

SECTOR IN-DEPTH

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Covered Bonds – New Zealand

Auckland Housing Affordability Remains Poor Despite Improvement

Summary

- » **Auckland housing affordability remains poor, but higher incomes and low mortgage interest rates offset rising property prices in 2016:** Housing affordability – measured as the proportion of household income needed to meet mortgage repayments - improved on average in New Zealand over the year to 31 December 2016, owing to rising household incomes and record low mortgage interest rates, which offset higher housing prices. However, the situation varied between different regions in New Zealand, with housing affordability improving in some areas and deteriorating in others, depending on the level of housing price growth in each region and the extent to which this was offset by changes to incomes and mortgage interest rates. Moreover, in Auckland, New Zealand's largest city, housing affordability remains poor despite an improvement over the year to December 2016, with new home owners in this city on average needing 46.5% of their monthly income to meet mortgage repayments, much higher than the 31.3% average for New Zealand.
- » **Poor affordability in Auckland is credit negative for covered bonds, but low LTVs mitigate risk:** Poor housing affordability increases the risk of mortgage delinquencies and defaults. As such, we view poor housing affordability in Auckland as credit negative for New Zealand covered bonds backed by mortgages on properties in this city. Although the situation in Auckland improved over the year to 31 December 2016, the proportion of income needed to meet mortgage repayments remains high, which is credit negative. As of December 2016, 49.5% of all mortgage loans included in New Zealand cover pools were on properties located in Auckland. However, the risks posed by poor housing affordability are mitigated by the low weighted-average current loan-to-value (LTV) ratios of the residential mortgage loans in New Zealand cover pools.
- » **Auckland most sensitive to changes in housing prices, interest rates and LTVs:** We conducted a sensitivity analysis to gauge the impact on housing affordability in New Zealand of changes in housing prices, mortgage interest rates and LTVs. The various scenarios that we tested demonstrate that Auckland is the most sensitive of any region in New Zealand to any shift in housing prices, interest rates and LTVs.

Auckland housing affordability remains poor, but higher incomes and low mortgage interest rates offset rising property prices in 2016

Housing affordability - measured as the proportion of household income needed to meet mortgage repayments - improved on average in New Zealand over the year to December 2016, owing to rising household incomes and record low mortgage interest rates, which offset higher housing prices. However, the situation varied between different regions in New Zealand, with housing affordability improving in some areas and deteriorating in others, depending on the level of housing price growth in each region and the extent to which this was offset by changes to incomes and mortgage interest rates. Moreover, in Auckland, New Zealand's largest city, housing affordability remains poor despite an improvement over the year to December 2016, with new home owners in this city on average needing close to half of their monthly income to meet mortgage repayments.

As of 31 December 2016, new home owners in New Zealand needed an average of 31.3% of their monthly income to meet monthly mortgage repayments, an improvement from 32.3% at 31 December 2015. Median housing prices increased by 11% on average across New Zealand over the year to 31 December 2016.¹ However, the negative impact on housing affordability of higher housing prices was offset by an 8.2% increase in median household incomes between the June quarters of 2015 and 2016², while the average mortgage interest rate decreased to a record-low 4.86% at 31 December 2016 from 5.43% at 31 December 2015.³

In Auckland, new home owners needed an average of 46.5% of their income to meet monthly mortgage repayments at 31 December 2016, down from 49.5% at 31 December 2015, but still considerably higher than any other region in New Zealand. Housing prices in Auckland increased 9.1% over the year to 31 December 2016, but the negative impact on housing affordability was countered by a 9.6% increase in median household incomes in the city between the June quarters of 2015 and 2016 as well as lower mortgage interest rates. If household incomes and mortgage interest rates had remained unchanged over the year, the proportion of income needed to meet monthly mortgage repayments in Auckland would have increased to 54% over the year to December 2016.

