The possibility of negative rates in NZ – an explainer

• The OCR is currently at an historic low of 1%. If a negative shock hit the economy, and the RBNZ needed to ease policy, it doesn’t have much ‘ammunition’ left.
• The RBNZ is thinking about its options in the event the OCR ever reached 0% and it needed to ease policy further.
• One of these so-called ‘unconventional’ policy options is a negative OCR. Several countries overseas have negative rates but there is widespread scepticism that they have provided much help.
• Other unconventional options available to the RBNZ include quantitative easing, or “QE”, and intervening in the interest rate swap market.
• We think the risk of a negative OCR has diminished significantly in recent months. The Government is planning to boost infrastructure investment, which should take some of the burden off the RBNZ. But a global shock is always possible, so it’s prudent that the RBNZ starts thinking about these options now.
• We run through how negative rates might work, in the unlikely event they are needed, and the possible impact on markets and borrowers.

Background
The RBNZ sets the Official Cash Rate (OCR). This is an overnight interest rate that banks earn on cash balances they hold with the RBNZ. The OCR is currently 1% - an historic low (see Chart 1).

Chart 1: The OCR is at an historical low of 1%

It’s possible that, at some point in the future, the RBNZ runs out of conventional monetary policy “ammunition” to support the economy. The RBNZ could cut the OCR by 100bps, to 0%, by this might not be enough in the face of a big economic shock such as a global recession. The RBNZ would then need to look at so-called “unconventional” policy options if it wanted to ease further. One of these options is to have a negative OCR, which is the topic of this note.

How would a negative OCR work?
The RBNZ uses the OCR to influence other interest rates in the economy. These include swap and government bond rates that act as a benchmark for a range of borrowers, such as corporates, banks and households (i.e. mortgages). The OCR is an overnight interest rate, but longer-term interest rates matter as much, if not more, for the real economy (such as 1 or 2 year fixed mortgage rates). Chart 2 shows a selection of interest rates across various tenors and issuers.

Chart 2: Selected NZ interest rate yield curves

In theory, the RBNZ could set the OCR at a negative number, such as -0.25% or -0.5%. In this case, banks would be paying (rather than earning) interest on the cash they held in their RBNZ accounts. This is finance turned upside down - banks would be paying (the RBNZ in this instance) to lend money.1

The RBNZ would hope that by lowering the OCR into negative territory it would lower the interest rates for real economy borrowers and savers, in turn stimulating economic activity. Table 1 shows current 2-year interest rates for a range of borrowers and benchmarks. In a hypothetical scenario where the RBNZ cut the OCR to -0.5% and all interest rates in the economy fell by 150bps in parallel then short-term interest rates on government bonds, interest rate swap and bonds issued by the Local Government Funding Agency (LGFA) would turn modestly negative as well. Interest rates on most corporate and bank bonds would remain slightly positive in this scenario.

1 Of course, negative rates are common. If inflation were 1%, a person who leaves $1m in their call account for one year at a 0% interest rate would receive the same amount of money back at the end of the term, but this would only buy goods and services worth $990,000 (in today’s money). The person would be in an identical position with a negative interest rate of -1% and an inflation rate of 0%.
The RBNZ would also hope that, by reducing the OCR, including into negative territory, it would lower the value of the NZD. However, if central banks in other countries were also cutting their interest rates, it’s uncertain whether the NZD would depreciate.

Overseas experience

Several overseas countries have experimented with negative rates. They include the European Central Bank (for the Eurozone), Japan, Denmark, Sweden and Switzerland. The lowest cash rate seen overseas has been -0.75% in Denmark and Switzerland.

While different countries have had somewhat different experiences with negative rates (it depends to an extent on the structure of the banking sector), the overseas experience to date can be generalised as follows:

• **Wholesale rates**: Negative interest rates have transmitted almost fully through to falls in wholesale interest rates, such as those on government and corporate bonds.

• **Retail deposit rates**: Retail deposit rates appear to have found a floor at zero. There appears to have been a concern among banks that if they charged negative rates on retail deposit accounts, depositors would withdraw their savings (to put under the proverbial ‘mattress’), which are a valuable source of funding for banks from a regulatory perspective.

