Beyond the OCR.

Explaining the RBNZ's alternative monetary policy tools.

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Introduction.

In September last year we released a Bulletin detailing the Reserve Bank's options if the Official Cash Rate were to fall to zero and further monetary stimulus was required.[1] We weren't forecasting that to happen, but with the OCR already very low and falling, the time was right to start preparing for the possibility.

Since then the Covid-19 pandemic has changed the picture dramatically. The RBNZ responded by cutting the OCR to 0.25% in March, and has resorted to other measures to calm financial markets and keep interest rates low. But the scale of the shock is likely to depress inflation and employment for some time, and the RBNZ may need to venture even further into 'unconventional' monetary policy tools.

This Bulletin is an update of our previous briefing on unconventional monetary policy. It reflects an additional year of experience with the use of unconventional measures, both overseas and now in New Zealand. Where possible, we have provided more evidence on how effective these measures have been when used overseas. And we've addressed some of the common questions and criticisms that have arisen over the past year.

Our conclusions are broadly the same as they were a year ago. The RBNZ has a range of options once the OCR reaches zero, and these tools are likely to successfully stabilise inflation if used with sufficient vigour. Monetary policy, whether conventional or unconventional, is not a panacea for the economy's ills, but it does keep inflation stable.

The first cab off the rank in New Zealand has been quantitative easing (QE), which roughly translates as large-scale money printing to buy government bonds. This option is now largely exhausted – the RBNZ has already committed to buying $100bn of bonds between now and June 2022, and it would not be practical to buy more.

The next steps, which the RBNZ is currently developing, would be a negative OCR and/or a Funding for Lending Programme (FLP – essentially direct lending to banks at a below-market interest rate). We cover both options in detail in this Bulletin. Other options include buying foreign government bonds (also known as unsterilised exchange rate intervention) and intervening directly in the interest rate swap market. We see these as less suited to the current situation.

Variations on a theme.

While the monetary measures in this bulletin differ in their details, they all boil down to the same thing. They are all methods of reducing the interest rates at which New Zealanders borrow or save. The OCR is itself an interest rate, and it affects other interest rates. Quantitative easing involves buying a set quantity of government bonds, but by reducing supply in the bond market this indirectly lowers interest rates. The only exception is unsterilised exchange rate intervention, which affects inflation by directly lowering the exchange rate.

Hence, many of the criticisms about the side effects of particular unconventional tools actually apply to all of the tools, and in fact to monetary policy in general. For example, any method of reducing interest rates will tend to boost asset prices and reduce the incomes of people who are living off their savings.

Why is the Reserve Bank doing this?

Before getting into the details, we should explain why the Reserve Bank wants to loosen monetary policy at all. We frequently hear complaints about the side-effects of loose monetary policy, such as ballooning asset prices. Why would the Reserve Bank want to put the economy through that? The simple answer is that deflation would be disastrous, and monetary easing is the only way to avoid it.

During an economic shock such as the Covid recession there is a tendency for households and businesses to save rather than invest, expand, borrow or spend. This causes an economy-wide lack of demand, which in turn leads to a reduction in the overall price level, or deflation. For example, during the Great Depression New Zealand experienced an average inflation rate of -7% over a four-year period. During deflation, prices for firms' products tend to fall, but wages do not, so many businesses fail. The values of businesses and other assets decline, but the nominal value of debt does not, so when households and businesses default on loans due to the weak economy, banks suffer losses. This makes banks loath to lend, and when credit becomes scarce interest rates for loans rise. This deepens the recession and the deflation. And so on.

The remedy is to reduce interest rates before deflation takes hold. Lower interest rates discourage people from saving, and encourage them to invest or spend, which corrects the initial imbalance between savings and loans. This shores up demand in the economy, preventing deflation from taking hold.

The reverse is also true – excess demand can lead to high inflation, and increasing interest rates is the way to see off that threat.

For the past thirty years, the Reserve Bank of New Zealand has moved interest rates up and down, and has successfully avoided the episodes of inflation and deflation that used to dog the economy. The correct level of interest rates required to balance inflation (and by extension balance savings and loans) varies very widely. Right now, the required level of interest rates is much lower than most New Zealanders are used to. In fact, the interest rate required to stabilise inflation right now is lower than could possibly be achieved with an above-zero OCR, so the Reserve Bank is using other methods of bringing interest rates down.

1 Available at www.westpac.co.nz/assets/Business/Economic-Updates/2019/Bulletins-2019/Quantitative-easing-economic-insight-WEB.pdf

How interest rates affect inflation.

There are myriad 'transmission channels' through which low interest rates affect the economy and inflation. Some are actually counterproductive – for example, lower interest rates might depress spending by some retirees who rely on interest income. But these counterproductive channels are small compared to the positive effect that lower interest rates have on propensities to save, or on asset prices. On balance, monetary policy works in the intended direction (*see figure 1*).

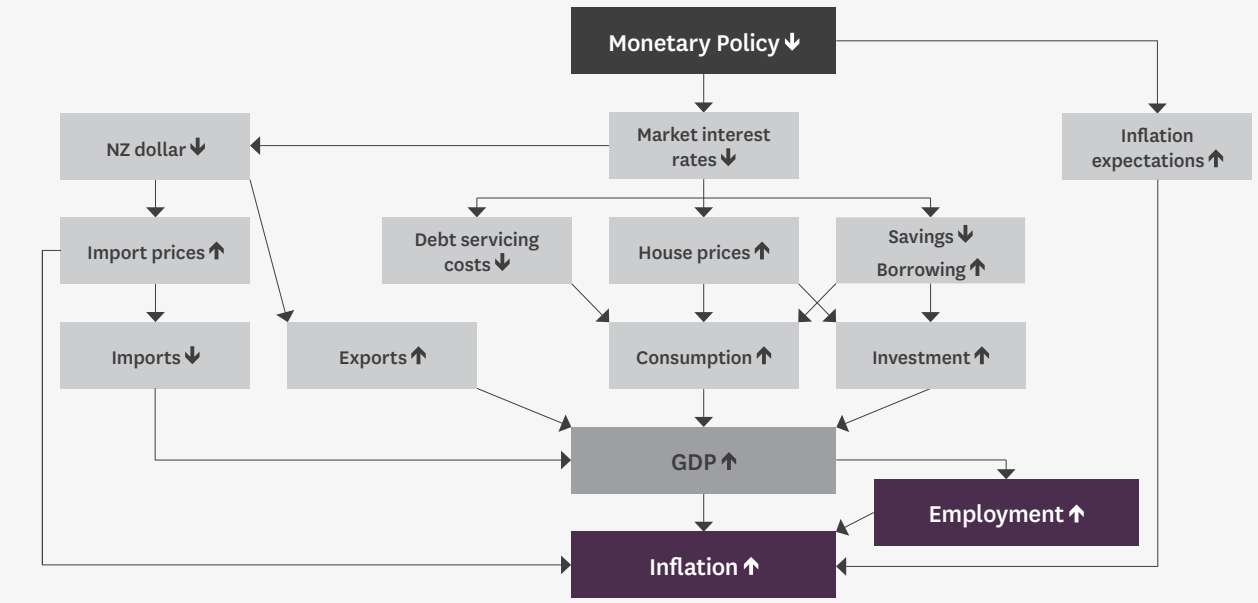
In New Zealand, the most important transmission channels are asset prices and the exchange rate. Falling interest rates tend to push asset prices up, which stimulates consumer spending. Falling interest rates also tend to reduce the exchange rate, which generates inflation via the prices of internationally-traded goods and services.

