

Transmission of monetary policy to financial conditions

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Introduction:

E ngā mana, e ngā reo. E ngā karanga maha o te wā.

Tēnā koutou, tēnā koutou, tēnā koutou katoa.

Good morning. I would like to start by thanking Citi for hosting today's event and inviting me to speak. As a member of the Monetary Policy Committee, with my colleagues, I spend a fair amount of time considering the effectiveness of monetary policy transmission through wholesale markets and banking channels as we seek to influence economic outcomes and inflation. It is this area that I'm going to address today.

The transmission of policy rate changes to inflation is a gradual process. It's surrounded by uncertainty and impacted by the prevailing economic and financial conditions. It requires ongoing monitoring, and the Monetary Policy Committee (MPC) meets regularly to assess the extent to, and speed at, which the current stance is influencing the financial system and the economy. Should data indicate that conditions are evolving differently to those expected, or if we judge that the balance of risks to the inflation outlook have changed, then we are able to adjust our approach to reflect this.

Today I will discuss:

- our assessment of the level of restrictiveness of monetary policy settings through the post-COVID period,
- factors that have influenced the transmission to tighter financial conditions, and
- how these may influence the transmission to financial conditions in the period ahead.

What does it mean for the policy rate to be restrictive and how do we know when it is?

Monetary policy settings are a key determinant of financial conditions.¹ These financial conditions include the interest rates at which households and businesses save and borrow, the level of the exchange rate and credit availability. To drive inflation lower over recent years, it has been necessary for us to tighten policy settings, which have in turn restricted overall financial conditions.² This has contributed to a weakening of aggregate demand in the economy and increased our confidence that consumer price inflation (CPI) is moving sustainably back to its target mid-point of 2 percent.

There are a range of ways in which we assess the restrictiveness of our monetary policy stance.

One way is to compare the level of the Official Cash Rate (OCR) with our estimates of the nominal neutral OCR. This is a useful concept to help us understand whether our current stance is encouraging or acting as a brake on economic activity, or holding it steady.³ However, its inherent uncertainty means that at any point in time we can't pinpoint the neutral level with complete accuracy⁴. To help manage this uncertainty, the RBNZ maintains a suite of neutral OCR estimates,

¹ For example, see Lane (2022), Mann (2023) and Kent (2024).

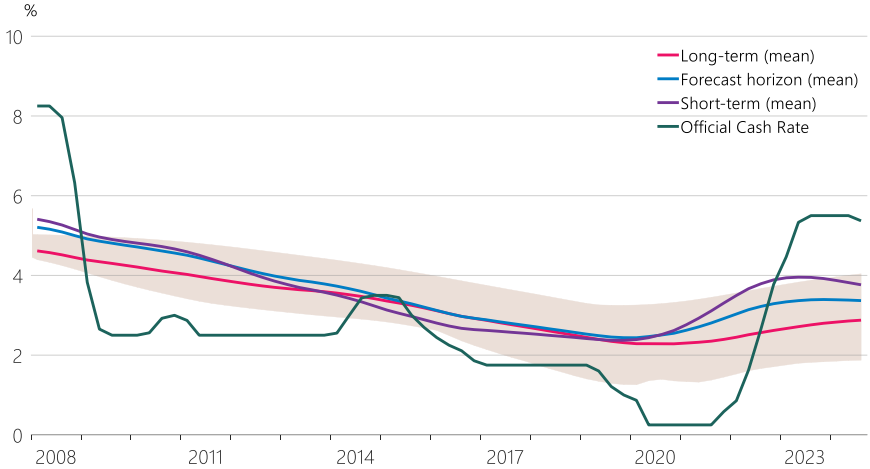
² Hawkesby (2021) provides an explanation of the conditions that led up to the period of tightening and the RBNZ's approach to navigating these conditions.

³ For example, see Richardson and Williams (2015).

⁴ For example, see Ellis (2022).

based on different models and assumptions.⁵ Our neutral OCR measures, shown in this chart, indicate that monetary policy is currently restrictive and has been for an extended period of time.