Table 1: 2-year interest rates now and assuming a 150bp fall

<table>
<thead>
<tr>
<th></th>
<th>Current rate</th>
<th>Rate if OCR is -0.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCR</td>
<td>1.00</td>
<td>-0.50</td>
</tr>
<tr>
<td>Government</td>
<td>1.08</td>
<td>-0.42</td>
</tr>
<tr>
<td>Interest rate swap</td>
<td>1.24</td>
<td>-0.26</td>
</tr>
<tr>
<td>LGFA</td>
<td>1.44</td>
<td>-0.06</td>
</tr>
<tr>
<td>Transpower</td>
<td>1.58</td>
<td>0.08</td>
</tr>
<tr>
<td>ANZ</td>
<td>1.75</td>
<td>0.25</td>
</tr>
<tr>
<td>Fonterra</td>
<td>2.17</td>
<td>0.67</td>
</tr>
<tr>
<td>Retail mortgage</td>
<td>3.50</td>
<td>2.00</td>
</tr>
</tbody>
</table>

Interpolated 2 year rates, except OCR (overnight rate). Current rates assumed lowered by 150bps.

• **Corporate and institutional deposit rates**: Banks have generally passed on negative interest rates to institutions and, to a lesser extent, corporates. One study by the German central bank found that 58% of banks said they were now charging negative rates on corporate deposits.

• **Mortgage and other lending rates**: Mortgage and lending rates have fallen, although the pass-through has differed between countries. At one end of the spectrum, there have been examples of negative interest rates on certain types of retail mortgages in Denmark. At the other end of the spectrum, there was evidence that Swiss banks raised mortgage rates when the central bank implemented negative rates (in order to preserve their lending margins).

• **Bank profits**: Bank profitability has been a controversial aspect of negative rate policy. In general, banks’ net interest margins have declined as central banks have cut rates to negative. This is because retail deposits have been floored at zero, so banks haven’t been able to reduce their borrowing costs by as much as their lending rates have declined. While the falls in rates have generated a boost to the value of banks’ investment portfolios, which has helped shelter profits to date, this is probably a one-off impact. In contrast, the decline in net interest margins will probably be enduring.

• **Economic outcomes**: This is also a controversial topic. Central banks generally think negative rates have been helpful to achieving their inflation and employment goals, with the benefits exceeding the side-effects. Sceptics argue that negative rates haven’t had much impact on inflation (see Chart 5) and, perversely, have led to an increase in savings rates in some countries (as households save ‘harder’ to achieve their savings targets). Determining the impact of negative rates is complicated because there are lots of other factors that

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2 Here we draw primarily on "Unconventional monetary policy tools: a cross-country analysis”.

3 There have been some instances where banks have charged negative rates on large retail deposit balances (see here for instance). The BIS also reported on Swedish banks having increased fees for bank services, given the inability to pass on negative rates to retail deposit accounts.


5 The BIS report notes that Swiss mortgage rates have since come back down over time as a result of competition, particularly from the non-bank sector.

6 Other influences on bank profitability include: the impact of negative rates on economic outcomes (if the economy is stronger, then banks will have fewer losses on their loan portfolios); banks’ ability to raise fees to recoup any decline in net interest margins.
influence inflation and economic growth that need to be accounted for when separating out the impact of negative rate policy. In general, inflation remains at low levels in all those countries that have introduced negative interest rates, illustrating that this policy (and indeed all unconventional policies) is no panacea.

Chart 5: Little change in core inflation post negative rates

- **Sustainability of negative rate policy**: Negative interest rates were initially seen as a short-term policy, to boost economic activity. However, with inflation remaining subdued, central banks are now confronting the possibility that negative rates might remain in place for a sustained period. The Swedish central bank is expected to raise rates this month despite a cooling in its economy, as it moves away from negative rates (implicitly suggesting that the side-effects of the policy outweighs the benefits). In contrast, the Swiss central bank recently said negative rates are “essential” for the Swiss economy.

**How low could the OCR go?**

Based on international experience to date, the RBNZ might be able to reduce the OCR to -0.5% to -0.75%. How low the OCR could (hypothetically) go depends on:

- The point when interest rates are so low that folk hoard cash. At this point, lowering interest rates any further loses its effect.
- The point at which the OCR is so low that either banks don’t pass on any further rate cuts to real economy lending rates or they reduce credit to the real economy. Economists refer to the level of the OCR where it starts becoming *contractionary* as the ‘reversal rate.’

In reality, we don’t know where that tipping point is and given the greater costs associated with negative rates (compared to conventional rate cuts in positive territory), central banks overseas have been careful to move incrementally.