The uncomfortable side effects of monetary medicine.

Falling interest rates in recent years have been the main cause of ballooning house prices, which have led to social problems and political angst. However, it is wrong to suggest that the Reserve Bank should have kept interest rates higher to prevent the house price booms. If the Reserve Bank had kept interest rates at, say, 2000s levels, New Zealand would be deeply in deflation by now. As explained above, the economic and social consequences of deflation would be far worse than the (undeniable) problems with rising house prices.

The low inflation / falling interest rate dynamic of the past two decades has been a global phenomenon, ultimately caused by a global change in the balance between savings and investment. The Reserve Bank of New Zealand could not have prevented this global trend from affecting New Zealand interest rates without causing severe damage to the economy.

Figure 1: The transmission of monetary policy



Source: RBNZ, Westpac

Settlement balances – the basic building block of monetary policy.

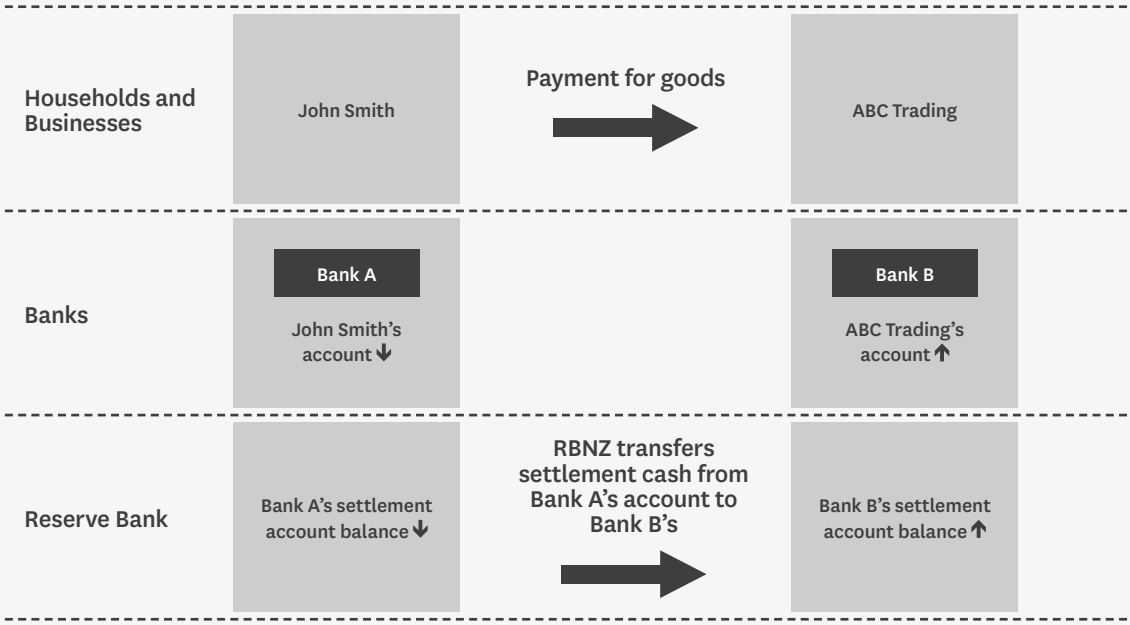
Settlement balances are an important building block for many of the monetary policy tools outlined below. Here we briefly explain the basics of settlement balances, for readers unfamiliar with the topic.

Settlement balances are accounts that private banks have at the Reserve Bank. Banks use these accounts to settle transactions between one another. If a customer of bank A pays a customer of bank B, the transaction is settled by debiting Bank A's settlement account and crediting Bank B's.

Each bank must keep its settlement account in positive territory. The OCR is the interest rate that the RBNZ pays banks on their settlement account balances. (If banks find themselves short of settlement cash, they can borrow from another bank, or they can borrow from the Reserve Bank at a margin above the OCR.)

In normal times, manipulating the OCR gives the RBNZ a tremendous amount of influence over interest rates in the private sector. Since banks always have the option to borrow from or lend to the RBNZ overnight, the OCR sets a benchmark as the alternative use of any funds that a bank takes in or lends out. This means that short-term interest rates generally won't deviate too far from the OCR. Long-term interest rates partly reflect where markets expect short-term interest rates to go in the future, so the RBNZ has some influence there too.

Figure 2: Settlement accounts



Source: Westpac

Negative OCR.

- **A negative OCR means the Reserve Bank would charge banks for holding settlement account balances, rather than paying banks.**
- **Cutting the OCR below zero would reduce retail saving and lending rates, the same as any other OCR cut.**
- **Although the OCR would be negative, all retail interest rates would remain above or at zero.**
- **The effectiveness of OCR cuts would wane as the OCR got lower, and the OCR would have no impact at all on retail interest rates if it was cut below about -1%.**
- **Negative interest rates can reduce bank profitability, but this difficulty can be overcome by a carefully designed tiering system.**
- **Negative interest rates are not necessarily a threat to banks' ability to fund themselves as some have suggested.**
- **International evidence suggests that negative official interest rates have been successful at boosting bank lending and inflation.**

A negative OCR was the RBNZ's preferred option when it reviewed its unconventional policy tools last year. But when the Covid-19 shock hit, the RBNZ hadn't yet established whether banks' systems were capable of handling negative interest rates, taking that option off the table at the time. The RBNZ has made a firm commitment to keep the OCR at 0.25% until March next year, and instructed banks to make sure that their systems are ready to cope with a negative OCR by December this year.