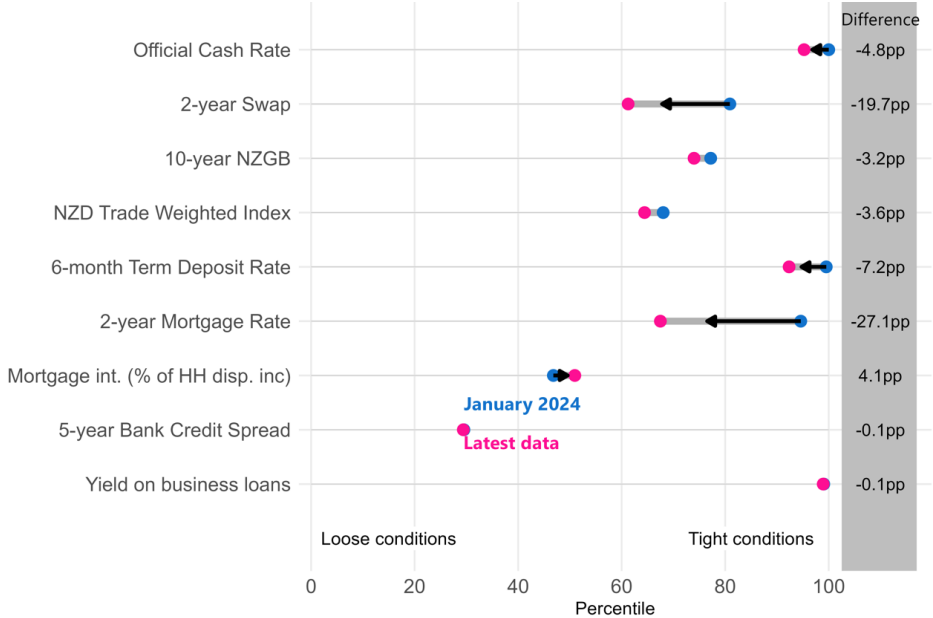
Figure 1: OCR versus nominal neutral OCR estimates



Source: RBNZ estimates.
 Note: The shaded area indicates the range between the minimum and maximum values from our suite of long-run nominal neutral OCR indicators.

We also keep a close eye on a range of indicators of domestic financial conditions. These indicators help us gauge how our monetary policy stance is impacting broader financial conditions faced by households and businesses, and in turn how they may be influencing spending, investment, and borrowing decisions across the economy.

Figure 2: Financial conditions overview



Source: RBNZ, Bloomberg, Interest.co.nz, Stats NZ.
 Note: All data is shown as of the 4 October 2024, apart from the mortgage interest as a % of household disposable income, which is quarterly (latest quarter is Q2 2024) and yield on business loans, which is monthly (latest month is August).

⁵ Castaing, Chadwick, Galimberti, Sing and Truong (2024) explains how the RBNZ construct, use and think about indicators for the neutral interest rate.

This chart, which includes some of the indicators that we look at, provides a snapshot of current financial conditions in New Zealand and indicates how they have moved since the start of the year. The scale on the chart reflects the historical distribution of each measure since 2009, moving from very loose on the left to very tight on the right. The pink dot shows the current value, while the blue dot shows the values at the start of the year.

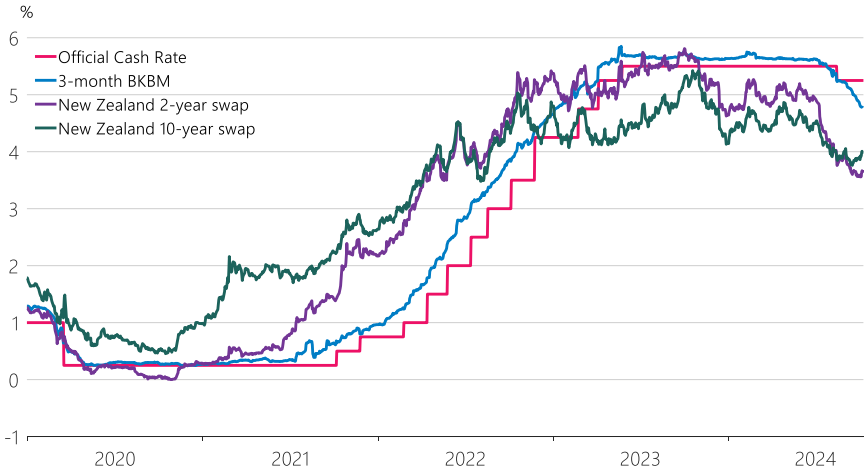
These indicators paint a similar picture to our neutral interest rate estimates. Wholesale, bank lending, and bank deposit rates all remain broadly restrictive. This is despite some loosening over 2024 as markets anticipated the start of the easing cycle. Home loan interest costs as a proportion of disposable income have risen to their highest level since 2010 but remain lower than the period following the Global Financial Crisis (GFC). Conversely, bank credit has remained more accommodative, in line with strong bank funding positions.

