New Zealand Property Focus

The $574,000 question

This is not personal advice. It does not consider your objectives or circumstances. Please refer to the Important Notice.

INSIDE

Feature Article: The $574,000 question 3
The Property Market in Pictures 10
Property Gauges 14
Economic Overview 16
Key Forecasts 17
Important Notice 18

CONTRIBUTORS

Sharon Zollner
Chief Economist
Telephone: +64 9 357 4094
E-mail: Sharon.Zollner@anz.com

Miles Workman
Senior Economist
Telephone: +64 4 382 1951
E-mail: Miles.Workman@anz.com

Michael Callaghan
Economist
Telephone: +64 4 382 1975
Email: michael.callaghan@anz.com

ISSN 2624-0629

Publication date: 21 May 2019

Summary

Our monthly *Property Focus* publication provides an independent appraisal of recent developments in the property market.

Feature Article: The $574,000 question

The OCR has been cut to an all-time low of 1.50%, and mortgage interest rates have fallen. In addition, the Government has taken the possibility of a capital gains tax taken off the table. Given these developments, now seems like an appropriate time to reassess our outlook for house price inflation. After adjusting for supply and demand imbalances, we estimate that a 1%pt fall in the mortgage interest rate would typically bump up annual house price inflation up by around 2.5%pts after 6-12 months, all else equal. However, the lengthy list of policy changes this cycle means **all else most certainly isn't equal**. Indeed, we find evidence that the recent moderation in house price inflation is owing to factors other than the **typical "macro drivers"** of population growth and interest rates. This supports our view that the policy landscape and affordability constraints have had a significant role to play, and will continue to do so. **All up, we've baked in a small bump into the house price inflation outlook, but don't expect it to shoot** for the moon.

Property gauges

House price growth has softened recently, and weakness in Auckland continues to stand in stark contrast to the regions. House sales fell further in April, after the easing in loan-to-value ratio restrictions provided a temporary boost at the start of the year. Looking through the volatility, house sales are near the bottom of the range since mid-2017. House prices and market activity are expected to remain subdued from here. The market has been facing several headwinds: banks are cautious and LVR limits remain binding; investors are wary of policy changes; affordability constraints are biting; and the impact of the locking out of foreign buyers is still working its way through. That said, some tailwinds have also emerged recently, including falls in fixed mortgage rates and the exclusion of a capital gains tax, which should help to stabilise the market.

Economic overview

The New Zealand economy has been losing steam for a while now and we think this process has a little further to run. However, there are enough positive growth drivers out there to put a floor under the slowdown by year end, and support a gradual acceleration in growth thereafter. One of these bright spots is the additional monetary stimulus provided by the RBNZ when it cut the OCR in May. While lower interest rates (and the recent depreciation of the NZD) will support growth, we think a little more stimulus will be required to see inflation lift **sustainably to the RBNZ's target mid-point. We've pencilled in** another 25bp cut for November with a follow up move in February. However, the global data has turned a bit patchy of late. A materialisation of global risks into tangible consequences (eg for commodity prices) would see us bring forward our expectation for the timing of the next OCR cut.

Feature Article: The $574,000 question

Summary

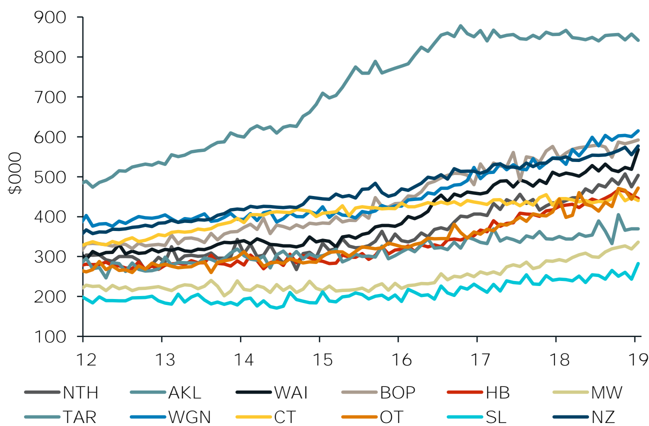
The OCR has been cut to an all-time low of 1.50%, and mortgage interest rates have fallen. In addition, the Government has taken the possibility of a capital gains tax taken off the table. Given these developments, now seems like an appropriate time to reassess our outlook for house price inflation. After adjusting for supply and demand imbalances, we estimate that a 1%pt fall in the mortgage interest rate would typically bump up annual house price inflation up by around 2.5%pts after 6-12 months, all else equal. However, the lengthy list of policy changes this cycle means all else most certainly isn't equal. Indeed, we find evidence that the recent moderation in house price inflation is owing to factors other than the typical "macro drivers" of population growth and interest rates. This supports our view that the policy landscape and affordability constraints have had a significant role to play, and will continue to do so. All up, we've baked in a small bump into the house price inflation outlook, but don't expect it to shoot for the moon.

A second wind? Or running out of puff?

The housing market has cooled significantly over the past few years. At a national level, house price inflation is now running at 2.2% y/y, quite the comedown from its peak of over 17% in late 2015. In level terms, the median sale price in New Zealand is just over $574k. But this figure masks significant regional divergence. The decline in Auckland house price inflation has been dramatic, running at -3.1% y/y currently from its peak of over 28% in late 2015. The remainder of the country is running at 7.2% y/y, but has a long way to catch up – the median sale price is over $847k in Auckland, versus $488k in the rest of the country.

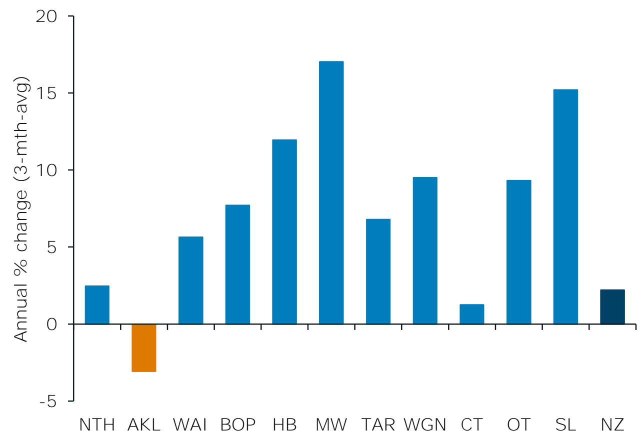
The slowdown in the housing market, both in Auckland and elsewhere, was bound to happen at some point. Income growth hasn't kept pace with house price inflation, so affordability and household debt levels were going to become an issue eventually. In addition – but of course not coincidentally – the net impact of the policy and regulatory landscape is providing a headwind.

Figure 1. Median sale price by region[1]



Source: REINZ

Figure 2. House price inflation by region



Source: REINZ

More recently, however, some tailwinds have emerged. The RBNZ cut the OCR to a record low of 1.50% at the May Monetary Policy Statement, keeping downward pressure on mortgage interest rates, and the Government has ruled out implementing a capital gains tax. Both developments are likely to be positive for house prices, but the $574,000 question is *by how much?*

Statistically teasing out the likely impact on house price inflation from these recent developments is a tricky business. To avoid bias, one has to (in theory, in an ideal world) estimate the impact of *everything* affecting house prices, not just the bits we happen to be interested in. And there's a lot going on, some of it one-offs with no historical experience to learn from. An economy is a complicated beast, but this has been a particularly complex housing cycle. Interest rates haven't cycled like they normally do, and on the policy front, there's a lot to take into consideration, such as LVR restrictions, the foreign buyer ban, ring-fencing of tax losses, the Healthy Homes bill, and tenancy law changes. With so much going on, it's impossible to isolate the impacts of the different policy measures. Nonetheless, undaunted, this month we take our best shot at casting some statistical rigour into assessing the outlook for house prices in light of recent events.

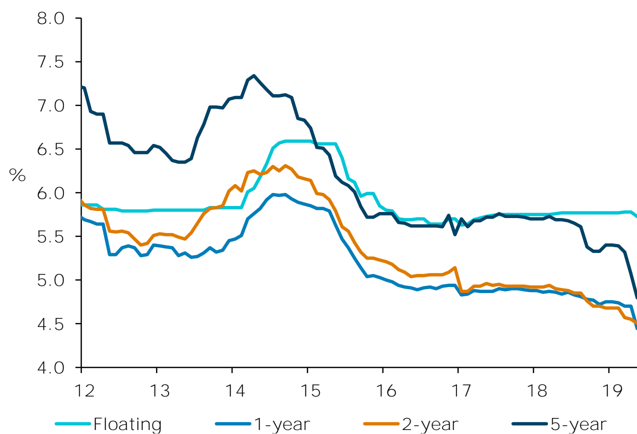
[1] Region codes are: NTH: Northland, AKL: Auckland, WAI: Waikato, BOP: Bay of Plenty, HB: Hawke's Bay, MW: Manawatu-Whanganui, TAR: Taranaki, WGN: Wellington, CT: Canterbury, OT: Otago, SL: Southland, NZ: New Zealand.

Feature Article: The $574,000 question

Mortgage rates have fallen…

Fixed mortgage interest rates have fallen 5-60bps since December last year **(depending on what term you're** looking at, figure 3), partly as expectations for an OCR cut gained traction, with a cut delivered on May 8, and partly as global funding conditions have improved. Indeed, global risk-free rates have been under downwards pressure of late, and **there's been enough good economic news around the globe** (despite the economic outlook seeming a little fragile at present) to keep credit spreads (risk premiums) contained.