Although the situation in Auckland improved over the year to December 2016, the cost of meeting mortgage repayments in the city remains high, owing to high housing prices. The median housing price in Auckland was NZD840,000 as of 31 December 2016, much higher than the NZD516,000 for New Zealand overall, owing to rapid price increases especially over the past three years, which have been driven up by supply shortages and high levels of immigration to the city.⁴

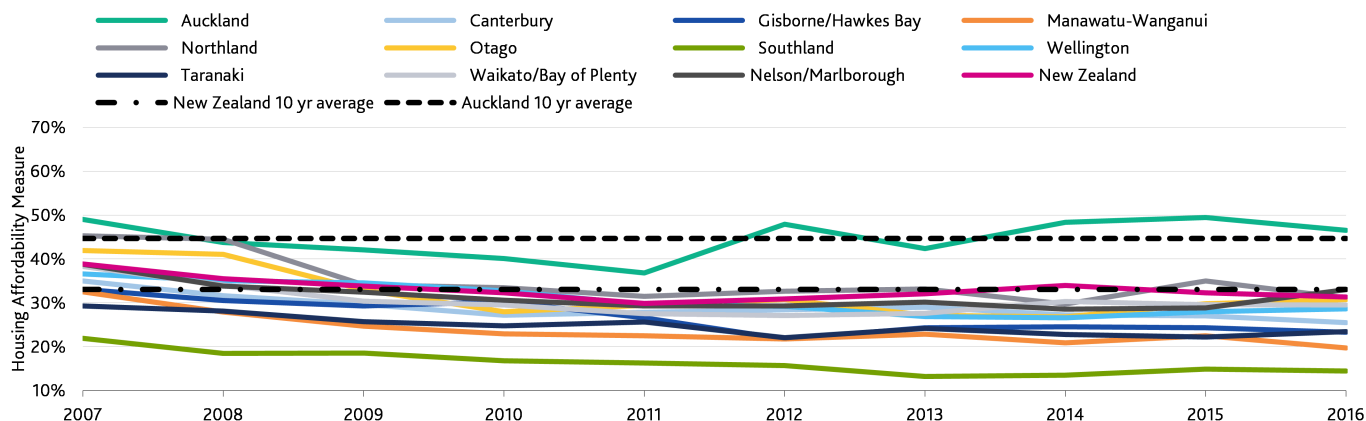
Across the rest of New Zealand, housing affordability improved in the Canterbury, Gisborne/Hawkes Bay, Manawatu-Wanganui, Northland, Southland and Waikato/Bay of Plenty regions over the year to December 2016, owing to a combination of rising household incomes and lower mortgage interest rates.

However, housing affordability deteriorated in the Otago, Wellington, Taranaki and Nelson/Marlborough regions over the year, because of rapid housing price increases and either declines or relatively small increases in household incomes. Housing prices increased by 13.9% in Otago⁵, 21.6% in Wellington (which was the highest housing price increase of any region), 11.3% in Taranaki and 16.9% in Nelson/Marlborough over the year to 31 December 2016. At the same time, household incomes declined by 3.4% and 0.4% in Nelson/Marlborough and Taranaki respectively between the June quarters of 2015 and 2016. In Otago and Wellington, household incomes increased by 4.5% and 12.5% respectively between the June quarters of 2015 and 2016, both of which were not enough to offset the effects of rising housing prices in these regions.

In Auckland and Nelson/Marlborough, the proportion of monthly income needed to meet monthly mortgage repayments is higher than the 10-year average for these regions. In all other regions in New Zealand, housing affordability is better than the 10-year average for that region.

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Exhibit 1

Auckland Is New Zealand's Least Affordable City for Housing

Note: Housing Affordability Measure = % of household income needed to meet monthly mortgage repayments. See Appendix for assumptions and calculations.
 Source: Reserve Bank of New Zealand, New Zealand Statistics (Household Labour Force Survey), Real Estate Institute of New Zealand (<http://www.reinz.co.nz>), Moody's Investors Service

Poor affordability in Auckland is credit negative for covered bonds, but low LTVs mitigate risk

Poor housing affordability increases the risk of mortgage delinquencies and defaults. As such, we view poor housing affordability in Auckland as credit negative for New Zealand covered bonds backed by mortgages on properties in this city. Although the situation in Auckland improved over the year to 31 December 2016, the proportion of income needed to meet mortgage repayments remains high at 46.5% and considerably above other regions in New Zealand, which is credit negative.