A negative OCR simply means that the banks would pay the RBNZ a small percentage of their settlement account balances, rather than receiving a small percentage. The higher a bank's settlement account balance, the more it would pay. This would have two effects. First, banks would have an incentive for to lend money out rather than getting caught holding costly settlement cash at the end of each day. And second, banks would be less willing to attract deposits, since that would increase their settlement account balances. In order to increase lending and decrease deposits, banks would reduce interest rates.

Since retail lending and deposit rates typically sit at a margin above the OCR, a modestly negative OCR would not result in negative interest rates for bank customers. Indeed, there is a practical constraint to retail deposit rates ever going negative, and that is that people can hoard cash instead of accepting a loss on their bank deposits. Lending rates are generally higher than deposit rates, so if retail deposit rates can't go negative, neither can retail lending rates.

Wholesale interest rates can go negative, because size and speed of wholesale transactions makes them impossible to conduct with physical cash. Therefore, it is perfectly possible for bank bill rates, swap rates and government bond rates to drop below zero. Indeed, these interest rates have already dropped below zero on occasion in New Zealand.

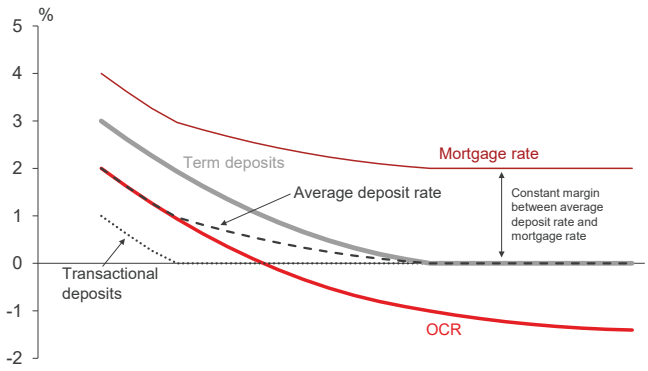
Transmission.

The lower the OCR goes, the less marginal impact it has on retail lending rates. Eventually the OCR would reach its **effective lower bound**, below which further OCR cuts would have no effect at all on lending rates. This has to do with the mix of bank funding. Some types of deposits earn interest well below the OCR – indeed, most transactional accounts dropped to zero interest long ago. As the OCR falls, more and more deposits hit zero interest and cannot fall any further. Consequently, each additional OCR cut has less impact on the *average* cost of funding for banks.

If the average cost of funds does not fall one-for-one with the OCR, then in order to maintain the same bank margin, banks would not reduce lending rates one-for-one with the OCR. The lower the OCR goes, the more the pace of decline in average deposit rates slows, and consequently the pace of decline in lending rates will also slow.

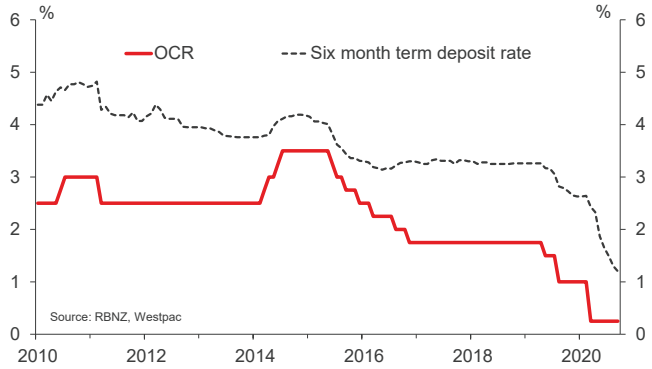
Furthermore, term deposit rates themselves tend to move by less than one-for-one with the OCR. Banks prefer term deposits to other forms of funding, and are willing to continue paying up to attract retail term deposits even when other interest rates fall. Again, this means that the lower the OCR goes, the less impact that further OCR cuts will have on retail interest rates.

Figure 3: Diminishing impact of OCR on mortgage rates – stylised representation



There is debate internationally as to where the effective lower bound for official interest rates lies. Achieving near-zero retail deposit rates required official rates in the range of -0.5% to -0.75% in Europe. In New Zealand, term deposit rates are generally 100 basis points or more above the OCR, a wider spread than in other countries. Consequently, the OCR could fall to -1% or even lower before term deposit rates hit zero and no further impact on deposit rates was possible.

Figure 4: NZ deposit rates and the OCR



The transmission from a falling OCR to the exchange rate would also remain effective even as the OCR fell below zero. A negative OCR would drag down interest rates in New Zealand, putting downward pressure on the exchange rate in the usual way.

Ensuring a negative OCR is effective requires a good tiering scheme.

One of the potential pitfalls of a negative OCR is that having to pay interest on their settlement balances is a cost to banks. Banks might try to recoup this cost by increasing lending rates, thus undermining the effectiveness of the OCR cut. This is especially important today. The RBNZ's Large-Scale Asset Purchase (LSAP) programme involves the Reserve Bank buying government bonds and, in exchange, crediting banks' settlement accounts. This means banks' settlement cash balances have ballooned to about $30bn across the banking system, much higher than in years past. Applying a negative OCR to all of those balances would require a large involuntary transfer from banks to the Reserve Bank. (While an individual bank can take steps to try to minimise its own balance, that would simply shift the cost to somewhere else in the banking system.)

Fortunately, there is a well-established way of getting around this. Most overseas central banks that use negative cash rates have introduced tiering systems, where the first portion of each bank's reserves are exempt from negative interest rates, but over a certain limit the negative interest rate applies. This ensures that banks aren't penalised for holding cash that the RBNZ itself has injected into the system, while still providing an incentive to lend out any additional cash that they receive. The levels at which the tiers are set would have to be carefully managed, though this is far from a new challenge – the RBNZ operated a tiering system for many years when the OCR was positive.

How banks attract funding at a negative OCR.

One common concern we have heard about a negative OCR is that banks might have trouble attracting deposits and/or wholesale funding, as savers and investors would eschew the low interest rates on offer. The theory is that a shortage of funding would then prompt banks to cut back on lending, creating a credit crunch. This concern is misplaced.

The first point to note is that this criticism could be levelled at any OCR cut – lower interest rates make bank deposits less attractive in general, and there is not any particular level at which savers and investors would suddenly be turned off *en masse*. Indeed, claims that the OCR cannot be cut any lower because banks would be unable to attract funding have been around for a long time, at least since the OCR was 2.5%.