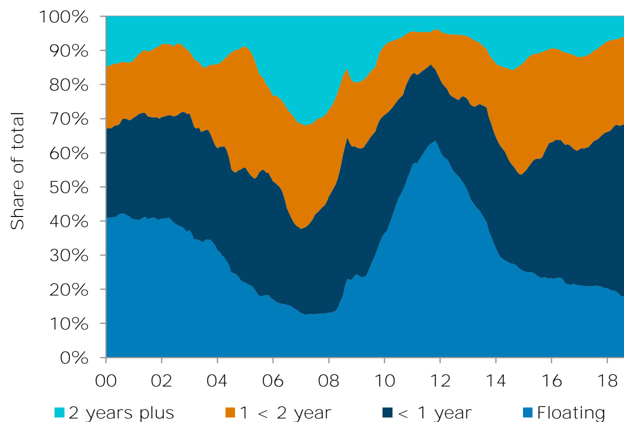
Figure 3. Mortgage interest rates[2]



Source: RBNZ, interest.co.nz

All else equal, lower interest rates mean lower debt-servicing costs for households, and the ability to service a bigger loan (robustness checks by banks, in terms of affordability should rates rise, cap the impact on maximum borrowing capacity). For a $400,000 home loan a 25bp fall in the interest rate would put $1,000 more in the borrower's back pocket each year. Because more than 80% of home loans in New Zealand are on a fixed rate, it will take a while before most borrowers begin to benefit, but the bulk of the transition will occur within a year (figure 4).

Figure 4. Proportion of fixed loans vs floating



Source: RBNZ

When bidding for a house, lower interest rates may encourage some households to take on more debt where possible, resulting in house prices being bid up a little higher than otherwise. However, there is a lot of uncertainty around how large this impact may be and pre-existing market conditions will matter, such as confidence in the housing market, the **employment outlook, and banks' appetite to lend**.

…and could go lower

In part, mortgage interest rates have fallen because the interest rate at which New Zealand banks can borrow and lend money in the wholesale market (from the RBNZ or from one another) has fallen along with the OCR. However, **the OCR represents only part of banks'** borrowing costs, meaning it **isn't** the only thing determining

[2] RBNZ data to April 2019. The May 2019 observation is sourced from interest.co.nz and is the average rate offered by the main banks as at 20/5/2019.

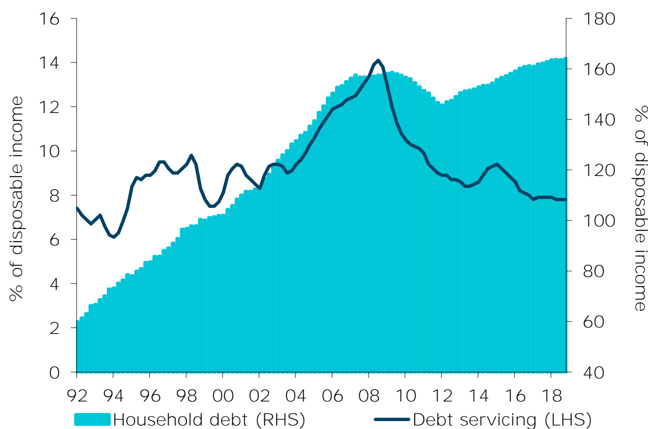
mortgage interest rates. Because New Zealanders borrow more than they save in aggregate, banks need to go offshore for funding to meet credit demand. The cost of this borrowing is independent of the OCR and gets passed on to mortgage rates too. While it's difficult to determine where international financial markets will be in a year's time (global liquidity, risk appetite and the general global economic backdrop are all fairly uncertain at present), we do have a strong view on where the OCR will be – lower.

We are forecasting that the RBNZ will cut the OCR twice more over the year ahead, with a 25bp cut pencilled in for November and another in February. Underpinning this view are the facts that core inflation remains stubbornly low, growth has slowed and capacity pressures are waning. And in the absence of a little extra monetary stimulus, we think there are insufficient economic pressures in the pipeline to keep inflation sustainably around the RBNZ's target midpoint. Given these cyclical considerations, we see the risks of a breakout in inflation (and therefore higher-than-expected OCR) as pretty small.

Beyond the cyclical considerations, technological advancement has significantly eroded inflation pressures by introducing heightened competition, and keeping global inflation pressures subdued. In crude terms, structurally lower inflation also implies structurally lower interest rates. Indeed, with New Zealand household debt levels high and high debt being the international norm, policy makers will need to remain very attentive to the sensitivity of households and businesses when it comes to increasing interest rates sometime in the future.

At the current juncture, New Zealand household debt as a share of disposable income is sitting at an all-time high of 164% (figure 5). But because interest rates are low, households on average are not under abnormal strain when it comes to servicing this debt. In fact, the big risk here is more on the income side of the equation. An economic shock that drove unemployment higher (and household incomes down) could make it very tough for some.

Figure. 5. Household debt to disposable income



Source: RBNZ

However, as noted previously, a lower OCR doesn't guarantee lower mortgage rates. It's entirely plausible that the OCR could be lowered at a time when other bank borrowing costs are rising (eg through tighter global financial markets). In this case, the lower OCR might only offset what's happening elsewhere in credit markets. The RBNZ's proposal to materially increase bank capital requirements is also likely to have non-trivial impacts on interest rates. That said, we still think it's reasonable to expect that additional OCR cuts will keep the downward pressure on mortgage rates over the year ahead.

Putting a number on it

So mortgage rates have fallen and downward pressure is likely to remain. What does this mean for house prices?

Given there are so many moving parts, quantifying the impact of lower interest rates on house prices is challenging. But we'll give it a go.

In terms of the "macro drivers", interest rates are just one of the many factors that influence house prices. Some factors are clearly structural, ie not part and parcel of the economic/housing market cycle, namely regulatory settings and government policies and programmes (such as the banning of foreign buyers and loan-to-value ratio restrictions).

Others are primarily cyclical, though they might be behaving atypically for structural (eg policy) reasons, such as:

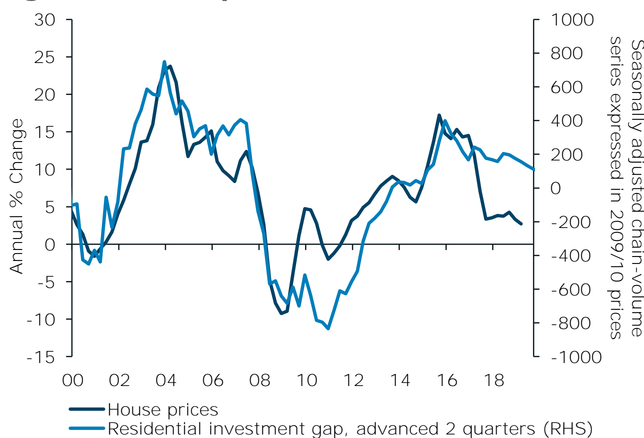
- population growth (including through migration, which is partly determined by policy and partly by relative economic opportunities in New Zealand and abroad);
- credit availability (rather than the price of credit, ie the interest rate), which is related to the stage of the business cycle but can also be affected by policy;
- housing affordability and/or debt serviceability constraints;
- supply side conditions (ie how fast can new houses be built to meet demand – again partly structural and partly cyclical);
- expectations for capital gains (primarily cyclical but can be affected by policy changes).

That's a complicated picture. But as a starting point, we estimated a number of simple models in an attempt to back out the possible impacts of lower interest rates on annual house price inflation.[3] As you'd expect, there is an inverse relationship between interest rates and house prices. However, the estimated magnitudes vary significantly, with the impact of a 1%pt decline in mortgage rates boosting annual house price inflation by anywhere between 0.5-5%pts within a year or so.

The uncertainty is not surprising, as even estimating this seemingly simple relationship is challenging due to causality in both directions – typically (but not this cycle!) the RBNZ raises interest rates when the housing market is hot, making for a positive correlation. It's not uncommon for overly simplistic statistical models to suggest that higher interest rates are great for house prices for this reason. The key is to also include some other variable that explains interest rate moves – we used the output gap, an estimate of how far economic growth is from trend, which is typically a key input into the Reserve Bank's OCR decisions.

Another way to isolate the impact of interest rates is to start by creating a proxy variable that captures the broad cyclical position of the housing market. Rather than the output gap, we estimate a residential investment gap – the difference between actual residential investment and its trend.[4] If residential investment activity is running above trend the gap will be under upwards pressure, suggesting demand for housing is picking up, supply is working hard to catch up, and prices are under upwards pressure. The price response will lead the gap, which is why the gap needs to be advanced (figure 6). It's a way of covering off the impact of supply and demand imbalances, whatever their cause. Using this methodology, a 1%pt fall in the mortgage interest rate (the 5-year fixed rate works best here) is expected to bump annual house price inflation up by around 2.5%pts after 6-12 months, all else equal. That happens to be about the midpoint of the range estimated in our more traditional models.

Figure 6. House price inflation and residential investment gap



Source: REINZ, Statistics NZ, ANZ Research

[3] We used regression and vector auto regression analysis. Key variables include migration flows, population growth, dwelling estimates (a proxy for the stock of houses), dwellings per capita, numbers of days to sell, the output gap, the residential investment gap, and mortgage rates. This is a similar approach adopted by the RBNZ.
[4] Trend residential investment is estimated by passing an inflexible (lambda: 100,000) HP filter though real residential investment (including our forecast).