As of December 2016, 49.5% of all mortgage loans included in New Zealand cover pools were on properties located in Auckland. Reflecting the traditional geographic footprint of its operations, ASB Bank Limited's (Aa3/Aa3 negative, a3)⁶ cover pool had the largest exposure to Auckland of 61.8%, while Kiwibank Limited's (A1/Aa3 stable, baa2) cover pool had the lowest exposure of 38.0%.

However, the risks posed by poor housing affordability are mitigated by the low weighted-average current LTVs of the residential mortgage loans in New Zealand cover pools. As of December 2016, ASB's cover pool had the lowest weighted-average current LTV of 46.6%, while Kiwibank's cover pool had the highest weighted-average current LTV of 55.8%.⁷

Exhibit 2

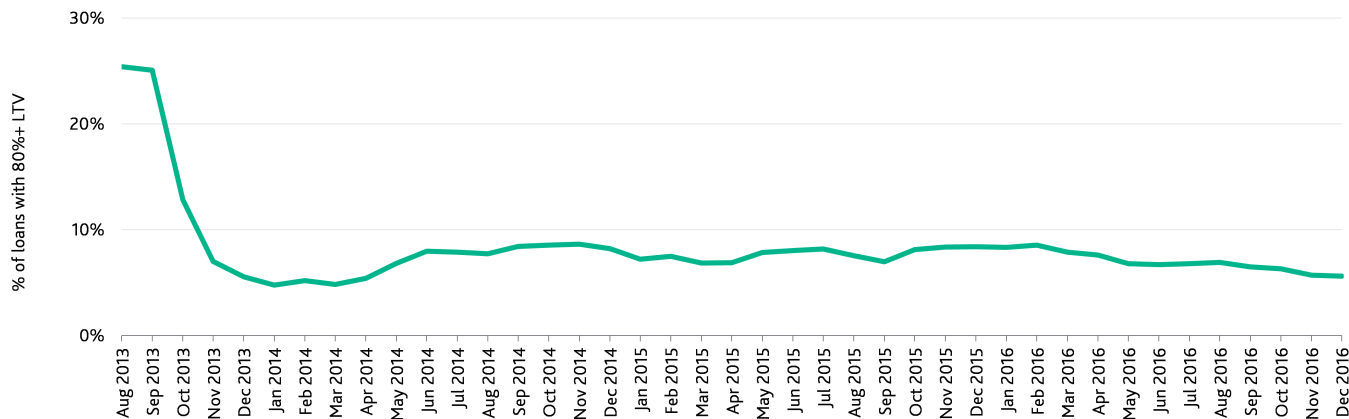
Exposure to Auckland Varies Between New Zealand Covered Bond Programmes

	ANZ Bank New Zealand Limited	ASB Bank Ltd	Bank of New Zealand	Kiwibank Limited	Westpac New Zealand Limited
% Exposure to Auckland by Current Balance	52.3%	61.8%	43.0%	38.0%	40.6%
WA Current LTV	54.6%	46.6%	48.4%	55.8%	55.7%

Source: Covered Bonds Investor Reports

In addition, since 2013, the Reserve Bank of New Zealand (RBNZ) has imposed limits on the proportion of mortgages with high LTVs that banks can write.⁸ These restrictions reduce banks' and covered bond programmes' exposures to higher-risk lending and provide a buffer in the event of declining housing prices. Exhibit 3 shows that the proportion of bank mortgage loans written with an LTV of above 80% has decreased since 2013.