But in fact, New Zealand banks have had no problem attracting funds at an OCR as low as 0.25%. And in overseas jurisdictions that have used a negative OCR, bank funding has not been a problem. This is because negative interest rates tend to be required only in recessionary situations, when people are too cautious to invest or take other risks with their money, and instead tend to park it at banks. The reason that countries use negative interest rates is *because* the public has an excessive zeal for saving, resulting in ample funding being made available for banks! Mobilising people to do more productive things with their money is the aim of a negative interest rate policy, not a sign that it has failed.

Perhaps a more pertinent risk for New Zealand is that wholesale investors, particularly those based overseas, might be less willing to fund the banking system at very low interest rates. But in this situation the exchange rate would drop due to the lack of incoming funds seeking to purchase New Zealand bank paper. Again, a lower exchange rate would be viewed as a success of negative interest rates, not a failure.

International experience.

Negative policy rates have been adopted in recent years by Japan, the euro zone, Sweden, Switzerland and Denmark. This was prompted by the sluggish pace of economic recovery in the years following the Global Financial Crisis, and in most cases those policy rates have remained negative for several years. The exception is Sweden, which raised its policy rate back to zero last year, having successfully lifted inflation back to its 2% target.

Figure 5: Euro area interest rates

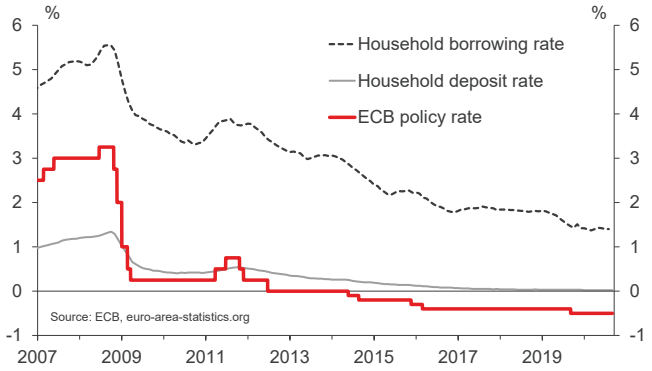
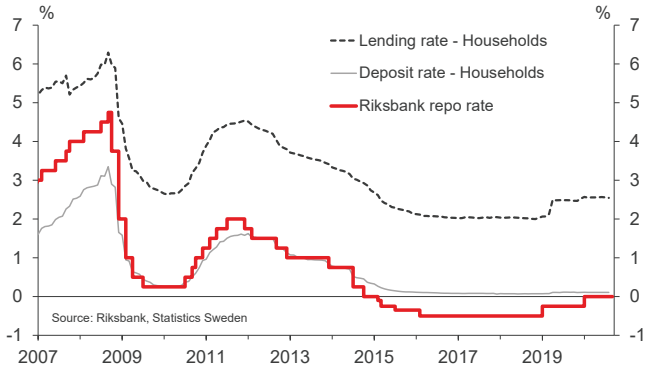


Figure 6: Swedish interest rates



There are very few observed instances of household deposit rates turning negative in these countries, as banks have been reluctant to impose such a cost on their customers (and in some parts of Europe there are legal or regulatory restrictions on doing so). However, as time has passed there have been more instances of negative interest rates on business deposits. Banks have not suffered an outflow of deposits as a result, as business customers are willing to pay for the liquidity and safety of bank deposits.

There is a small but growing body of empirical research which suggests that negative policy rates have had modestly beneficial effects for the economy.[2] Much of the focus has been on banks' behaviour, and two issues in particular: how a negative policy rate affects bank profitability, and how this in turn affects their willingness to lend.

On the first point, the evidence is mixed. Negative policy rates are generally found to have reduced banks' net interest margins, due to the inability to pass it through to household deposit rates. But there is some evidence that banks have been able to offset this through higher non-interest income, such as fees and mark-to-market gains on the securities that they hold.

Modelling also suggests that negative policy rates, by supporting the economy, have boosted bank profits by reducing the loan losses that they would otherwise have faced. This benefit would have been far from obvious to the banks themselves, since they can't observe what the counterfactual would have been.

The second issue is whether negative policy rates lead to higher loan growth. On balance the empirical evidence suggests the answer is yes, but mainly because banks take greater risks. When banks face the cost of a negative interest rate on their settlement accounts, they look to counter this by shifting their balance sheet away from safe assets such as government bonds, and towards more and riskier forms of lending.

The exchange rate is also an important channel for monetary policy in small open economies. There is some evidence from Denmark, Sweden and Switzerland that the "carry trade" worked as normal when their policy rates turned negative, and their respective currencies were lower than they otherwise would have been.

Overall, the empirical evidence from overseas suggests that it is perfectly possible for the RBNZ to continue cutting the OCR below zero. Each OCR reduction would have less impact on retail mortgage rates than the last, although there would still be some effect down to an OCR of about -1%. Furthermore, lowering the OCR below zero would stimulate the economy and inflation by reducing wholesale interest rates and the exchange rate.

2 For a recent summary of the research, see Isabel Schnabel, "Going negative: the ECB's experience". https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200826~77ce66626c.en.html

Funding for lending.

- **Under a Funding for Lending Programme (FLP), the RBNZ would make low-interest loans to banks.**
- **This would reduce the cost of funds to banks, allowing them to reduce lending rates.**
- **The design of the scheme is crucial to the rate of uptake and its impact on interest rates.**
- **An FLP can reinforce the effectiveness of a negative OCR.**
- **We expect the RBNZ to introduce an FLP as early as November.**

The RBNZ's other preferred option, and most likely the next cab off the rank, is a funding for lending programme (FLP). This essentially involves providing cheap long-term loans directly to banks.

Currently, banks source their funds from a mix of transactional deposits (at zero interest), term deposits (about 1.2%), and wholesale funds (about 1%). Under an FLP, the RBNZ would offer funding to banks for, say, a three-year term at a low interest rate – perhaps close to the OCR, which is currently 0.25%, or close to the swap rate which is currently near zero.

If banks can bring in money more cheaply, they can subsequently lend it out more cheaply while maintaining the same interest margin. So by providing these cheap loans to banks, the RBNZ will engineer a decrease in mortgage rates and business lending rates. There will also be an indirect effect – banks won't need to compete as vigorously for term deposits and wholesale funds, so the interest rates on these will also fall, further reducing banks' funding costs.

Details of the FLP design.