The downstream effects on the domestic economy also indicate the stance has been restrictive. High interest rates are reducing demand in New Zealand. Weak household consumption and business investment, easier labour market conditions and lower wage growth, along with declining inflation expectations, are providing reassurance that our monetary policy stance has been sufficiently restrictive to support CPI to fall back to our target mid-point.

Monetary policy transmission to financial conditions during the recent tightening cycle

Transmission from a change in the OCR to domestic financial conditions occurs in two stages.⁶ During the first stage, policy rate changes and expectations for future interest rates influence the level and direction of wholesale interest rates.

Figure 3: OCR and New Zealand wholesale rates



Source: RBNZ, Bloomberg

Short-term rates are more heavily influenced and responsive to the level of, and near-term expectations for, the OCR, while longer-term rates can be significantly influenced by broader factors like inflation expectations and global investor risk sentiment. As a result, the magnitude and pace of influence on long-term rates can vary significantly⁷.

⁶ For example, see Lane (2022), Mann (2023) and RBNZ (2024).

⁷ See Lewis and Rosborough (2013).

For example, market expectations for higher global inflation during 2021 contributed to higher long-term global interest rates⁸. We can see in this chart that this led the New Zealand 10-year swap rate to increase earlier than short-term wholesale rates and the OCR.

The second stage is the transmission from wholesale rates to bank lending and deposit rates.

During a tightening cycle, banks face higher funding costs which they pass through to higher lending rates. Higher debt servicing costs reduce free cashflow and in turn limit the ability of households and businesses to consume and invest. Higher interest rates also increase incentives for saving, reduce incentives for investing, and impact household wealth through lower asset prices, which further influence spending behaviour.

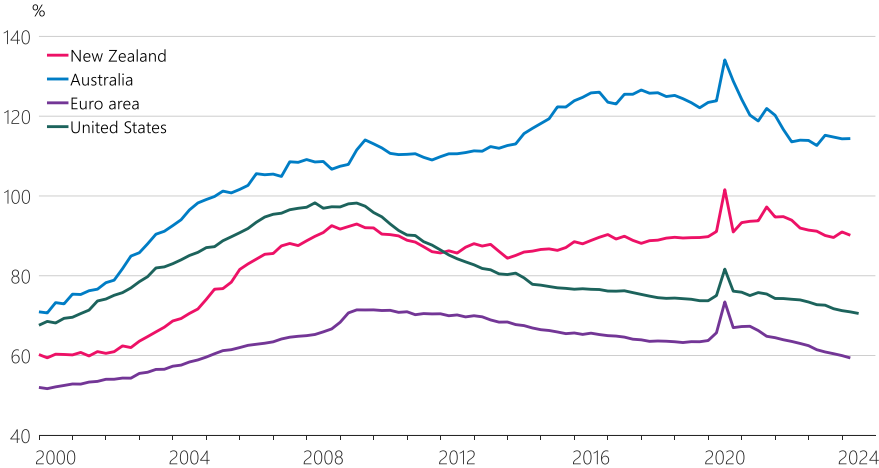
This occurs gradually, and its effectiveness in New Zealand and Australia is often shaped by an interplay between structural and cyclical factors impacting banks.

Structural and cyclical factors influencing monetary policy transmission to financial conditions

Two important structural factors are the level of outstanding household debt and the importance of the banking system as a provider of debt capital. In countries with higher levels of household debt, all else equal, tighter monetary policy more effectively reduces free cash flow. This feeds through to lower consumption and investment, compared to countries with lower levels of household debt.⁹

If a large proportion of debt capital is provided via the banking system, policy rate changes directly affect the borrowing costs for a significant portion of households, as banks adjust mortgage rates accordingly.