Exhibit 3
Mortgage lending at LTVs Over 80% Has Declined



Source: Reserve Bank of New Zealand

Auckland most sensitive to changes in housing prices, interest rates and LTVs

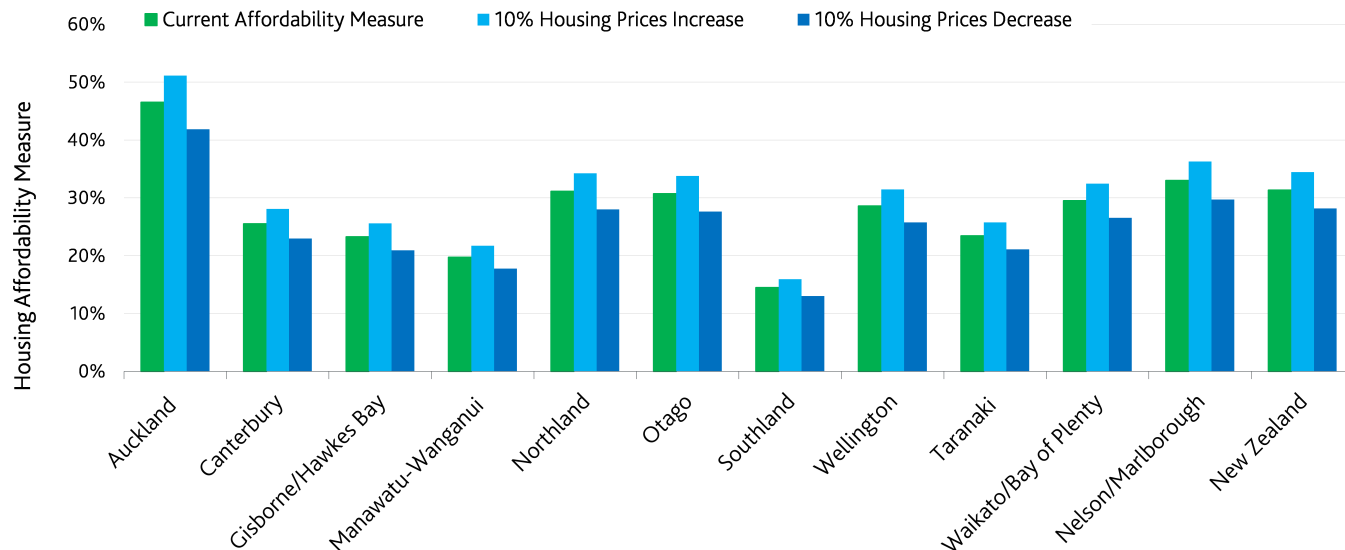
We conducted a sensitivity analysis to gauge the impact on housing affordability in New Zealand of changes in housing prices, mortgage interest rates and LTVs. The various scenarios that we tested demonstrate that Auckland is the most sensitive of any region in New Zealand to any shift in housing prices, interest rates and LTVs.

Scenario 1: Housing price changes

Exhibit 4 shows the impact on housing affordability if 1) median housing prices rise 10% and 2) median housing prices fall 10%. For every 10% change in housing prices, the percentage of household income needed to meet mortgage repayments changes by 3.1 percentage points on average across New Zealand.

In Auckland, the least affordable city, a 10% change in housing prices results in a 4.7 percentage-point change in the percentage of household income needed to meet mortgage repayments.

Exhibit 4
Auckland Is Most Sensitive to Housing Price Movements



Note: Housing Affordability Measure = % of household income needed to meet monthly mortgage repayments.
 Source: Reserve Bank of New Zealand, New Zealand Statistics (Household Labour Force Survey), Real Estate Institute of New Zealand (<http://www.reinz.co.nz>), Moody's Investors Service