The first important design element of an FLP is how the interest rate is set. One option is for the RBNZ to lend to banks at or near the current swap rate, which is lower than banks currently pay on wholesale markets. Lending at a fixed rate would give banks more certainty about their cost of funding over the life of the loan. However, banks may be unwilling to take up the offer if they believe that swap rates are likely to fall in the future – for instance, if the central bank signals further OCR cuts.

Another option is lending for a fixed term at a floating interest rate, set at or near the OCR. The latter is in line with the European Central Bank's term lending facility, which has been in place for several years. To provide extra stimulus in response to the Covid-19 shock, the ECB has provided two further sweeteners: the interest rate is set 50 basis points below the cash rate for the first year, and is capped at that level (i.e. future rate cuts would be passed on, but any future rate hikes would not).

The second important element is what conditions are attached to the programme. FLPs were originally conceived as a means to un-gum clogged banking systems – the Bank of England provided cheap loans to banks in return for banks lending more to businesses during the Global Financial Crisis. However, that doesn't describe the current situation, where the main constraint is more likely to be weak demand for loans rather than an unwillingness to lend. Making access to the FLP contingent on new lending is likely to result in a disappointingly low uptake – as we've already seen in New Zealand with the TLF that is linked to the Business Finance Guarantee Scheme.

Finally, the impact of an FLP will depend on its size. It's unlikely that banks would turn away customer deposits, so realistically any programme would be capped by the size of banks' wholesale funding requirements. But if the FLP was large enough that banks had no reason to source wholesale funds at all, term deposit rates could conceivably drop to almost zero. So long as the OCR is 0.25%, the upper bound for the impact of the FLP on mortgage rates is smaller – perhaps in the order of 65 basis points. This is because only around two-thirds of banks' funding costs would actually be affected by the FLP (the remaining third that is already sourced at near-zero interest rates would not be affected).

Combining an FLP with a negative OCR.

While the FLP is a monetary tool that can be used on its own, the Reserve Bank may also consider introducing it or extended it at the same time as cutting the OCR below zero, as a way of alleviating some of the concerns about a negative OCR.

As mentioned in the negative interest rate section, the main objection to a negative OCR is that it would *require* banks to pay the RBNZ for holding settlement balances that have been expanded due to the Large Scale Asset Purchase programme. Banks would have to recoup this cost by charging borrowers a higher interest rate than otherwise, thus reducing the effectiveness of the negative OCR. We explained that a well-designed tiering scheme could alleviate most of the issue, but not all of it.

An FLP may help, because it is effectively an offsetting payment from the RBNZ to the banks – the RBNZ would be lending to the banks at a below-market interest rate. This would help banks meet the direct costs of a negative OCR, and would ensure that banks could reduce lending rates at the time the negative OCR was introduced.

The FLP and the OCR also direct interact with one another. If the OCR is cut, then the interest rate at which the RBNZ lends under the FLP would also fall. And the presence of an FLP would ensure that an OCR cut would actually reduce the cost of funds for banks.

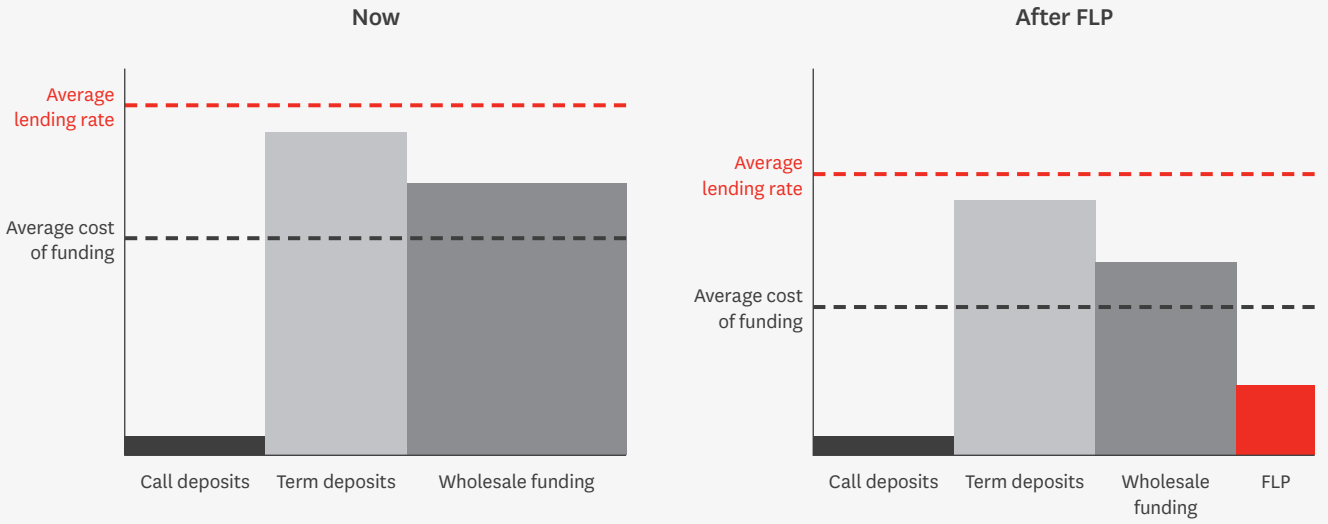
International experience.

An FLP in New Zealand would most likely be modelled on the Reserve Bank of Australia's Term Funding Facility (TFF). The RBA lends funds to the banking system for a three-year term at a fixed rate of 0.25%. The funds are not contingent on banks increasing their lending.

The facility was initially capped at 3% of total bank lending, which was later increased to 5%. (The latter would equate to around $24bn today in New Zealand.) So although the rate of uptake has been reasonably high, it still only accounts for a small portion of banks' overall funding.

The TFF appears to have been successful in lowering lending rates, by reducing banks' funding costs. Banks have used the facility to replace more expensive offshore wholesale funding at it matures. There is also some evidence that banks have used this funding to expand their balance sheets, through both increased lending and buying assets such as Government bonds.

Figure 7: Impact of FLP on bank balance sheets



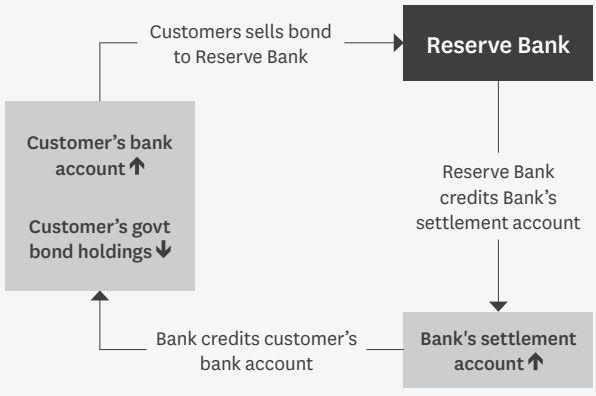
Source: RBNZ, Westpac

Quantitative easing.