Figure 4: Household debt as a proportion of GDP



Source: Haver Analytics

⁸ For an overview of some of the influences on New Zealand government bond yields during and after the COVID period see Gregan and Jones (2023).

⁹ Kim and Lim (2020).

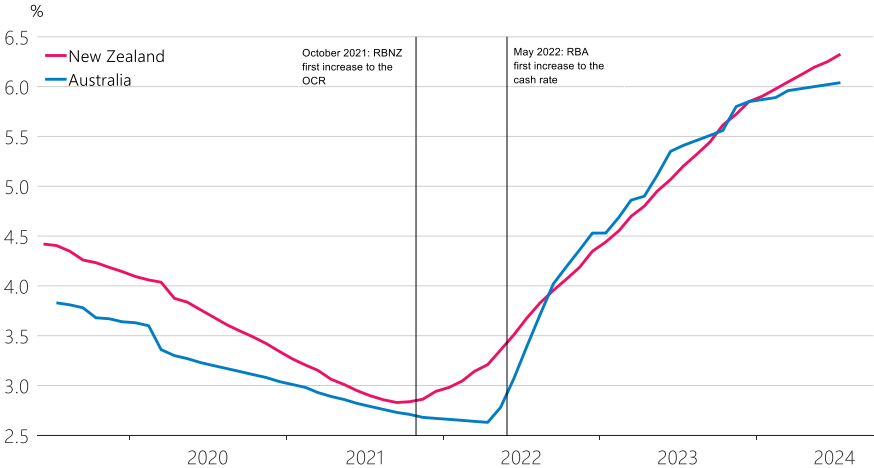
This chart shows that household debt as a proportion of Gross Domestic Product (GDP) is higher in New Zealand and Australia than in the United States and euro area. As banks are the primary source of lending to households in our two countries, transmission through the banking channel will also play a prominent role.

A second key factor is the interest rate structure of household debt. There is a notable difference between Australia and New Zealand in this regard. In New Zealand, the majority of home lending carries a fixed interest rate, with historically terms of 1 or 2 years being most popular. In contrast, most Australian home loans are referenced to a floating interest rate. This means that typically it takes slightly longer for changes in the monetary policy stance to pass-through to the average outstanding home loan rate in New Zealand relative to Australia.

This chart shows the impact of this variance over the recent tightening cycle. The Reserve Bank of Australia (RBA) raised its policy rate for the first time in May 2022, seven months after the RBNZ. Despite this, Australia experienced a larger increase in its average outstanding home loan rate in 2022 compared to New Zealand. This highlights the difference in the pace of monetary policy transmission to housing loan rates, but not the overall increase in the OCR, which was greater in New Zealand.

Transmission via this channel for both New Zealand and Australia occurs faster than for many other economies. For example, in the US and some European countries, where 25- or 30-year fixed rate mortgages are fairly common¹⁰. Despite this, monetary policy is still effective in these countries, with other transmission channels playing a more important role¹¹.

Figure 5: Average outstanding mortgage rates in New Zealand and Australia



Source: RBA and RBNZ

While the effectiveness of various monetary policy transmission channels can differ across countries for structural reasons, these can also differ within countries but across business cycles depending on the prevailing economic and financial environment.

¹⁰ International Monetary Fund (2024) provides insight into the effects of monetary policy across countries through the lens of the mortgage and housing markets.

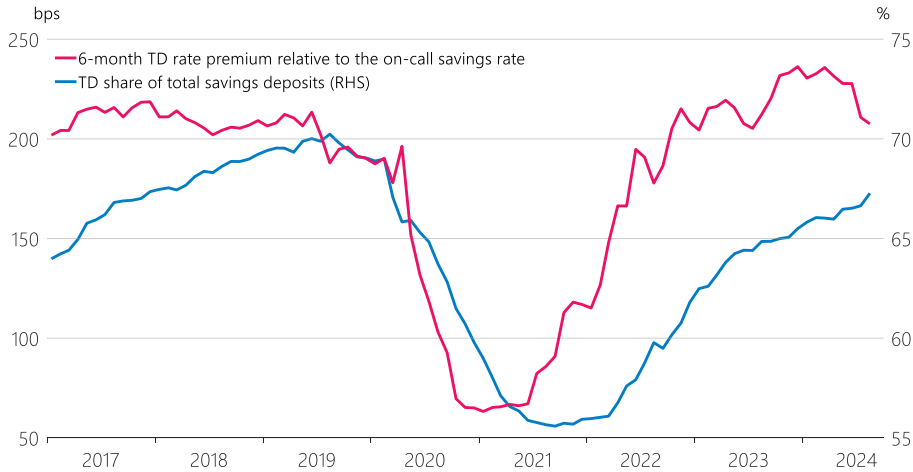
¹¹ This point is covered in more detail in Kent (2023).