Scenario 2: Mortgage interest rate changes

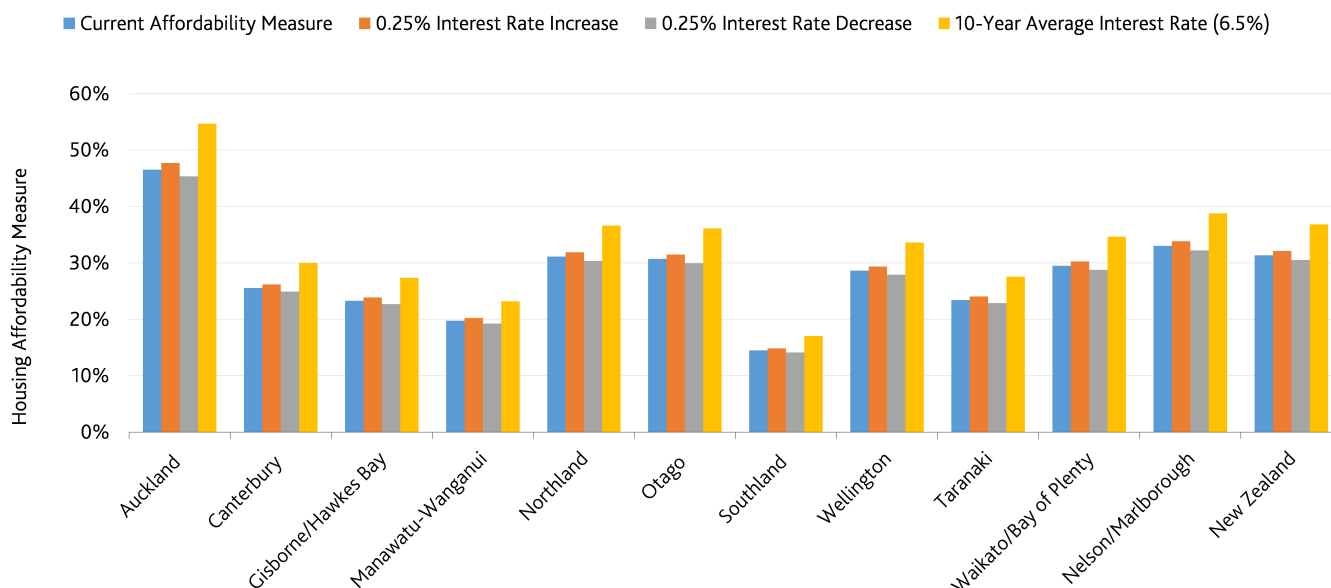
Exhibit 5 shows the impact on housing affordability of 1) a 0.25-percentage-point mortgage interest rate increase, 2) a 0.25-percentage-point mortgage interest rate decrease and 3) mortgage interest rates rising to the 10-year average of 6.5%. The effective mortgage rate at 31 December 2016 - 4.86% - is used as the base for this analysis.

For every 0.25-percentage-point change in mortgage interest rates, the percentage of household income needed to meet mortgage repayments changes by 0.8 percentage point on average across New Zealand. In Auckland, a 0.25-percentage-point change in mortgage interest rates results in a 1.2-percentage point change in the percentage of household income needed to meet mortgage repayments.

If mortgage interest rates were to rise to the 10-year average of 6.5%, the percentage of household income needed to meet mortgage repayments would increase by 5.5 percentage points on average across New Zealand and 8.2 percentage points in Auckland.

Exhibit 5

Interest Rate Changes Have Most Impact in Auckland



Note: Housing Affordability Measure = % of household income needed to meet monthly mortgage repayments.

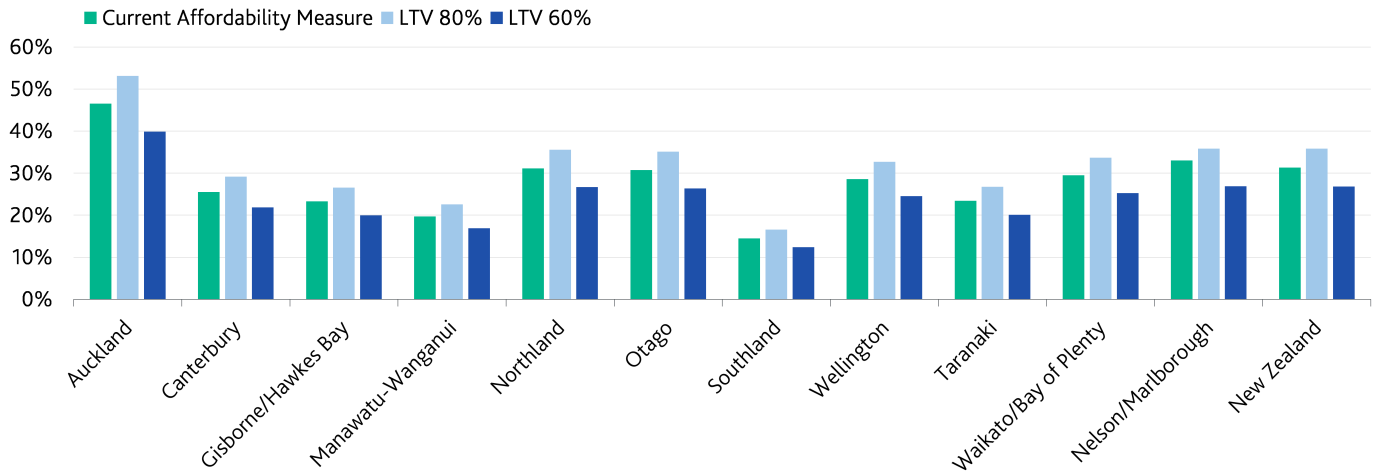
Source: Reserve Bank of New Zealand, New Zealand Statistics (Household Labour Force Survey), Real Estate Institute of New Zealand (<http://www.reinz.co.nz>), Moody's Investors Service