**Practical realities with negative rates.**

Those borrowers with access to capital markets are more likely to benefit from negative rates than those borrowers who rely solely on bank credit. This is because larger borrowers will probably be able to raise funds from investors directly, say via corporate bonds, at very low, and conceivably even negative rates. In contrast, banks need to retain a margin between their cost of funds and their lending rates. If banks’ retail deposit rates are floored at zero, they are unlikely to offer loans at negative rates.

In New Zealand, a practical issue associated with negative rates is that many corporate borrowers have 0% interest rate floors (on BKBM) embedded into loan documentation. This means that, in the event that BKBM went negative, these borrowers would still be paying 0% (i.e. they would not get the benefit of a negative BKBM rate).

Relatedly, if borrowers have interest rate hedges associated with these loan facilities (via paying fixed in interest rate swaps), then there would be a mismatch. In the event BKBM went negative, borrowers would be paying on the floating leg of the interest rate swap while getting no offset from the loan facility (as the loan facility floating rate would be floored at 0%). This mismatch means that as BKBM goes further negative, these borrowers would pay more interest.

Savers are also disadvantaged by a negative OCR, just as savers receive less interest when the RBNZ cuts the cash rate in positive territory. While term deposit rates are unlikely to go negative, if the overseas experience is any guide, term deposit rates are still likely to fall significantly from present levels.

**What are the other options available to the RBNZ?**

A negative OCR isn’t the only option available to the RBNZ, if the Bank wanted to ease monetary policy further after reaching an OCR of zero. The RBNZ has said it will set out its principles for unconventional policy in a note in early 2020, which should provide more information about how the RBNZ weighs up these measures.

These other options include:

- **Quantitative easing (QE)**: This would involve the RBNZ buying government bonds (or other assets) with ‘printed money’ (i.e. the RBNZ would buy a government bond from a
bank counterparty and credit their settlement account with the proceeds of the purchase). A number of central banks have used QE in the past, including the US Federal Reserve, the European Central Bank and the Bank of Japan. The Reserve Bank of Australia has also suggested it is their preferred unconventional policy option. QE works through various channels, but the broad aim would be to lower longer-term interest rates and the exchange rate. RBNZ Governor Orr has previously expressed reservations that the New Zealand government bond market isn’t big enough (there aren’t enough bonds) to deliver enough stimulus.

- **Interest rate swap intervention**: This would involve the RBNZ receiving fixed in the interest rate swap market in order to lower longer-term interest rates. Interest rate swap rates are used as a benchmark for a number of real economy borrowers, including banks and corporates. Unlike QE, where the RBNZ is constrained by the quantity of government bonds outstanding, there are fewer constraints on how much the RBNZ could receive in interest rate swaps (given that swaps are a derivative instrument with no upfront exchange of principal).

- **Lending operations**: The RBNZ already conducts lending operations with market participants to ensure there is sufficient liquidity in the banking system and the OCR is appropriately reflected in money market rates. Overseas central banks have expanded their lending operations – lending for much longer tenors, against a broader range of collateral, and sometimes with conditions attached (e.g. where banks receive more enticing loan rates if they lend more to the private sector). In principle, the RBNZ might want to use expanded lending operations to reduce bank funding costs, in turn lowering interest rates for households and corporates.

- **FX intervention**: The RBNZ could sell the NZD in the foreign exchange market and purchase bonds in foreign currency. The aim of FX intervention would be to push the value of the NZD lower. Such a policy could introduce a significant amount of financial risk onto the RBNZ’s balance sheet, as exchange rates can be very volatile.

**What is the likelihood of negative rates in NZ?**

In reality, we think the likelihood of the RBNZ needing to cut the OCR into negative has diminished significantly over the past few months. In early October, the market priced a chance that the RBNZ could cut the OCR to 0.25% (see Chart 6). Now the market prices less than a 50% chance that the OCR will go below 1%. The global outlook has improved as the US and China have agreed a Phase-One trade agreement, business confidence in NZ has shown signs of bottoming, the NZ housing market has turned up, and NZ commodity prices have increased to fresh multi-year highs.

In addition, the government has announced a significant increase to infrastructure spending over the coming years, which should take pressure off the RBNZ to support the economy on its own. We see the chance of negative rates in NZ as very unlikely over the next 12-24 months – we would say 10% or less.

**Chart 6: The market has reduced OCR cut expectations a lot**

But the future is inherently uncertain and a negative global shock is always possible. That means it is sensible that the RBNZ, and market participants, start thinking about the issues associated with negative rates now, even if we hope the RBNZ never needs to call upon them.

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