Feature Article: The $574,000 question

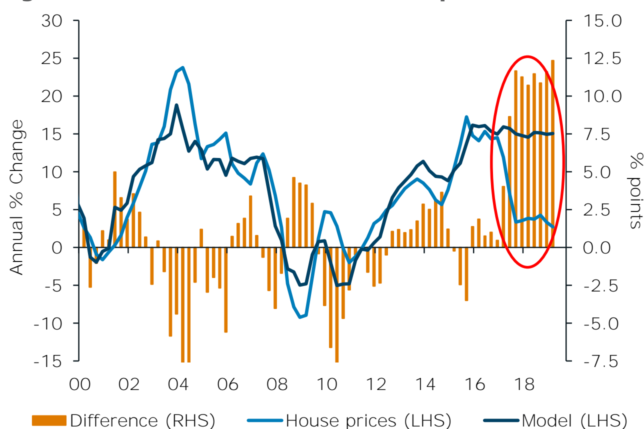
Of course, OCR cuts don't go 1:1 into fixed mortgage rates. But assuming for simplicity that they did, this estimate implies that a 75bp fall in the mortgage rate would push up annual house price inflation by around 2%pts. Even the largest estimates imply only around a 4%pt bump.

The upshot: any estimate is highly uncertain, but our statistical analysis suggests even three OCR cuts are unlikely to re-ignite the housing market on their own.

But wait, there's more

All the equations we used to estimate the impact of interest rates, even the best ones, do a pretty bad job of explaining the last few years. That's understandable: house price inflation has slowed markedly even though mortgage rates have fallen, and migration is still at a high level as far as we know (the recent data is now unreliable under the new methodology). It's obvious that something else is going on (figure 7). We suspect it has a lot to do with the lengthy list of policy changes, including the possibility of a capital gains tax (now removed). Affordability constraints are likely a factor too.

Figure 7. Modelled and actual house price inflation[5]



Source: REINZ, ANZ Research

While the above model does a reasonable job of picking momentum in house prices (prior to the recent moderation, see footnote 5) some of the residuals prior to 2016 are still quite large. The initial implementation of LVR restrictions in 2013 may explain the model's over prediction around that time, while the "miss" over 2008-10 likely reflects economy-wide volatility following the Global Financial Crisis and may also be a result of house prices outperforming in earlier years.

Navigating the regulatory landscape

The list of regulatory forces currently impacting the housing market is lengthy, with varying impacts on both the demand for, and supply of, housing. But overall, alongside affordability constraints and credit headwinds, we suspect the net impact of the policy mix has dampened house price inflation in recent years, and is likely to continue to do so for some time yet.

- When first recommended by the Tax Working Group (or even earlier, when it became clear this was likely), the prospect of a **capital gains tax** introduced an element of uncertainty into the market that may have impacted investor decisions at the margin. The Government has now kicked this one for touch, but even if house price inflation picks up markedly we'll never know with certainty how much of the rise was owing to this factor. But the individual impact of this proposed policy (given the broader regulatory landscape) is likely to be small.
- **Loan-to-value ratio restrictions** have played an important role in stemming house price inflation this cycle. The RBNZ estimates that LVR policies reduced house price pressures by almost 50%.[6] LVR restrictions were always meant to be a temporary measure (at least at binding levels), and continue to be

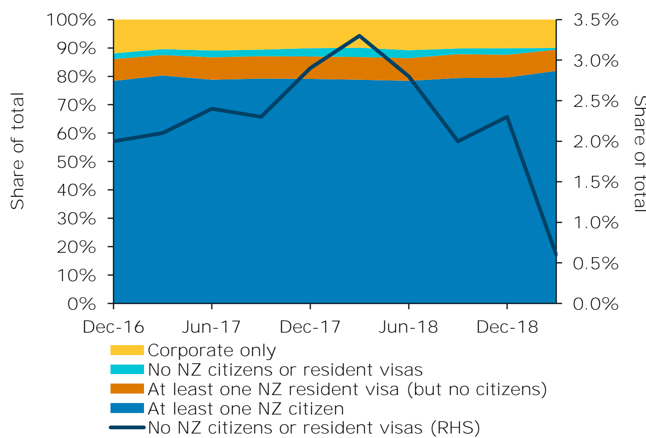
[5] House price inflation is modelled using the residential investment gap and the 5-year mortgage rate. The sample is limited to 2016, meaning the model output is essentially a forecast from 2016 onwards. We've done this to highlight that recent house price inflation outturns are difficult to explain with the macroeconomic data. Improving the model's fit to recent outturns is achievable by extending the sample to include the latest data and/or changing other model parameters. But in terms of the former, this is at the cost of historical accuracy.

[6] See Loan-to-Value Ratio Restrictions and House Prices for further details.

tweaked looser. However, if it looks like house price inflation is about to shoot for the moon once again, then the RBNZ could choose to loosen the LVR restrictions more slowly than otherwise, or even tighten them up again. In other words, the RBNZ has macro prudential policy tools at its disposal that could completely offset any positive bump to house prices from other sources.

- From March 29 2018, the **bright-line test** was extended from two years to five years. Effectively, this policy imposes a capital gains tax on residential investment property sold within five years of its purchase date. It's possible that this policy has deterred some investors who were looking for a quick turnover and capital gain, or those who highly value the option to sell earlier than that. However, most property investors have longer time horizons, so again we suspect the negative impact on house prices has been small. We'll never know.
- The **banning of foreign buyers** has also likely had a dampening impact on house prices. Statistics NZ reported just a couple of weeks ago that home transfers to people who didn't hold New Zealand citizenship or a resident visa fell over 80% y/y in Q1 2019. However, the share of home transfers to overseas people was never large, peaking at 3.3% in Q1 2018 and moderating to 0.6% by early 2019 (figure 8).

Figure 8. Home transfers by buyer type



Source: Statistics NZ

- **KiwiBuild** is a slightly different kettle of fish as there are a number of prongs to the program. In terms of reducing house prices (making housing more affordable), the true potential here lies in what can be done to free up supply-side constraints (while not crowding out private development). If the Government were to successfully alleviate land, labour, red tape, and/or other supply constraints, house price inflation would indeed run at a slower pace than otherwise. So far, however, progress has been slow going, with negligible impacts on house prices (if any). It's not an easy problem to solve. But we're keeping an eye on things.
- For many property investors, the Government's aim to **lift healthy home standards** represents increased costs that reduce returns and hence the value of rented housing as a financial asset. It may also have had a direct impact on house prices by encouraging some landlords to simply sell up.
- Changes to the rules around **ring-fencing tax losses** have also likely dragged on investor demand at the margin. The change prevents rental property owners from running their rentals at a loss and claiming this against their other income (such as salary or wages) to reduce their income tax liability.
- But government policy hasn't all been negative for house prices. **FirstHome** buyer assistance with the **Welcome Home Loan**, **KiwiSaver first-home withdrawal,** and **KiwiSaver HomeStart grant** will have had a small but positive impact on housing demand.

All up, the lengthy list of policy changes suggests the recent cooling in the housing market has been more a case of death by a thousand cuts than something that can be explained by the macro fundamentals. Of course lengthy periods of strong house price rises are likely to be followed by periods of underperformance. But in this instance it's not the usual catalysts. We suspect it's largely the policy landscape. But it's no accident; for many of these policies, that was precisely the point.

House price outlook

All considered, we expect house price inflation will pick up only gradually on the back of lower interest rates and the ruling out of the capital gains tax. National house price inflation is expected to tick up a touch from 2.7% y/y in Q1 2019 to 3.7% by Q1 2020. **If it weren't for** lower mortgage rates and the ruling out of the capital **gains tax, we'd be expecting house price inflation to gradually moderate to aroun**d 2% y/y over the same period. That is, we forecast the combined impact of these two developments will boost annual house price inflation by around 1.5%pts relative to the status quo.

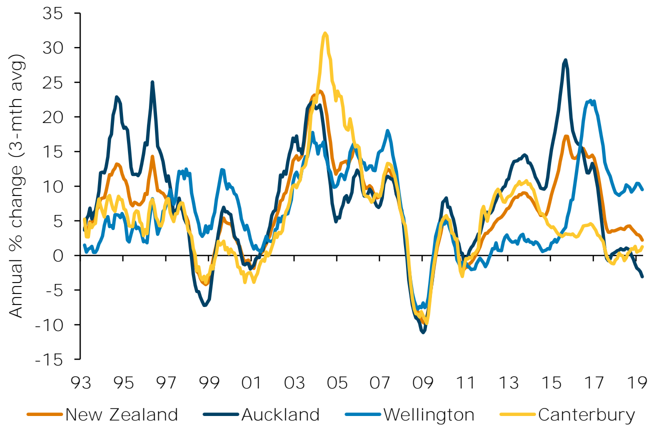
Figure 9. House price inflation forecast

Source: REINZ, ANZ Research

That's a pretty modest picture, and there are risks in both directions. Indeed, the housing market is a temperamental beast and a second wind is entirely possible **– it's happened before. And just because house** prices are looking expensive **relative to incomes, that doesn't mean we can confidently put a pin in the price** level and call it the upper limit. The international evidence suggests this would be naive indeed. Conversely, the net impact of recent policy changes, or even the macro drivers should the economy weaken materially, could drive a more significant slowdown in the housing market tha**n we're expecting. So it really could go either way.** But for now, **we're comfortable with our outlook for relatively modest house price inflation to co**ntinue. It **shouldn't be forgotten that the** Reserve Bank has a crude rudder in the form of the LVR restrictions that in theory could be used **to ensure that's the case.** In practice, however, **it'll only work as long as banks' appetite** to lend holds up. LVR restrictions are hardly a finely tuned precision instrument, but they do provide an extra tool that has proved very useful for limiting housing-related financial stability risks at a time when CPI inflation still needs a leg up from low interest rates.