Scenario 3: LTV changes

Exhibit 6 shows the impact on housing affordability if 1) LTV increases from 70% to 80% and 2) LTV decreases from 70% to 60%. For every 10-percentage-point change in LTV, the percentage of household income needed to meet mortgage repayments changes by 4.5 percentage points on average across New Zealand. In Auckland, a 10-percentage-point change in LTV results in a 6.6-percentage-point change in the percentage of household income needed to meet mortgage repayments.

Exhibit 6

LTV Changes Affect Affordability



Note: Housing Affordability Measure = % of household income needed to meet monthly mortgage repayments.

Source: Reserve Bank of New Zealand, New Zealand Statistics (Household Labour Force Survey), Real Estate Institute of New Zealand (<http://www.reinz.co.nz>), Moody's Investors Service

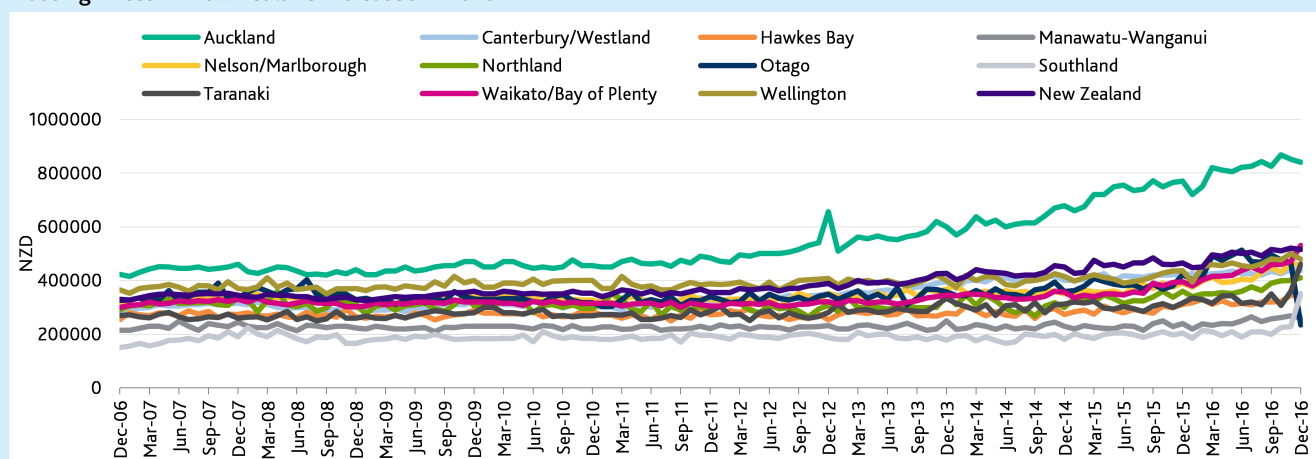
Housing prices, household incomes and mortgage interest rates drive affordability

We measure housing affordability based on three inputs – median housing prices, median household income and mortgage interest rates (see Appendix for detailed assumptions and calculations).

Over the year to 31 December 2016, New Zealand median housing prices increased by an average of 11% nationally, with wide variations between different regions (Exhibit 7). Housing prices increased the most in Wellington (21.6%), followed by the Nelson/Marlborough region (16.9%), the Waikato/Bay of Plenty region (16.5%) and the Southland region (14.6%). In Auckland, housing prices increased 9.1% over the year. In Canterbury, housing price increased by 4.0% over the year, the least of any region in New Zealand.

