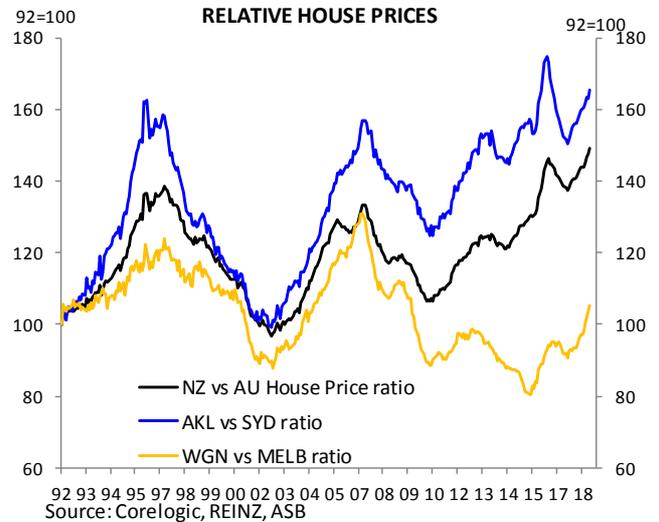
Viewing the regional house price ratios shows different trends, which suggests that regional influences also matter. Auckland house price increases have also significantly outpaced those in Sydney. Wellington property prices have risen by more than those in Auckland, Sydney and Melbourne in recent years. However, Wellington property values are broadly where they were in relation to Melbourne prices 25 years ago.

The impact of residential building on house prices differs

Might these differences be attributable to how the construction sector has responded? The prevailing view and Economics 101 suggests building more houses will typically place downward pressure on house prices. Recent anecdotal evidence is supportive, with the post-earthquake stepping up of residential construction in Christchurch preceding the lull in Christchurch house prices. Auckland consent issuance has ramped up considerably over the last few years and has coincided with a period of stable house prices. Wellington consent issuance has lifted but remains sluggish compared to the other centres, supporting prices in the capital.

Australia has tended to build more dwellings in relation to population (about 9 per thousand persons) than has New Zealand (around 7). This could be one factor resulting in NZ house price increases outstripping those in Australia. However, other factors matter too. We note that the ratio of Wellington and Melbourne house prices has been broadly flat over the last 25 years despite Melbourne building considerably more dwellings in relation to its population.

To look a little deeper, we develop basic regional house price models, which include local and trans-Tasman house prices, regional consents per capita and nationwide mortgage interest rates. **The impulse responses from the regional models suggest that increasing dwelling construction tends to dampen house price inflation, although its impact differs by region. Increases in dwelling construction tend to feed through more quickly to Wellington house prices than they do for Auckland.** The peak impact of higher Auckland residential construction on dwelling prices is about three years, as opposed to about two years for New Zealand and about 6 months for Wellington. Melbourne house prices look to be particularly responsive to additional dwelling supply. Surprisingly, there is no clear relationship for Sydney house prices.



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