Property Market in Pictures

Figure 1. Regional house price inflation

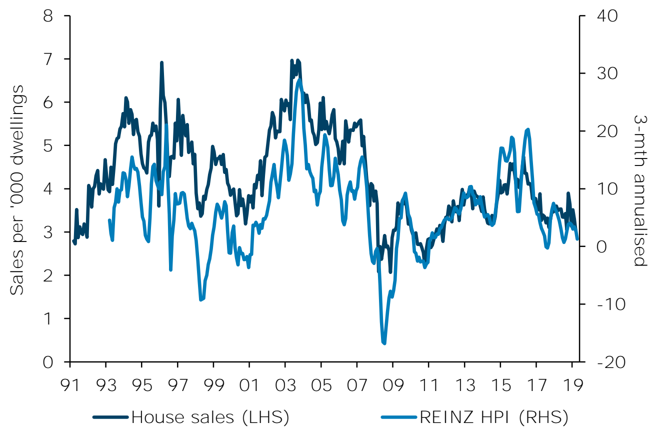


Source: ANZ Research, REINZ

House prices fell 1.0% m/m in April. Weakness was once again concentrated in Auckland, but the ex-Auckland index also fell slightly. Annual house price inflation continues to moderate, reaching 2.2% y/y (3mma) in April, down from 2.7% y/y last month. We had expected the firming in prices in late 2018 would prove short-lived and that headwinds weighing on the market would see prices continue their gentle descent.

Regional divergence has remained evident. In Auckland, prices fell 2% m/m in April to be down 3.1% over the year (3mma). In the rest of New Zealand, prices were down 0.1% in the month, but up 7.2% y/y. Over the past three months, price increases have been particularly strong in Hawke's Bay, Manawatu-Whanganui, Wellington, Otago, and Southland.

Figure 2. REINZ house prices and sales

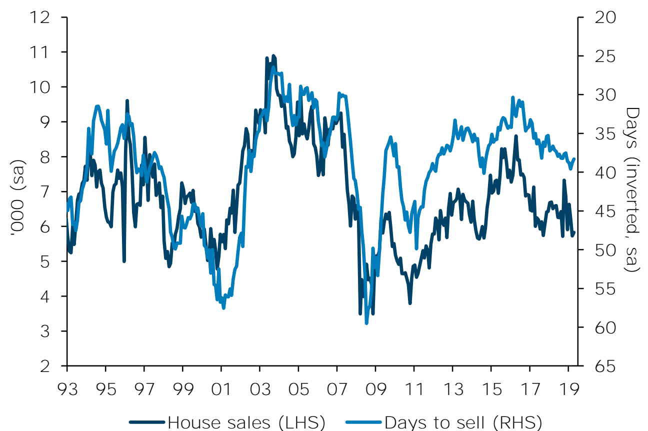


Source: ANZ Research, REINZ

Sales volumes and prices tend to be closely correlated, although at times tight dwelling supply can complicate the relationship.

Seasonally adjusted house sales rose 1.2% in April, following an 8% fall in March. The data have been soft and the 13% January lift – boosted by the RBNZ's relaxation of LVR restrictions – has now been fully reversed. House sales remain at a low level, consistent will low house price inflation. On the whole, sales have been oscillating around a flat level to be 7% lower than a year ago (3mma).

Figure 3. Sales and median days to sell

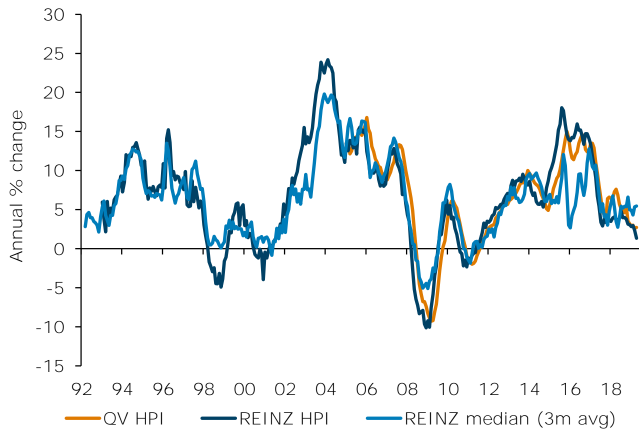


Source: ANZ Research, REINZ

How long it takes to sell a house is also an indicator of the strength of the market, encompassing both demand and supply-side considerations. Larger cities tend to see houses sell more quickly, but deviations in a region from its average provide an indicator of the heat in a market at any given time.

Based on days to sell a house, the housing market is still a little tight in aggregate, but less so than in 2016. Median time to sell a house is sitting at 38 days (sa), slightly below the historical average. Markets outside Auckland and Canterbury are tight, but the Auckland market in particular shows signs of slack. The days to sell measure was stable in April, but remained elevated at 44 – above the historical average of 36. Slack around this level suggests that weakness in prices may continue for a while yet.

Figure 4. REINZ and QV house prices

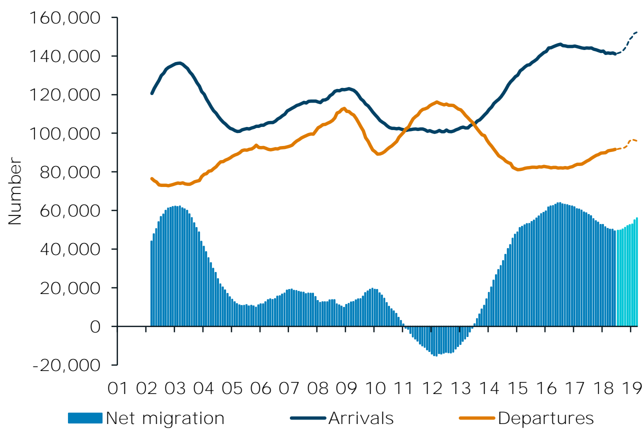


Source: ANZ Research, REINZ, QVNZ

There are three monthly measures of house prices in New Zealand: the median and house price index measures produced by REINZ, and the monthly QVNZ house price index. The latter tends to lag the other measures as it records sales later in the transaction process. Moreover, movements do not line up exactly, given differing methodologies (the REINZ house price index and QVNZ measures attempt to adjust for the quality of houses sold).

The REINZ HPI – our preferred measure – is sitting at 2.2% y/y (3mma) in April. The QVNZ measure has moderated even further and is sitting at 2.7% y/y. The REINZ median, on the other hand, was up 5.5% y/y (3mma). Since the median does not control for composition, this may reflect high-value sales.

Figure 5. Annual migration*



Source: Statistics NZ

*Dotted lines show the last nine months of data, which we look through because they are subject to substantial revisions. The data prior to June 2014 is back-casted using Stats NZ's discontinued experimental data.

Migration flows to and from New Zealand are one of the major drivers of housing market cycles. The early-1970s, mid-1990s, mid-2000s and most recent house price booms have coincided with large net migration inflows.

Annual net migration reportedly picked up to 56,100 in March, but Stats NZ's data is subject to substantial revision and is relatively untested, so we would caution about reading too much into it at this stage.

The earlier (and more reliable) observations show annual net migration eased to 49,400 by mid-2018 from its peak of 64,000 in mid-2016. And we think this process has continued, with arrivals flattening off and departures slowly lifting as earlier arrivals on temporary visas continue to cycle out. Indeed, to avoid unnecessary noise in our economic outlook we're now forecasting net migration with a nine-month lag.

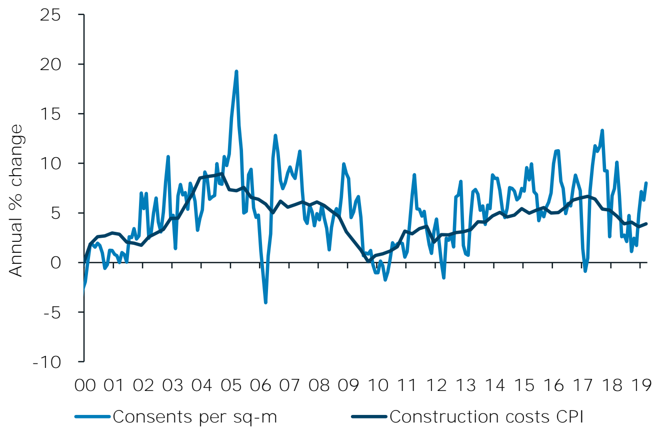
Figure 6. Residential building consents

Source: ANZ Research, Statistics NZ

Residential building consents started the year on a solid note, up 12.1% in the first quarter, despite a 6.9% m/m decline in March. In the quarter, gains were broad-based but were led by volatile Auckland multi-unit dwellings in particular, so recent strength may not persist. Annual consent issuance is running at 34,600, pushing above the previous mid-2000s peak (33,200). Growth in Auckland consents drove the strength, with annual consents up around the 14k mark.

Overall, housing demand remains robust, which should be supportive of further construction activity. However, capacity constraints are being felt and the construction industry is facing profitability challenges, which we expect will make it difficult for issuance to push higher.