Exhibit 7

Housing Prices In New Zealand Increased in 2016



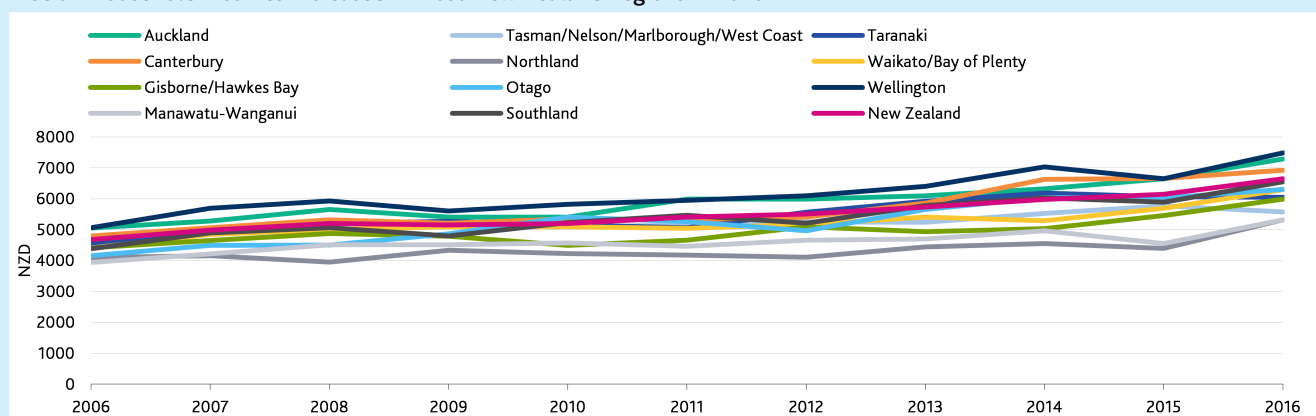
Source: Real Estate Institute of New Zealand (<http://www.reinz.co.nz>)

Median pre-tax household incomes rose by an average of 8.2% across New Zealand between the June quarters of 2015 and 2016 (Exhibit 8). Household incomes increased most in Northland (21.1%), followed by the Manawatu-Wanganui region (16.9%). In Auckland, incomes increased 9.6%.

In Taranaki and Nelson/Marlborough, two of the four regions where housing affordability declined over the year to 31 December 2016, household incomes declined by 0.4% and 3.4% respectively between the June quarters of 2015 and 2016.

Exhibit 8

Median Household Incomes Increased in Most New Zealand Regions in 2016

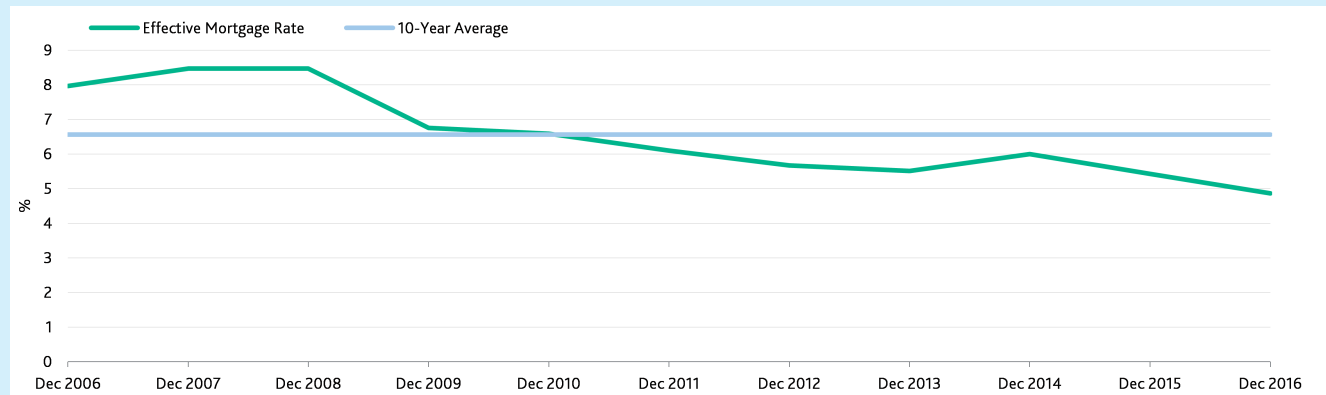


Source: New Zealand Statistics (Household Labour Force Survey)

The effective mortgage rate in New Zealand was a record low 4.86% at 31 December 2016, down from 5.43% at 31 December 2015 and below the 10-year average of 6.54% (Exhibit 9).