- Quantitative easing involves the RBNZ buying long-term government bonds, and in exchange, crediting banks' settlement accounts.
- This reduces long-term interest rates, but does not affect short-term rates.
- Quantitative easing is effective at boosting inflation relative to what it would otherwise have been.
- At different times overseas, quantitative easing has been used too much or too little, resulting in inflation that is higher or lower than desired.
- Quantitative easing is not a 'free lunch' for the Government – its bonds still need to be repaid.

The Reserve Bank's first alternative monetary policy tool was its Large Scale Asset Purchase Programme (LSAP), also known as quantitative easing (QE). This involves the Reserve Bank purchasing Government bonds on the open market, and in return crediting banks' settlement accounts, as shown in the diagram.

Figure 8: Bond purchase programme



Source: RBNZ, Westpac

The most common question we face is "where does the Reserve Bank get the money to buy the Government bonds?" The answer is that it creates new money. This is no more difficult for a central bank than writing an IOU.

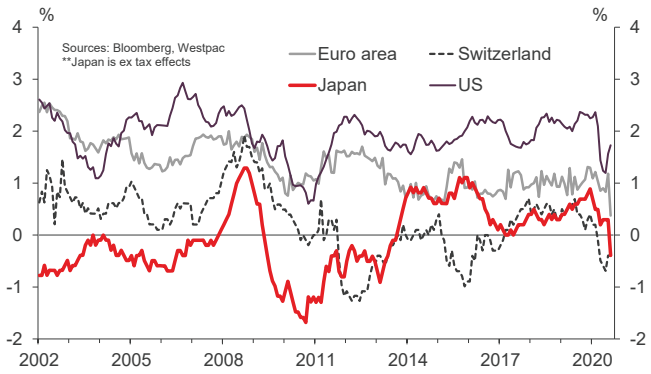
One way to think about quantitative easing is as a maturity swap of Crown liabilities. The central bank takes long-term Crown liabilities (government bonds) away from the private sector. In return, it issues short-term Crown liabilities – cash (or more accurately, settlement balances). The private sector holds the same quantity of Crown liabilities, it is just that they are held as cash instead of bonds.

The effect of quantitative easing is to reduce long-term interest rates. Reducing the supply of long-term government bonds tends to push the interest rate on those bonds down. And since other long-term interest rates are linked to government bond rates, all long-term rates tend to fall. Meanwhile, short-term interest rates are anchored to the OCR and do not change.

In the same fashion as other forms of monetary easing, the lower interest rates generated by QE tend to boost inflation. Lower interest rates also tend to depress the exchange rate, which indirectly boosts inflation.

It is important to remember that quantitative easing (or any other form of monetary easing) boosts inflation *relative to what it would otherwise be*. QE has been used in recent years in the US, the euro zone, the UK, Switzerland, Sweden and Japan. In most of these jurisdictions inflation has been low and stable, though it has tended to fall on the lower side of their respective targets. However, these regions adopted QE because the alternative they faced was a slide into deflation, and in that respect QE was a success. Something similar to QE has also been used in poorly-run countries when inflation was not low. This excessive use of QE boosted inflation to a too-high level, in some cases even leading to hyperinflation. But neither inflation nor deflation is an inevitable consequence of QE.

Figure 9: Core inflation rates in regions with QE



How many bonds will the RBNZ buy?

At present, the RBNZ has set a total cap of owning up to $100bn of government bonds by June 2022. On current forecasts, there is no scope for the Reserve Bank to expand the LSAP cap beyond that figure until after June 2022. If the Reserve Bank buys too many government bonds, the private market will suffer illiquidity, which would push the interest rate on government bonds *up*. Prior to Covid, there were about $70bn of bonds in the market, so this is generally considered the minimum quantum that must remain outside

of Reserve Bank ownership. On current fiscal forecasts, total government debt will be $170bn by June 2022, meaning the maximum possible LSAP at that time is $100bn.

If the Government was to issue more debt than currently expected, then there would be scope to expand the LSAP. But we consider this unlikely. The tax take has been running well ahead of forecast, and the economy is stronger than the Treasury expected. If anything, the Government could end up borrowing less than currently forecast.

It is the pace of RBNZ purchases (and expectations of the future pace) that influences market interest rates. Recently the RBNZ has been purchasing roughly $1bn to $1.35bn of bonds each week, and this has been sufficient to reduce shorter-term government bond rates to zero. But if it continued at a $1.25bn per week pace, the Reserve Bank would hit the $100bn cap by late 2021.

Figure 10: LSAP bond purchases

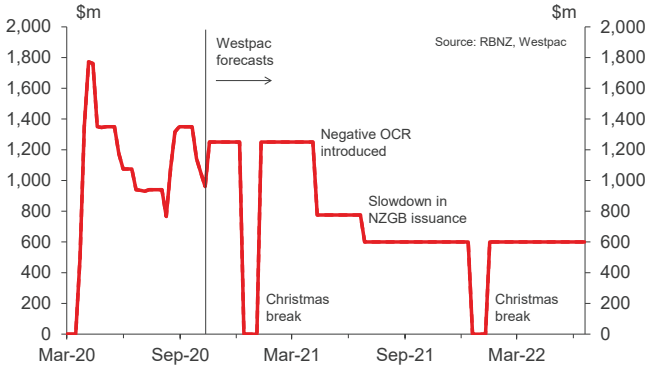
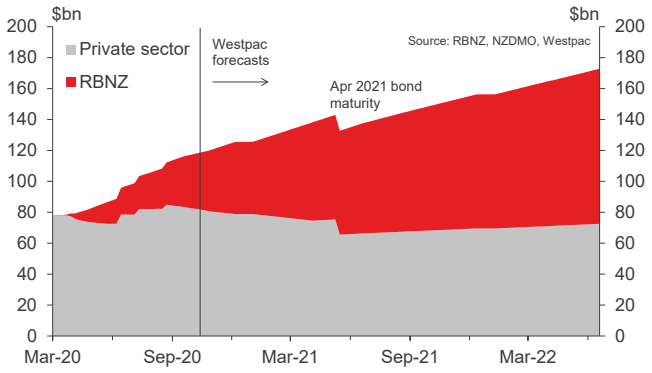


Figure 11: Bonds in RBNZ ownership and in private sector



The Reserve Bank may have an opportunity to slow the pace of purchases next year without causing higher interest rates. The Government is planning to slow the pace at which it issues new debt, and that will put downward pressure on interest rates. At that point, we estimate that the Reserve Bank could slow its average pace of purchases to $775m per week while keeping interest rates at roughly today's levels. Even then, it would hit the $100bn cap by March 2022.