Figure 7. Construction cost inflation

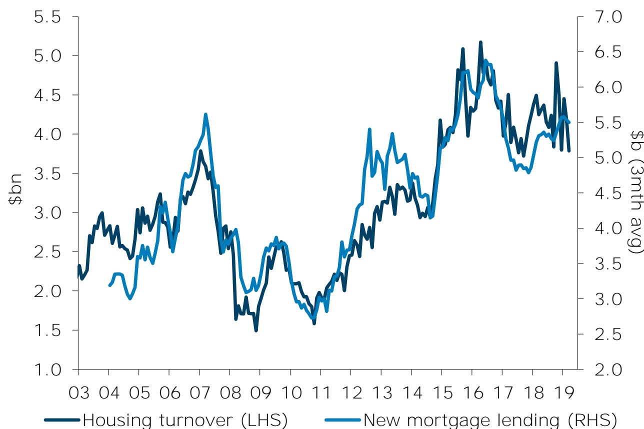


Source: ANZ Research, Statistics NZ

Construction cost inflation has softened since 2017 and we expect it to remain subdued. Growth in the cost of consented work per square metre – a proxy – picked up to 8% y/y (3mma) in March, following a period of weakness in 2018. This compares with CPI construction cost inflation of 3.9% y/y in the March quarter. Construction cost inflation has been in gradual decline from its recent peak of 6.7% in March 2017, but appears to have found a floor.

Capacity pressures in the industry remain acute, which should continue to support price rises. But with construction growth slower than in recent years, and caution among firms, we don't expect construction cost inflation to surge higher from here.

Figure 8. New mortgage lending and housing turnover



Source: ANZ Research, RBNZ

New residential mortgage lending figures are published by the RBNZ. These are gross (rather than net) flows and can provide leading information on household credit growth and housing market activity.

New mortgage lending has been volatile of late, consistent with the recent noise in house sales. New lending fell 5.9% m/m (sa) in March following a 4.2% m/m fall in February. House sales and new lending were boosted by the easing in LVR restrictions in January, but both have subsequently pulled back. From here, the outlook will depend on where the trend in sales settles. Housing turnover and new mortgage lending have been oscillating around a high level, but headwinds may see this peter out eventually.

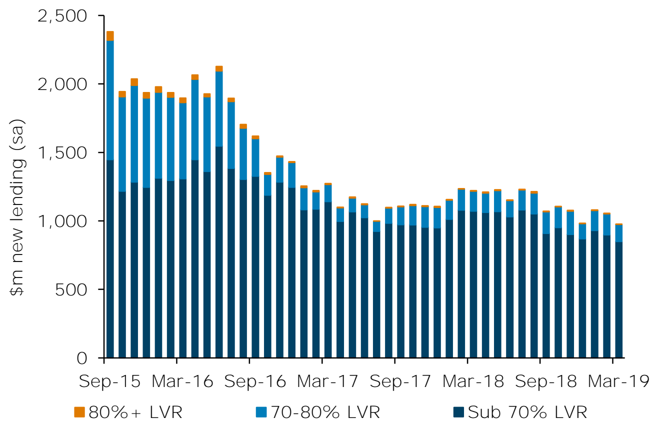
Figure 9. New mortgage lending and housing credit

Source: ANZ Research, REINZ, RBNZ

Household credit has been growing at a pretty consistent monthly pace since early 2017. In monthly terms, household lending increased 0.5% m/m in March. In annual terms, household credit growth is running at 5.9% y/y (3mma).

Housing credit growth has been stable in recent months, despite housing market volatility. Banks are behaving prudently, the housing market has cooled, investors are wary, and loan-to-value ratio restrictions are expected to still have a dampening influence on credit availability, even when they are eased. Proposed tightening in banks' capital requirements would also create headwinds, if implemented. On the whole, we expect credit growth will continue to grow modestly from here.

Figure 10. Investor lending by LVR

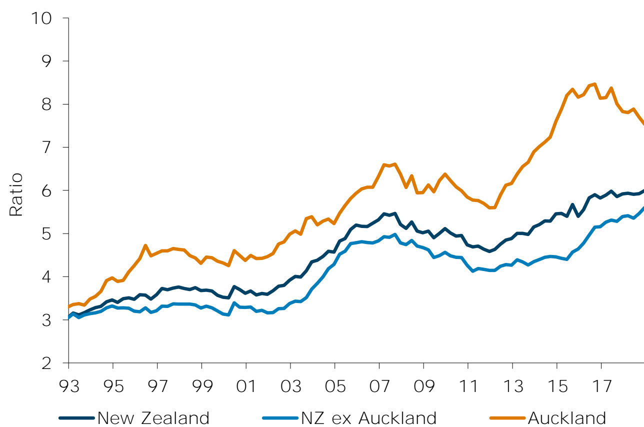


Source: ANZ Research, RBNZ

On a seasonally adjusted basis, new lending to investors fell 9% in March following a 4% fall in February. The recent slowing follows a strong January rise as loan-to-value restrictions were eased in the month. But recent weakness in house sales since has more than offset the January rise – with lending to investors falling overall so far in 2019 in seasonally adjusted terms. Underlying this, investors remain wary, which is weighing on the housing market. About 19% of new loans were to investors in March, up from 17.4% towards the end of 2018.

The share of investor lending on riskier terms remains low. The share of investor lending at loan-to-value ratios of less than 70% continues to sit at around 85%. In late-2014 it was about half.

Figure 11. Regional house prices to income

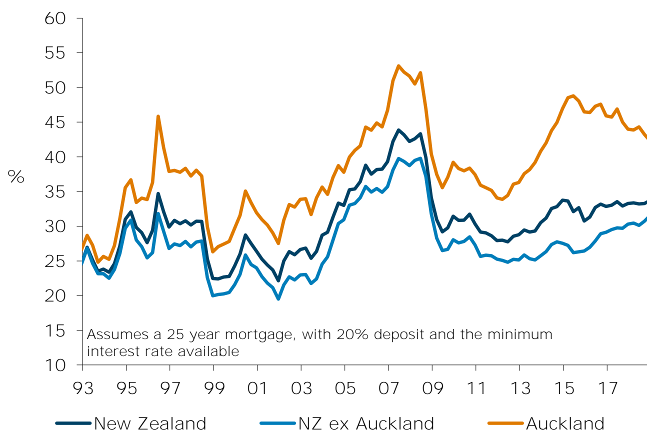


Source: ANZ Research, REINZ, Statistics NZ

One commonly cited measure of housing affordability is the ratio of average house prices to incomes. It is a standard measure used internationally to compare housing affordability across countries. It isn't perfect; it does not take into account things like average housing size and quality, interest rates, and financial liberalisation. Therefore, it is really only a partial gauge as some of these factors mean that it is logical for this ratio to have risen over time.

Nationally, the ratio has been stable at 6 times income since early 2017. Auckland has seen its ratio ease from over 8 times in 2017 to an estimated 7.5 times in Q4 2018, reflecting recent weakness in house prices. Ex-Auckland, the ratio has continued to rise; at 5.6 times incomes this is at record highs.

Figure 12. Regional mortgage payments to income



Source: ANZ Research, REINZ, RBNZ, Statistics NZ

Another, arguably more comprehensive, measure of housing affordability is to look at it through the lens of debt serviceability, as this also takes into account interest rates, which are an important driver of housing market cycles.

We estimate that for a purchaser of a median-priced home (20% deposit), the average mortgage payment to income nationally is 34%. However, there are stark regional differences. In Auckland it is 42% and the rest of New Zealand it is 32%. This is not far from historic highs in Auckland, despite mortgage rates being very low. Debt levels are high nationwide. And while home ownership is being made more affordable by low mortgage rates, households could be vulnerable in the event of a lift in interest rates.

Property gauges

House price growth has softened recently, but weakness in Auckland continues to stand in stark contrast to the regions. House sales fell further in April, after the easing in loan-to-value ratio restrictions provided a temporary boost at the start of the year. Looking thorough the volatility, house sales are near the bottom of the range since mid-2017. House prices and market activity are expected to remain subdued from here. The market has been facing several headwinds: banks are cautious and LVR limits remain binding; investors are wary of policy changes; affordability constraints are biting; and the impact of the locking out of foreign buyers is still working its way through. That said, some tailwinds have also emerged recently, including falls in fixed mortgage rates and the exclusion of a capital gains tax, which should help to stabilise the market.

We use ten gauges to assess the state of the property market and look for signs that changes are in the wind.

Affordability. For new entrants into the housing market, we measure affordability using the ratio of house prices to income (adjusted for interest rates) and mortgage payments as a proportion of income.

Serviceability / indebtedness. For existing homeowners, serviceability relates interest payments to income, while indebtedness is measured as the level of debt relative to income.

Interest rates. Interest rates affect both the affordability of new houses and the serviceability of debt.

Migration. A key source of demand for housing.

Supply-demand balance. We use dwelling consents issuance to proxy growth in supply. Demand is derived via the natural growth rate in the population, net migration, and the average household size.

Consents and house sales. These are key gauges of activity in the property market.

Liquidity. We look at growth in private sector credit relative to GDP to assess the availability of credit in supporting the property market.

Globalisation. We look at relative property price movements between New Zealand, the US, the UK, and Australia, in recognition of the important role that global factors play in New Zealand's property cycle.

Housing supply. We look at the supply of housing listed on the market, recorded as the number of months needed to clear the housing stock. A high figure indicates that buyers have the upper hand.

House prices to rents. We look at median prices to rents as an indicator of relative affordability.

Policy changes. Government and macro-prudential policy can affect the property market landscape.