Exhibit 9

Mortgage Lending Rates Are at Record Low



Source: Reserve Bank of New Zealand

Appendix

New Zealand housing affordability assumptions and calculations

We calculated housing affordability as a proportion of the monthly loan repayment amount to the median monthly household income.

Affordability Measure (%) = Monthly Loan Repayment Amount/Monthly Median Household Income

MONTHLY LOAN REPAYMENT AMOUNT

The monthly loan repayment amount is calculated assuming:

1. Median housing prices;
2. LTV ratio of 70%;
3. A 25-year principal and interest mortgage term; and
4. An interest rate equal to the effective mortgage rate published by the RBNZ.

Median housing prices are based on median dwelling sale prices and are supplied by the Real Estate Institute of New Zealand. The median housing price is either at the national or regional level.

Example for New Zealand (total regions) for 31 December 2016 (using excel PMT function): Monthly loan repayment amount = NZD2,082 = PMT (4.86%(interest rate)/12 months, 300 (number of payments over 25 years), [NZD516,000 (median housing price) * 70% (LTV)]).

MEDIAN MONTHLY HOUSEHOLD INCOME

Median household income data for each region is published by New Zealand Statistics and is collected each year during the June quarter. For New Zealand overall, weekly median household income as of the June 2016 quarter was NZD1,534, on a pre-tax basis.

HOUSING AFFORDABILITY

As of 31 December 2016, our affordability measure for New Zealand was 31.3%:

Affordability measure = 31.3% = NZD 2,082/ (NZD1,534*52)/12.

Moody's Related Research

Methodology:

- » [Moody's Approach to Rating Covered Bonds, December 2016 \(1044142\)](#)

Outlooks:

- » [2017 Outlook - Credit Quality of APAC Covered Bonds Will Remain Strong, December 2016 \(1049348\)](#)
- » [2017 Outlook - Delinquencies Will Increase Moderately, November 2016 \(1043742\)](#)

Sector In-Depths:

- » [Asia Pacific Mortgage and Covered Bond Markets Incorporate Special Features, September 2016 \(1039699\)](#)
- » [RMBS Australia - Resurgent Housing Prices Eroding Affordability Despite Interest Rate Cuts, November 2016 \(1046359\)](#)

Sector Comments:

- » [Market Depth and Legal Frameworks Support Timely Payments and Refinancing, April 2016 \(1024075\)](#)
- » [New Zealand Covered Bond Law Is Credit Positive, December 2013 \(SF350464\)](#)

Special Comment:

- » [Australian and New Zealand Covered Bonds: Varying Levels of Exposure to the Property Cycle, October 2013 \(SF345144\)](#)

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Endnotes

- 1 Source: Real Estate Institute of New Zealand (<http://www.reinz.co.nz>)
- 2 Source: New Zealand Statistics Household Labour Force Survey
- 3 Figures are for the 'effective mortgage rate', which is calculated by the RBNZ each month as a weighted average of the interest rates paid across all types of mortgage lending (floating and fixed).
- 4 Source: Real Estate Institute of New Zealand (<http://www.reinz.co.nz>)
- 5 This is an average of the Central Otago Lakes and Otago regions.
- 6 The bank ratings shown in this report are the banks' deposit ratings and senior unsecured debt ratings and outlooks, and their baseline credit assessments.
- 7 Source: Covered bonds investor reports.
- 8 From 1 October 2016, bank lending to home investors at LTVs above 60% was limited to 5% of new originations, while lending to owner-occupier borrowers at LTVs above 80% was limited to 10% of new lending. These rules replaced prior limits that were effective from November 2015 and which restricted new lending to home investors in Auckland at LTVs greater than 70% to 5% of new lending, lending to owner-occupier borrowers in Auckland at LTVs above 80% to 10% of new lending, and all other housing lending outside of Auckland at LTVs above 80% to 15% new lending. LTV restrictions were first introduced in October 2013 with the RBNZ limiting new residential mortgage lending at LTVs above 80% to a maximum of 10% of the dollar value of new originations.

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