In our view, the fight against low inflation is going to carry on far beyond that date. In other words, on the current trajectory the LSAP will run out of fuel well before the fight against low inflation is over.

This is the key reason that the Reserve Bank is going to need another monetary tool. We expect that the RBNZ will engineer a partial *switch* of monetary policy strategy. The pace of LSAP purchases will slow, but a Funding for Lending Programme (FLP) and a negative OCR will be introduced instead. This would allow the RBNZ to slow the pace of bond purchases to around $600m per week next year, which would keep it within the $100bn cap by June 2022, while still meeting its inflation target.

Not a free lunch for the Government.

Much of the confusion about quantitative easing stems from its apparent similarity to monetary financing of government deficits in poorly run countries. The difference between QE and deficit financing is *intent*.

In well-run countries like New Zealand the central bank is independent to pursue low and stable inflation. It engages in QE only if threatened by deflation. Should QE lead to excessive inflation, a central bank in a well-run country can simply stop purchasing the government bonds. Importantly, the government must repay the debt it has issued, whether that debt is owned by the central bank or the private sector. So there is no 'free lunch' for the government.

In poorly run countries, sometimes the government *requires* the central bank to purchase its debt in exchange for newly created money, regardless of what is happening to inflation. If the newly created money leads to excessive inflation the central bank cannot stop the process, because it is not independent. Inflation is often the result. In addition, these governments might require the central bank to cancel the bonds, or even just require the central bank to give it an overdraft. Again, this tends to lead to inflation.

Importantly, this does not create a free lunch for governments either. True, by 'printing money' such a government is able to procure more goods and services. However, the holders of cash, which is losing its value due to inflation, can afford less. So, in effect, savers are paying for the government's purchases through the 'inflation tax', also known as seigniorage. To make matters worse, the high and variable rates of inflation that result from these strategies tend to damage the economy's overall ability to produce goods and services.

These concepts are critically important when we consider how many government bonds the RBNZ will purchase. In New Zealand, the pace and extent of bond purchases will be dictated by inflation, not by the Government's financing needs.

Yield curve control.

- **The RBNZ could buy government bonds of a specific maturity, driving the yield down to a target level.**
- **This provides a more focused way of reducing the benchmark for private sector interest rates.**
- **Since the RBNZ has already driven bond yields down through quantitative easing, yield curve control would be at best a substitute rather than an additional easing measure.**

Yield curve control (YCC) is a variation on large-scale bond purchases, and has been adopted in Japan and Australia. Rather than buying a particular quantity of government bonds, the central bank commits to buying as many bonds as needed to drive a particular point on the yield curve down to a target level. For example, the Reserve Bank of Australia has targeted a yield of 0.25% for the three-year bond, on the reasoning that this most closely matches the average maturity of private sector borrowing.

The potential advantage over QE is that it may give the central bank more bang for its buck. By focusing on one portion of the yield curve, and communicating its target price to the market, the central bank may not need to purchase as many bonds to get the desired result. The RBA has so far purchased $52bn of bonds, equivalent to around $7bn in New Zealand given the relative size of our economy.

However, since the RBNZ has already committed to an expansive QE programme, it seems unlikely that it will switch tack to YCC. The RBNZ has suggested that QE has more impact on the exchange rate than YCC, although we are not completely convinced.

Credit easing.

- **Credit easing (CE) is equivalent to quantitative easing, except the central bank buys private sector bonds instead of government bonds.**
- **CE is effective, but can cause distortions by favouring some entities over others.**
- **CE is probably best reserved for use in a credit crunch scenario.**

Sometimes a distinction is made between quantitative easing (QE) and credit easing (CE). In the latter case, the RBNZ would instead buy private sector assets such as mortgage-backed securities or corporate bonds. This would have a more direct impact on private sector borrowing rates, but unlike the previous example, it would expose the Crown to the risk of losses if the borrower defaults. The difference in terms of their effectiveness is likely to be more apparent during times of stress, when businesses may be struggling to raise funds from the market at reasonable interest rates.

One drawback with credit easing is that it can 'pick winners' within the economy. The RBNZ would inevitably buy the bonds of some qualifying institutions and not others. These favoured institutions would find it easier and cheaper to raise money than unfavoured institutions, particularly if a credit crunch was under way. This could lead to politicking about which institutions should qualify, as well as real distortions in the economy.

Again, credit easing would tend to depress the exchange rate, because it would lower the return available on New Zealand assets compared to the returns available overseas.

Unsterilised exchange rate intervention.

- Unsterilised exchange rate intervention is equivalent to QE, except the central bank buys foreign instead of New Zealand government bonds.
- This would reduce the exchange rate directly, thus boosting inflation.
- Exchange rate intervention of this type could have international political ramifications.
- The RBNZ would be exposed to the possibility of losses.

In the QE section we explained that quantitative easing would impact the exchange rate. If the RBNZ buys domestic bonds, investors may substitute to foreign bonds, pushing down the exchange rate in the process. One option for the RBNZ would be to simply cut out the middleman, by issuing settlement cash and using the proceeds to buy *foreign* bonds.

This would be equivalent to massive unsterilised exchange rate intervention, similar to China's accumulation of US Treasury bonds in the 2000s and early 2010s. It would directly suppress the exchange rate, which would tend to boost inflation. However, such a strategy would have risks. First, the RBNZ would face the possibility of losses if the exchange rate rose before the foreign bonds were sold or matured. Second, the action would have to be carefully managed to avoid international political fallout. One country's exchange rate depreciation is by definition another's appreciation, so overt action to devalue the New Zealand dollar could anger our trading partners.

Interest rate swap intervention.

- The RBNZ can enter swaps with other parties to pay a floating interest rate and receive a fixed-term rate.
- This would put downward pressure on long-term interest rates and send a signal about the RBNZ's willingness to keep the OCR low.