Indicator	Level	Direction for prices	Comment
Affordability	Unaffordable	↔/↓	Affordability constraints are very relevant. It is the main reason we see the Auckland market continuing to underperform.
Serviceability/ indebtedness	High debt, low rates OK – high rates not	↔/↓	Serviceability looks okay provided interest rates stay low and income growth is solid. Debt levels are high.
Interest rates / RBNZ	More cuts coming	↔/↑	We see the OCR falling further in the second half of 2019 and early 2020, partly to offset upward pressure on rates. Short-term mortgage rates have fallen.
Migration	Peaked	↔/↑	Migration remains elevated. We expect further softening, though new data creates uncertainty.
Supply-demand balance	Demand > Supply	↔/↑	MBIE estimates New Zealand is short 71k houses, but the build-up of pent-up demand is becoming less pronounced.
Consents and house sales	Shortage	↔/↑	We expect consents issuance will struggle to push higher, with the construction sector reaching its limits.
Liquidity	Set to tighten	↔/↓	Credit availability is very relevant. Banks have plenty of cash currently, but know they have to raise a lot more capital.
Globalisation	Weak	↔/↓	The foreign-buyer ban has stymied demand from non-residents, and the housing market is weak in Australia.
Housing supply	Too few	↔/↑	The Government is going to take a more active role, but there are still questions about crowding out other work and labour shortages.
House prices to rents	Too high	↔/↓	Rents are moving up, with pressures on the existing stock apparent. Buying remains relatively expensive.
Policy changes	Dampening	↔/↓	Government policy changes are making investors wary. Easing in loan-to-value restrictions and the ruling out of a capital gains tax has provided a slight offset.
On balance	**In recent ranges**	↔/↓	**We expect the market to remain contained, though volatility may continue in the short term.**

Property gauges

Figure 1: Housing affordability

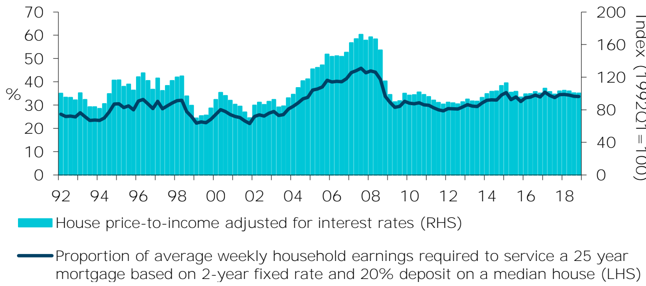


Figure 2: Household debt to disposable income

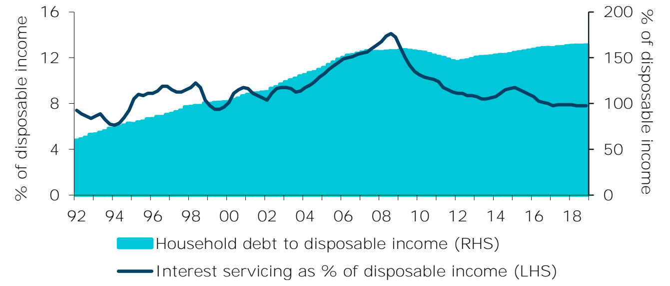


Figure 3: New customer average residential mortgage rate (<80% LVR)

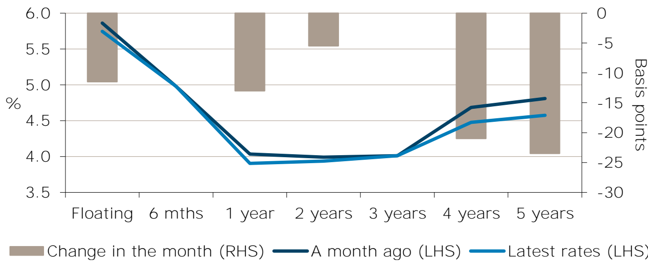


Figure 4: Annual migration*

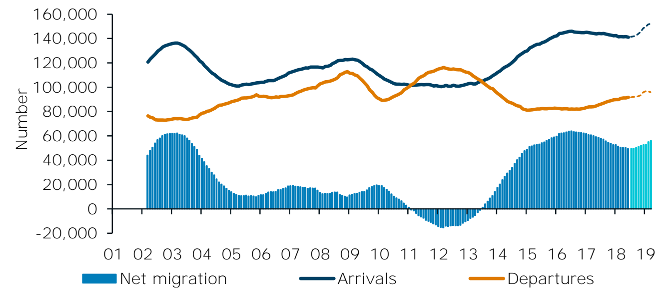


Figure 5: Housing supply-demand balance

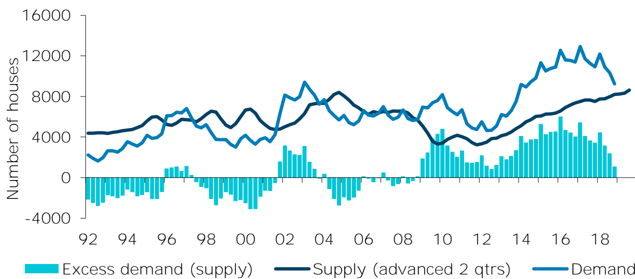


Figure 6: Building consents and house sales

Figure 7: Liquidity and house prices

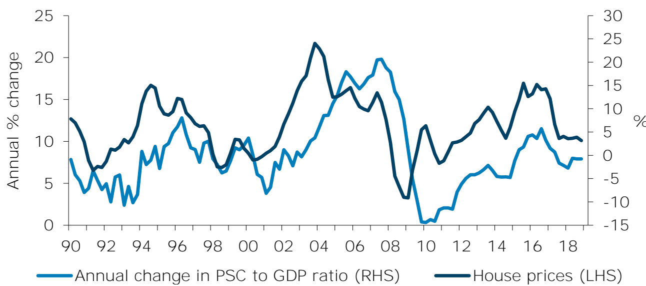


Figure 8: House price inflation comparison

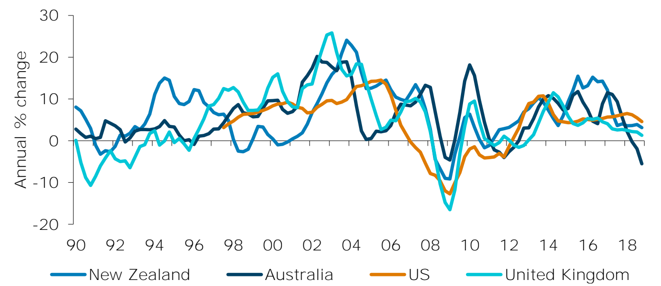


Figure 9: Housing supply

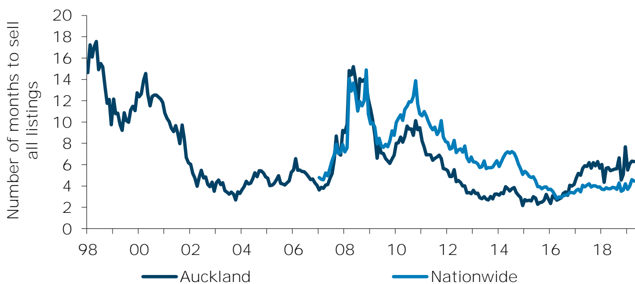


Figure 10: Median rental, annual growth

Source: ANZ Research, Statistics NZ, REINZ, RBNZ, QVNZ, Nationwide, Bloomberg, Barfoot & Thompson, MBIE

* Dotted lines show the last nine months of data, which we look through because they are subject to substantial revisions. The data prior to June 2014 is back-casted using Stats NZ's discontinued experimental data.

Economic overview

Summary

The New Zealand economy has been losing steam for a while now and we think this process has a little further to run. However, there are enough positive growth drivers out there to put a floor under the slowdown by year end, and support a gradual acceleration in growth thereafter. One of these bright spots is the additional monetary stimulus provided by the RBNZ when it cut the OCR in May. While lower interest rates (and the recent depreciation of the NZD) will support growth, we think a little more stimulus will be required to see inflation lift sustainably to the RBNZ's target mid-point. We've pencilled in another 25bp cut for November with a follow up move in February. However, the global data has turned a bit patchy of late. A materialisation of global risks into tangible consequences (eg for commodity prices) would see us bring forward our expectation for the timing of the next OCR cut.

Our view

The New Zealand economy has been shedding momentum for a while now, and near-term indicators suggest this process has persisted into the first half of 2019. GDP growth has slowed from its recent peak of around 4.0% y/y in mid-2016 to just 2.3% in Q4 2018. By Q2 2019 we expect annual growth will be running at 2%. Indeed, our own Truckometer indicators (which forewarned us of this slowdown) suggest that while a little further softness lies ahead, the slowdown in growth may be finding a floor. Indeed, there is no reason for the economy to fall off a cliff:

- The household sector remains robust, supported by low unemployment, gradually rising wages, low interest rates, and for some, higher government transfer payments though the Families Package.
- While we suspect the migration cycle is easing (due to methodological changes the data is now prone to enormous revisions), it remains positive and at a high level. So with respect to population growth, the impulse to GDP remains positive, it's just shrinking.
- Further, it appears (touch wood) that the slowdown in the housing market has run its course. Growth in residential investment is expected to muddle along at around 2-3% y/y, with activity remaining at a high level. And in the event of a private-sector slowdown (and hence a freeing up of available resources for building), the KiwiBuild building programme could pick up some of the slack and put a floor under the deceleration.
- Generally speaking, government spending is expected to support growth in the near term but the impulse isn't expected to be large or overly persistent. The Government appears adamant on sticking to its fiscal strategy and reducing net core Crown debt to 20% of GDP within five years of taking office. So long as this is the case, the ability for the Government to boost growth will remain contained.

Globally, it's been a bit of a roller coaster ride of late. Global manufacturing and trade weakened markedly towards the end of 2018, and global trade followed suit. Then a few tentative signs emerged that things weren't quite as bad as initially thought; US and China GDP remained pretty robust, and global equities posted a decent recovery from their Christmas plunge. More recently however, the data flow has softened once again, with both US and China industrial production and retail sales coming in below expectations. All the while, euro area demand has remained soft. Escalating US-China trade tensions are unsettling markets. Softening global growth has seen central banks turn more cautious, and the resulting easier global financial conditions should support activity and reduce the risk of a sharper deterioration in growth.