An example of a cyclical factor is the ongoing influence of the COVID-era fiscal expansion and monetary policy easing. A combination of fiscal policy measures such as the COVID-19 Wage Subsidy and the implementation of additional monetary policy tools in New Zealand, led to a significant increase in liquidity within the financial system contributing to strong deposit growth in commercial banks and an abundance of liquid assets.

In turn this bolstered banks' stability with prudential liquidity measures¹² rising well above their minimum requirements.

Alongside this, the composition of bank deposits changed significantly with deposit volumes shifting from more traditionally expensive term to cheaper on-call deposits, in part driven by a narrowing in the difference in rates as supply increased¹³. This chart shows how the proportion of savings held in term deposits, in blue, quickly declined during the COVID period, as the rate premium for holding term deposits relative to on-call savings accounts fell.

Figure 6: Saving deposit rates and the term deposit share of total saving deposits



Source: RBNZ Bank Balance Sheet survey, RBNZ estimates

Deposits account for around 65 percent of total bank funding in New Zealand and so the change in composition and overall increase in supply contributed to a significant decline in bank funding costs through that period.

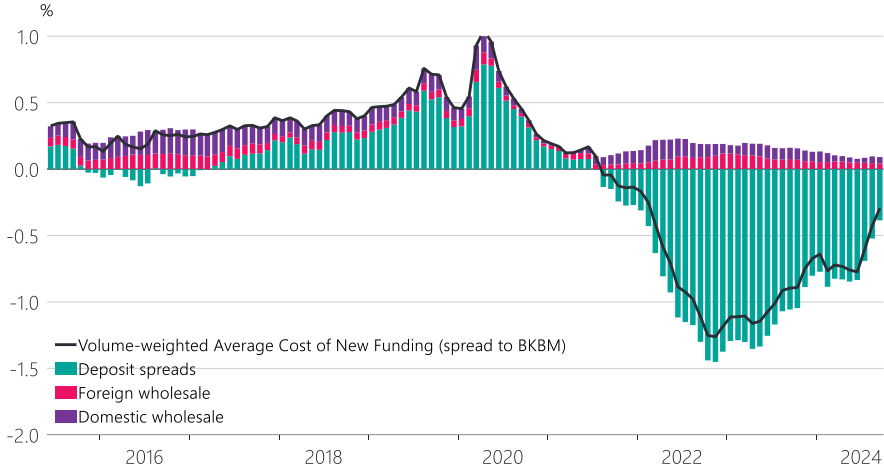
As wholesale rates began to increase from mid-2021 in line with more restrictive monetary policy, banks were however able to maintain lower term and on-call deposit rates for longer largely as a consequence of the higher COVID-period level of savings, higher levels of liquidity, and weakening credit demand. Further, and despite the re-emergence of a premium on term deposits over on-call deposits through 2022, reversion to the pre-COVID composition of term deposits is yet to fully occur.

Despite deposit rates increasing slower than usual in this cycle, the increase in average outstanding deposit costs has been greater in New Zealand and Australia than in many other peer economies after accounting for the degree of monetary policy tightening.¹⁴ This is largely due to differences in the interest rate structure of bank balance sheets. Assets and liabilities in New Zealand and

12 These include the core funding ratio (CFR) and liquidity mismatch ratio.
 13 See Box C in RBNZ (2023).
 14 See Box B in RBA Bulletin (April 2024).

Australia tend to be shorter in nature and therefore changes to interest rates more quickly flow through to average interest costs and revenues.