One possibility is for the RBNZ to intervene directly in the interest rate swap market. This differs from the other options detailed here in that it wouldn't involve purchasing any assets up-front. Rather, a swap is a derivative product that involves two parties exchanging interest rate payments over the life of the swap – one pays party the floating rate, the other pays the fixed rate.[3]

The RBNZ could enter agreements to receive fixed-rate interest payments from other parties, and in turn pay them floating-rate interest payments. If done in large amounts, this would have three effects. First, it would put downward pressure on long-term interest rates. When there is greater demand to receive the fixed rate, that rate must fall in order to attract counterparties who are willing to pay it.

Second, the RBNZ would send a signal about its willingness to keep the OCR low for an extended period. Since the RBNZ would be paying the floating rate (which is closely linked to the OCR), it would lose money if it raised the OCR sooner or by more than the market anticipated. Finally, like other measures, it would put downward pressure on the exchange rate by reducing New Zealand interest rates relative to the rest of the world.

The interest rate swap market is larger and more active than the bond market in New Zealand, and the fixed rates are often used as the benchmark for other borrowing rates – a role that tends to be served by the government bond market in other countries. Moreover, the scope for intervention is potentially open-ended, as the RBNZ would be limited only by the number of willing counterparties that it can find.

3 For the details of how an interest rate swap works, see https://investinganswers.com/dictionary/i/interest-rate-swap

Market implications of a negative OCR.

In most respects, a reduction in the OCR from +0.25% to below zero should theoretically have a similar market impact to a reduction from one positive number to another positive number. There is however, one key difference: markets will not expect much further reduction in the OCR, as they are aware that there is an effective lower bound for the OCR. With this in mind, we explore the likely impact on various sectors of the NZ interest rate market, of a reduction in the OCR from +0.25% to -0.50%.

Outright yields.

Both short and long-term yields should fall further. Short term yields should fall with the OCR, although whether they fall one-for-one depends on the design of the tiering scheme.

We expect the RBNZ will allocate each bank a dollar value up to which settlement balances will receive zero interest, and above which settlement balances will incur the penalty of the negative OCR. In that case, markets would trade overnight cash (or "effective" OCR) close to -0.50%. However, other tiering schemes could result in a discrepancy between the OCR and where banks actually trade overnight cash, with the resulting "effective" OCR higher than -0.5%.

Bank bill rates should trade at a spread of 0bp to 10bp above the effective OCR, so assuming that the RBNZ successfully engineers an effective OCR of -0.5%, banks bills will be between -0.50% and -0.40%. While the historical average bank bill-OCR spread (more correctly expressed as the bank bill-expected OCR spread) is around 20bp, it is currently low at 2bp due to the abundance of bank funding available, and we would expect that to remain the case if additional funding schemes such as the FLP are introduced.

Longer-term swap yields will lie below or above zero, depending on term. We would expect the pivotal point to be the 5yr to 7yr area. The 2yr swap would trade close to the 3mth bank bill rate if the market expected no further OCR shifts over the next two years. However, we forecast the OCR to start rising by late 2022. If markets concur, then 2yr swap rates should trade above bank bill rates, at around -0.30%. The 10yr swap rate should trade around 50bp above the 2yr swap rate, so around +0.20%. The 10yr NZGB should trade around +0.20%, assuming the current NZGB-swap spread persists. We've summarised all the above in *figure 12*, which shows some plausible shapes and levels for the NZ swap and NZGB yield curves in April 2021.

Other market sectors.

Yield curve slope would normally be expected to steepen, led by short-end yields falling with the OCR. That has certainly been the case since the OCR was introduced in 1999. However, that inverse relationship between curve slope and OCR yield has weakened over the past three years, partly due to QE. Moreover, in the five countries which have experienced a negative policy rate so far, curve slope has either remained the same or flattened (*see figure 13*). Bouts of steepening are possible during OIS market repricing or as LSAPs approach headroom, but overall we'd expect to see 2-10yr swap curve slope remain in a 30bp-60bp range.

NZ-country yield spreads are likely to fall even further. The divergence between central banks reluctant to shift to negative policy rates and the RBNZ will be clear. NZ-US 10yr government bond spreads could fall from -20bp currently to -60bp. NZ-AU 10yr spreads may not fall too much further, with -40bp a post-1999 record low and fair given RBNZ-RBA policy differences.

NZD/USD basis swap spreads should fall even further, although this will be an indirect result of a negative OCR. Prior to the GFC, the 5yr basis swap traded in a -10bp to +10bp range, driven by two main activities: NZ banks funding offshore (and swapping back into NZ$), and investment into supranational NZ$ bonds (supranationals swapping out of NZ$). Post-GFC, NZ bank funding dominated, resulting in basis swap spreads consistently well above zero. Post Covid, the plethora of cheap bank funding channels provided by the RBNZ (in particular the FLP which could be introduced in November 2020) means that NZ banks are less likely to fund offshore, reducing upward pressure on basis swaps.

Figure 12: Stylised NZ yield curves in 2021

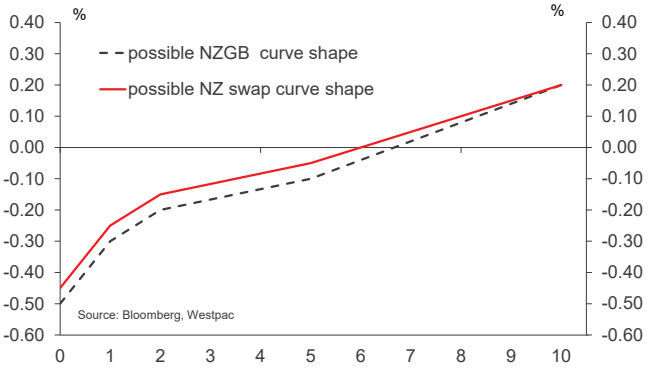
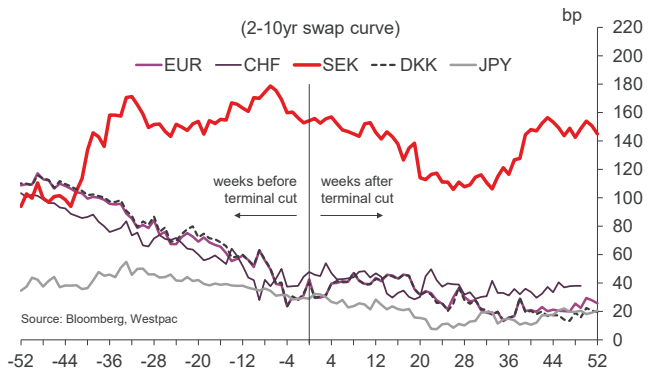


Figure 13: Other countries' yield curves around final cut



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