Despite slowing global growth, prices for New Zealand's exports have held up remarkably well. But for dairy in particular, part of the explanation lies with softening global supply. Recent NZD depreciation is expected to support export earnings, but with the global outlook fragile we suspect the pass-through to the rest of the economy will be a little more muted than otherwise. Deleveraging seems more likely than a spend-up.

The RBNZ has been proactive in the face of the softening domestic and global outlook. Slowing growth and waning capacity pressures, and the soft signal for future inflation that this represents, were reason enough for the RBNZ to cut the OCR 25bps to 1.50% in May. While we've long held the view that the RBNZ will need to cut the OCR, they ended up doing so a little earlier than we expected. From here, while the RBNZ forecasts suggest only 50/50 odds of an additional cut, we think economic outturns in the second half of the year will disappoint the RBNZ's expectation of a vigorous bounce-back and hence that by November they will decide to cut again, with a follow-up cut in February. This additional monetary stimulus is expected to give the economy the boost it needs to support a gradual acceleration in growth over the next few years. But should the lengthy list of global growth risks materialise and manifest in sharply lower commodity prices, we expect the RBNZ will shoot first and ask questions later, cutting the OCR promptly.

Key forecasts

Weekly mortgage repayments table (based on 25-year term)

Mortgage Size ($'000)	Mortgage Rate (%)													
	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75
200	231	237	243	250	256	263	270	276	283	290	297	304	311	319
250	289	296	304	312	320	329	337	345	354	363	371	380	389	398
300	346	356	365	375	385	394	404	415	425	435	446	456	467	478
350	404	415	426	437	449	460	472	484	496	508	520	532	545	558
400	462	474	487	500	513	526	539	553	566	580	594	608	623	637
450	520	534	548	562	577	592	607	622	637	653	669	684	701	717
500	577	593	609	625	641	657	674	691	708	725	743	761	778	797
550	635	652	669	687	705	723	741	760	779	798	817	837	856	876
600	693	711	730	750	769	789	809	829	850	870	891	913	934	956
650	750	771	791	812	833	854	876	898	920	943	966	989	1,012	1,036
700	808	830	852	874	897	920	944	967	991	1,015	1,040	1,065	1,090	1,115
750	866	889	913	937	961	986	1,011	1,036	1,062	1,088	1,114	1,141	1,168	1,195
800	924	948	974	999	1,025	1,052	1,078	1,105	1,133	1,160	1,188	1,217	1,246	1,274
850	981	1,008	1,035	1,062	1,089	1,117	1,146	1,174	1,204	1,233	1,263	1,293	1,323	1,354
900	1,039	1,067	1,095	1,124	1,154	1,183	1,213	1,244	1,274	1,306	1,337	1,369	1,401	1,434
950	1,097	1,126	1,156	1,187	1,218	1,249	1,281	1,313	1,345	1,378	1,411	1,445	1,479	1,513
1000	1,154	1,186	1,217	1,249	1,282	1,315	1,348	1,382	1,416	1,451	1,486	1,521	1,557	1,593

Housing market indicators for April 2019 (based on REINZ data)

	Median house prices		No of sales (sa)	Mthly % chg	Avg days to sell (sa)
	Ann % chg	3mth % chg			
Northland	12.7	0.4	188	+10%	57
Auckland	0.1	-0.3	1,563	-3%	44
Waikato	9.3	-0.2	651	+7%	37
Bay of Plenty	4.7	0.9	355	-15%	44
Gisborne	15.0	7.9	61	+44%	40
Hawke's Bay	8.7	1.7	243	+8%	35
Manawatu-Whanganui	17.8	6.7	388	+3%	28
Taranaki	5.1	1.9	159	0%	28
Wellington	9.8	0.8	636	-4%	33
Tasman, Nelson and Marlborough	8.6	-0.2	211	-15%	38
Canterbury	4.2	2.4	770	-6%	42
Otago	-0.5	1.8	344	-6%	31
West Coast	15.6	-1.6	44	0%	78
Southland	22.9	13.3	155	-10%	30
New Zealand	**6.2**	**0.9**	**5,829**	**+2%**	**38**

Key forecasts

	Actual				Forecasts					
Economic indicators	Jun-18	Sep-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20
GDP (Ann % Chg)	3.2	2.6	2.3	2.3	2.0	2.3	2.3	2.4	2.5	2.5
CPI Inflation (Annual % Chg)	1.5	1.9	1.9	1.5(a)	1.8	1.4	1.5	2.0	1.9	1.9
Unemployment Rate (%)	4.4	4.0	4.3	4.2(a)	4.3	4.3	4.4	4.4	4.3	4.3
House Prices (Annual % Chg)	3.7	4.3	3.3	2.7(a)	3.1	3.3	3.5	3.7	3.7	3.5
Interest rates (RBNZ)	Sep-18	Dec-18	Mar-19	Jun-19	Sep-19	Dec-19	Mar-20	Jun-20	Sep-20	Dec-20
Official Cash Rate	1.75	1.75	1.75	1.50	1.50	1.25	1.00	1.00	1.00	1.00
90-Day Bank Bill Rate	1.9	2.0	1.9	1.7	1.6	1.4	1.2	1.2	1.2	1.2
Floating Mortgage Rate	5.8	5.8	5.8	5.5	5.5	5.3	5.0	5.0	5.0	5.0
1-Yr Fixed Mortgage Rate	4.8	4.8	4.7	4.7	4.6	4.4	4.3	4.3	4.3	4.3
2-Yr Fixed Mortgage Rate	4.8	4.7	4.6	4.5	4.6	4.5	4.4	4.4	4.4	4.4
5-Yr Fixed Mortgage Rate	5.4	5.4	5.3	5.1	5.4	5.3	5.2	5.3	5.3	5.3

Source: ANZ Research, Statistics NZ, RBNZ, REINZ

Important notice

This document is intended for ANZ's institutional, professional or wholesale clients, and not for individuals or retail persons. It should not be forwarded, copied or distributed. The information in this document is general in nature, and does not constitute personal financial product advice or take into account your objectives, financial situation or needs.

This document may be restricted by law in certain jurisdictions. Persons who receive this document must inform themselves about and observe all relevant restrictions.

Disclaimer for all jurisdictions: This document is prepared and distributed in your country/region by either: Australia and New Zealand Banking Group Limited (ABN11 005 357 522) (**ANZ**); or its relevant subsidiary or branch (each, an **Affiliate**), as appropriate or as set out below.

This document is distributed on the basis that it is only for the information of the specified recipient or permitted user of the relevant website (**recipients**).

This document is solely for informational purposes and nothing contained within is intended to be an invitation, solicitation or offer by ANZ to sell, or buy, receive or provide any product or service, or to participate in a particular trading strategy.

Distribution of this document to you is only as may be permissible by the laws of your jurisdiction, and is not directed to or intended for distribution or use by recipients resident or located in jurisdictions where its use or distribution would be contrary to those laws or regulations, or in jurisdictions where ANZ would be subject to additional licensing or registration requirements. Further, the products and services mentioned in this document may not be available in all countries.

ANZ in no way provides any financial, legal, taxation or investment advice to you in connection with any product or service discussed in this document. Before making any investment decision, recipients should seek independent financial, legal, tax and other relevant advice having regard to their particular circumstances.

Whilst care has been taken in the preparation of this document and the information contained within is believed to be accurate, ANZ does not represent or warrant the accuracy or completeness of the information Further, ANZ does not accept any responsibility to inform you of any matter that subsequently comes to its notice, which may affect the accuracy of the information in this document.

Preparation of this document and the opinions expressed in it may involve material elements of subjective judgement and analysis. Unless specifically stated otherwise: they are current on the date of this document and are subject to change without notice; and, all price information is indicative only. Any opinions expressed in this document are subject to change at any time without notice.

ANZ does not guarantee the performance of any product mentioned in this document. All investments entail a risk and may result in both profits and losses. Past performance is not necessarily an indicator of future performance. The products and services described in this document may not be suitable for all investors, and transacting in these products or services may be considered risky.

ANZ expressly disclaims any responsibility and shall not be liable for any loss, damage, claim, liability, proceedings, cost or expense (Liability) arising directly or indirectly and whether in tort (including negligence), contract, equity or otherwise out of or in connection with this document to the extent permissible under relevant law. Please note, the contents of this document have not been reviewed by any regulatory body or authority in any jurisdiction.

ANZ and its Affiliates may have an interest in the subject matter of this document. They may receive fees from customers for dealing in the products or services described in this document, and their staff and introducers of business may share in such fees or remuneration that may be influenced by total sales, at all times received and/or apportioned in accordance with local regulatory requirements. Further, they or their customers may have or have had interests or long or short positions in the products or services described in this document, and may at any time make purchases and/or sales in them as principal or agent, as well as act (or have acted) as a market maker in such products. This document is published in accordance with ANZ's policies on conflicts of interest and ANZ maintains appropriate information barriers to control the flow of information between businesses within it and its Affiliates.

Your ANZ point of contact can assist with any questions about this document including for further information on these disclosures of interest.

Country/region specific information: Unless stated otherwise, this document is distributed by Australia and New Zealand Banking Group Limited (**ANZ**).