Figure 7: Weighted average bank funding costs in New Zealand (spread to BKBM)



Source: RBNZ estimates, Bloomberg

This chart shows our estimate of weighted bank funding costs compared to the 90-day Bank Bill Benchmark Rate (BKBM)¹⁵, which is New Zealand’s equivalent of your 90-day Bank Bill Swap Rate (BBSR). It shows that the lower cost and higher volume of deposits has been a large drag on bank funding costs since mid-2020.

Monetary policy transmission to lending rates

An on-going assessment of bank funding costs is important as they are a key influence on bank lending rates. We can use a simplified home loan pricing model to understand the influence of bank funding costs and other factors on the transmission of monetary policy. There are three component parts to the model:

1. The level of wholesale rates e.g. the 2-year swap rate.
2. The size of funding spreads. The funding spread is our estimate of the relative cost of bank funding and reflects the difference between the rates that banks pay for retail deposits and wholesale funding versus wholesale rates.
3. A residual or mark-up. This is the difference between the home lending rate and the prior two components. This broadly reflects banks’ gross profit on home loans.

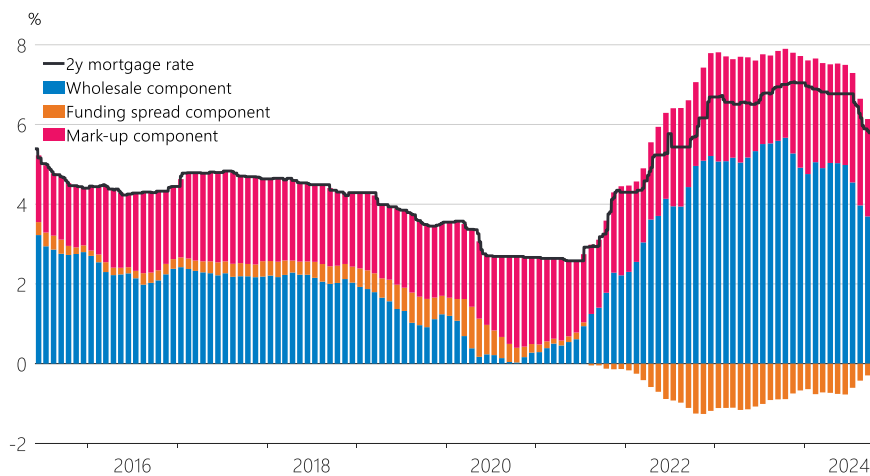
This simplified framework is a useful tool for identifying – in a big picture sense – which component is driving home loan rate changes. It is valuable because the implications for monetary policy can vary depending on how each component behaves. For example, traditionally there has been a significant degree of pass-through from changes in wholesale rates into home loan pricing,¹⁶ which is important for monetary policy transmission as wholesale rates are influenced by future expectations for the OCR level. However, the effectiveness of this channel of monetary policy transmission can also be influenced by changes in bank funding spreads and the residual or

¹⁵ This is a key reference interest rate used to assess bank funding costs in New Zealand. This rate roughly represents the rate at which banks can borrow for 90 days in wholesale financial markets and is primarily influenced by expectations of the level of the OCR over the 90-day period.
¹⁶ For example, see Cook & Steenkamp (2018).

mark-up component, both of which depend mostly on factors other than monetary policy rate decisions.

Utilising this framework, the chart below shows how the 2-year mortgage rate and its component parts have evolved since 2016. The wholesale component, in this case the 2-year swap rate, has broadly tracked the path of the monetary policy rate, as we'd expect. The funding spread, however experienced a major shift from mid-2020 as a result of the higher volume of low-cost deposits within the bank funding mix. This shift has had meaningful implications for the pass-through of policy rate changes to home loan rates.