Australia. ANZ holds an Australian Financial Services licence no. 234527. For a copy of ANZ's Financial Services Guide please click here or request from your ANZ point of contact. If trading strategies or recommendations are included in this document, they are solely for the information of 'wholesale clients' (as defined in section 761G of the Corporations Act 2001 Cth).

Brazil, Brunei, India, Japan, Kuwait, Malaysia, Switzerland, Taiwan. This document is distributed in each of these jurisdictions by ANZ on a cross-border basis.

Cambodia. This document is distributed in Cambodia by ANZ Royal Bank (Cambodia) Limited (**ANZ Royal Bank**). The recipient acknowledges that although ANZ Royal Bank is a subsidiary of ANZ, it is a separate entity to ANZ and the obligations of ANZ Royal Bank do not constitute deposits or other liabilities of ANZ and ANZ is not required to meet the obligations of ANZ Royal Bank.

European Economic Area (EEA): *United Kingdom.* ANZ is authorised in the United Kingdom by the Prudential Regulation Authority (**PRA**) and is subject to regulation by the Financial Conduct Authority (**FCA**) and limited regulation by the PRA. Details about the extent of our regulation by the PRA are available from us on request. This document is distributed in the United Kingdom by Australia and New Zealand Banking Group Limited ANZ solely for the information of persons who would come within the FCA definition of "eligible counterparty" or "professional client". It is not intended for and must not be distributed to any person who would come within the FCA definition of "retail client". Nothing here excludes or restricts any duty or liability to a customer which ANZ may have under the UK Financial Services and Markets Act 2000 or under the regulatory system as defined in the Rules of the Prudential Regulation Authority (**PRA**) and the FCA. ANZ is authorised in the United Kingdom by the PRA and is subject to regulation by the FCA and limited regulation by the PRA. Details about the extent of our regulation by the PRA are available from us on request.

Fiji. For Fiji regulatory purposes, this document and any views and recommendations are not to be deemed as investment advice. Fiji investors must seek licensed professional advice should they wish to make any investment in relation to this document.

Hong Kong. This publication is issued or distributed in Hong Kong by the Hong Kong branch of ANZ, which is registered at the Hong Kong Monetary Authority to conduct Type 1 (dealing in securities), Type 4 (advising on securities) and Type 6 (advising on corporate finance) regulated activities. The contents of this publication have not been reviewed by any regulatory authority in Hong Kong.

India. If this document is received in India, only you (the specified recipient) may print it provided that before doing so, you specify on it your name and place of printing.

Myanmar. This publication is intended to be general and part of ANZ's customer service and marketing activities when implementing its functions as a licensed bank. This publication is not Securities Investment Advice (as that term is defined in the Myanmar Securities Transaction Law 2013).

Important notice

New Zealand. This document is intended to be of a general nature, does not take into account your financial situation or goals, and is not a personalised adviser service under the Financial Advisers Act 2008 (**FAA**).

Oman. ANZ neither has a registered business presence nor a representative office in Oman and does not undertake banking business or provide financial services in Oman. Consequently ANZ is not regulated by either the Central Bank of Oman or Oman's Capital Market Authority. The information contained in this document is for discussion purposes only and neither constitutes an offer of securities in Oman as contemplated by the Commercial Companies Law of Oman (Royal Decree 4/74) or the Capital Market Law of Oman (Royal Decree 80/98), nor does it constitute an offer to sell, or the solicitation of any offer to buy non-Omani securities in Oman as contemplated by Article 139 of the Executive Regulations to the Capital Market Law (issued vide CMA Decision 1/2009). ANZ does not solicit business in Oman and the only circumstances in which ANZ sends information or material describing financial products or financial services to recipients in Oman, is where such information or material has been requested from ANZ and the recipient understands, acknowledges and agrees that this document has not been approved by the CBO, the CMA or any other regulatory body or authority in Oman. ANZ does not market, offer, sell or distribute any financial or investment products or services in Oman and no subscription to any securities, products or financial services may or will be consummated within Oman. Nothing contained in this document is intended to constitute Omani investment, legal, tax, accounting or other professional advice.

People's Republic of China (PRC). This document may be distributed by either ANZ or Australia and New Zealand Bank (China) Company Limited (**ANZ China**). Recipients must comply with all applicable laws and regulations of PRC, including any prohibitions on speculative transactions and CNY/CNH arbitrage trading. If this document is distributed by ANZ or an Affiliate (other than ANZ China), the following statement and the text below is applicable: No action has been taken by ANZ or any affiliate which would permit a public offering of any products or services of such an entity or distribution or re-distribution of this document in the PRC. Accordingly, the products and services of such entities are not being offered or sold within the PRC by means of this document or any other document. This document may not be distributed, re-distributed or published in the PRC, except under circumstances that will result in compliance with any applicable laws and regulations. If and when the material accompanying this document relates to the products and/or services of ANZ China, the following statement and the text below is applicable: This document is distributed by ANZ China in the Mainland of the PRC.

Qatar. This document has not been, and will not be:

- lodged or registered with, or reviewed or approved by, the Qatar Central Bank (**QCB**), the Qatar Financial Centre (**QFC**) Authority, QFC Regulatory Authority or any other authority in the State of Qatar (**Qatar**); or
- authorised or licensed for distribution in Qatar,

and the information contained in this document does not, and is not intended to, constitute a public offer or other invitation in respect of securities in Qatar or the QFC. The financial products or services described in this document have not been, and will not be:

- registered with the QCB, QFC Authority, QFC Regulatory Authority or any other governmental authority in Qatar; or
- authorised or licensed for offering, marketing, issue or sale, directly or indirectly, in Qatar.

Accordingly, the financial products or services described in this document are not being, and will not be, offered, issued or sold in Qatar, and this document is not being, and will not be, distributed in Qatar. The offering, marketing, issue and sale of the financial products or services described in this document and distribution of this document is being made in, and is subject to the laws, regulations and rules of, jurisdictions outside of Qatar and the QFC. Recipients of this document must abide by this restriction and not distribute this document in breach of this restriction. This document is being sent/issued to a limited number of institutional and/or sophisticated investors (i) upon their request and confirmation that they understand the statements above; and (ii) on the condition that it will not be provided to any person other than the original recipient, and is not for general circulation and may not be reproduced or used for any other purpose.

Singapore. This document is distributed in Singapore by the Singapore branch of ANZ solely for the information of "accredited investors", "expert investors" or (as the case may be) "institutional investors" (each term as defined in the Securities and Futures Act Cap. 289 of Singapore). ANZ is licensed in Singapore under the Banking Act Cap. 19 of Singapore and is exempted from holding a financial adviser's licence under Section 23(1)(a) of the Financial Advisers Act Cap. 100 of Singapore.

United Arab Emirates (UAE). This document is distributed in the UAE or the Dubai International Financial Centre (**DIFC**) (as applicable) by ANZ. This document does not, and is not intended to constitute: (a) an offer of securities anywhere in the UAE; (b) the carrying on or engagement in banking, financial and/or investment consultation business in the UAE under the rules and regulations made by the Central Bank of the UAE, the Emirates Securities and Commodities Authority or the UAE Ministry of Economy; (c) an offer of securities within the meaning of the Dubai International Financial Centre Markets Law (DIFCML) No. 12 of 2004; and (d) a financial promotion, as defined under the DIFCML No. 1 of 200. ANZ DIFC Branch is regulated by the Dubai Financial Services Authority (**DFSA**) ANZ DIFC Branch is regulated by the Dubai Financial Services Authority (**DFSA**). The financial products or services described in this document are only available to persons who qualify as "Professional Clients" or "Market Counterparty" in accordance with the provisions of the DFSA rules. In addition, ANZ has a representative office (**ANZ Representative Office**) in Abu Dhabi regulated by the Central Bank of the UAE. The ANZ Representative Office is not permitted by the Central Bank of the UAE to provide any banking services to clients in the UAE.

United States. Except where this is a FX- related document, this document is distributed in the United States by ANZ Securities, Inc. (**ANZ SI**) which is a member of the Financial Regulatory Authority (**FINRA**) (www.finra.org) and registered with the SEC. ANZSI's address is 277 Park Avenue, 31st Floor, New York, NY 10172, USA (Tel: +1 212 801 9160 Fax: +1 212 801 9163). ANZSI accepts responsibility for its content. Information on any securities referred to in this document may be obtained from ANZSI upon request. This document or material is intended for institutional use only – not retail. If you are an institutional customer wishing to effect transactions in any securities referred to in this document you must contact ANZSI, not its affiliates. ANZSI is authorised as a broker-dealer only for institutional customers, not for US Persons (as "US person" is defined in Regulation S under the US Securities Act of 1933, as amended) who are individuals. If you have registered to use this website or have otherwise received this document and are a US Person who is an individual: to avoid loss, you should cease to use this website by unsubscribing or should notify the sender and you should not act on the contents of this document in any way. Non-U.S. analysts: Non-U.S. analysts may not be associated persons of ANZSI and therefore may not be subject to FINRA Rule 2242 restrictions on communications with the subject company, public appearances and trading securities held by the analysts. Where this is an FX-related document, it is distributed in the United States by ANZ's New York Branch, which is also located at 277 Park Avenue, 31st Floor, New York, NY 10172, USA (Tel: +1 212 801 916 0 Fax: +1 212 801 9163).

Vietnam. This document is distributed in Vietnam by ANZ or ANZ Bank (Vietnam) Limited, a subsidiary of ANZ.

This document has been prepared by ANZ Bank New Zealand Limited, Level 26, 23-29 Albert Street, Auckland 1010, New Zealand,
Ph 64 9 357 4094, e-mail nzeconomics@anz.com, http://www.anz.co.nz