Figure 8: Decomposition of the 2-year mortgage rate

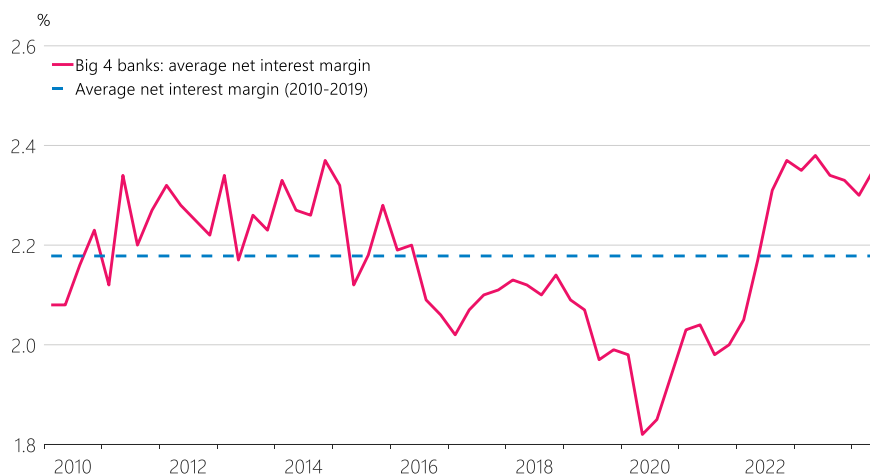


Source: RBNZ estimates, Bloomberg

Through the tightening cycle, the trough-to-peak increase in the New Zealand 2-year swap rate was 570 basis points. However, the lower cost of funding experienced through that period by banks, as represented by the funding spread, meant that this increase was not fully passed-through to home loan rates, with a trough-to-peak increase in the 2-year mortgage rate of 450 basis points.

Our estimate of the average bank mark up on a 2-year mortgage through the same period increased from around 2.0 to 2.8 percent. As home loans account for a large proportion of total bank assets (currently around 50 percent on average), this contributed to an increase in the net interest margin generated by banks through this period. As shown in the chart, from the first OCR increase in October 2021 to the last one in May 2023, the biggest four banks in New Zealand, on average, saw their net interest margins increase by about 35-40 basis points.

Figure 9: Bank net interest margins



Source: RBNZ Income Statement survey

The upshot of this is that financial conditions were less restrictive during the recent tightening cycle for the same level of the OCR when compared with previous cycles. However, through ongoing monitoring we have been able to identify and factor this into our decision-making to ensure that financial conditions have been where we needed them to be to achieve our monetary policy objectives. The OCR, and wholesale rates, have been slightly higher than they otherwise would have been to account for this.

Monetary policy is working, and we have confidence that inflation is moving back to its target level

I will finish today by talking briefly to how these factors may continue to influence the path ahead.

Over recent meetings the Committee has become increasingly confident that monetary policy has had the desired effect, and that economic conditions are supporting the convergence of CPI back to the target mid-point of 2 percent. However, the building blocks of transmission from lower policy rates to domestic financial conditions may once again be slightly different than experienced in previous easing cycles.

In the current low credit growth environment, home loan rates have responded to falling wholesale rates as markets have pre-positioned future OCR cuts. Likewise, borrowers have been fixing interest rates for shorter terms, which all else being equal, should reduce the time it takes for lower interest rates to be reflected in household and business cashflows. Our latest New Credit Flows survey shows that around 75 percent of new home loan flows currently carry interest periods of 1-year or less and circa 70 percent of existing home loans will be repriced within the next 9 months.

Bank funding spreads, however, have gradually increased this year, and this is expected to continue as excess liquidity is drained from the banking system with the progressive wind down of additional monetary policy tools. Over time this is likely to influence the amount of the decline in bank lending rates, even in the face of lower wholesale rates, as banks seek to maintain their net interest margins. However, given bank funding spreads have already begun to normalise, this offset will likely be much smaller than was the case during the tightening cycle, which will reduce the need to factor this into OCR decisions to the same degree in the years ahead.

In summary:

Monetary policy has been sufficiently restrictive to ensure that broader financial conditions are supporting the achievement of RBNZ inflation objectives

The monetary policy stance however is not the only influence on financial conditions. Ongoing monitoring of structural and cyclical factors influencing its' transmission through financial channels to the economy is required to ensure that the stance of monetary policy reflects these.

Reversion to pre-COVID funding conditions for banks is underway and, all else being equal, will constrain how far lending rates will fall as banks seek to preserve their net interest margin. Ultimately however, while factors discussed in this speech are important for understanding the pace and magnitude of monetary policy transmission, there are clearly many others that are considered in monetary policy decision-making. While we have increased confidence that CPI is moving back towards our 2 percent target mid-point we are also conscious of the broader set of economic conditions required to manage inflation back to target. We will continue to assess and respond to risks, on both sides of the ledger.

Thank you.

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