

# NZ Insight: Negative OCR and Funding for Lending Programme FAQ

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## Contact

Liz Kendall or David Croy for more details.

## Negative OCR and Funding for Lending Programme FAQ: How would it all work?

With monetary policy having reached its conventional limits and unconventional monetary policy having now been deployed, the RBNZ is considering next steps for policy options, and has expressed a preference for taking the OCR lower or negative, combined with a Funding for Lending Programme, should more stimulus be required. In this note, we consider some of the questions that have been raised about these policies.

### Frequently asked questions

1. Why is the RBNZ thinking of taking the OCR negative?
2. Will it happen?
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7. How would a Bank FLP work?
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### 1. Why is the RBNZ thinking of taking the OCR negative?

The economy is in the midst of a deep recession, the brunt of which is **yet to be fully felt**. The current downturn is set to see unemployment rise and inflation under downward pressure, potentially for a very long time. Consistent with its mandate, the RBNZ has provided monetary stimulus to help stabilise the economy. So far, it has cut the OCR and embarked on a Large-Scale Asset Purchase (LSAP) Programme of Quantitative Easing (QE), along with other responses to assist the functioning of the financial system. But more stimulus from the Reserve Bank may be needed, particularly if the economy evolves according to our expectations (see [question 2](#)). With the OCR already very low (at 0.25%), and QE expected to eventually reach its limits, the RBNZ is likely to look to use other options in its toolkit to stimulate the economy further.

For more on QE and how it works, see our [FAQ](#) and [follow-up FAQ](#). For more on the structural factors that have contributed to the low starting point for the OCR, check out our [introduction to a negative OCR](#).

There are other options for broadening unconventional policy stimulus (see [question 12](#)), but the RBNZ's Monetary Policy Committee (MPC) has expressed a preference for taking the OCR into negative territory and combining that with a Funding for Lending Programme (FLP). RBNZ staff have been directed to

prepare advice on the design of such a package for deployment if deemed necessary, and we expect this package is likely to be the cornerstone of policy settings in 2021.

The idea would be that the combination of these complementary tools would stimulate the economy in a similar way to a conventional lowering of the OCR (in still-positive territory); through a lower exchange rate, lower retail interest rates, and by shoring up inflation expectations and confidence. The FLP would help to work against some of the unhelpful consequences that would likely occur if the OCR were taken negative in isolation, including a potential squeeze on credit supply ([question 6](#)). See [question 7](#) for a discussion of how an FLP would work.

## 2. Will it happen?

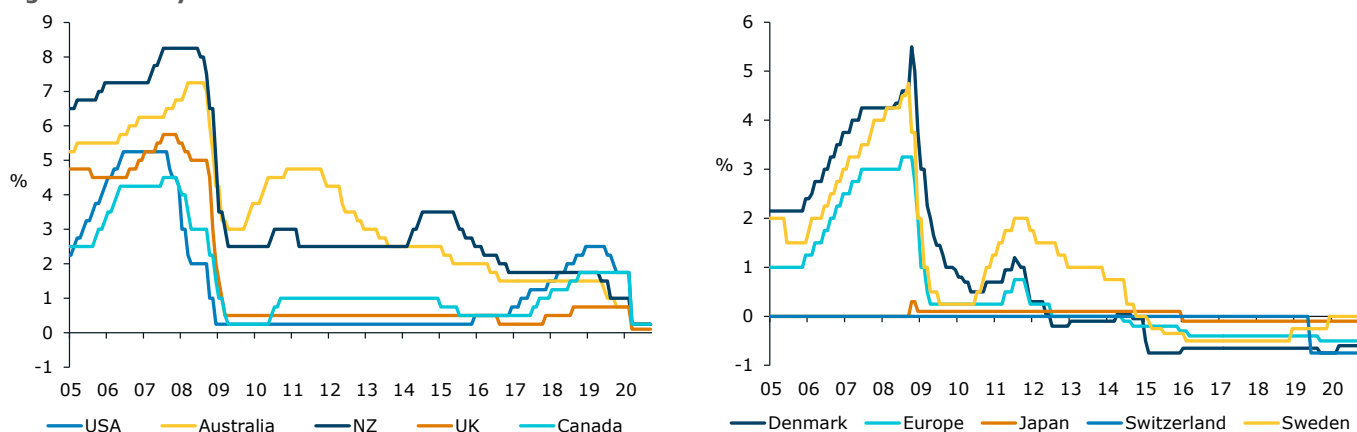
We think so, yes.

The RBNZ has expressed a willingness to do what is required to support the economy, and with the recovery expected to be slow and downside risks large, we think they will be motivated to act further. This is consistent with their recent strategic approach of “least regrets” – concluding that given the risk of persistently high unemployment and low inflation, it is better to err on the side of doing more. The risks of doing ‘too much’ over the Bank’s forecast horizon (in terms of creating an inflation or employment overshoot) are very slim at this juncture.

The idea of a negative policy rate is mind-bending, but they have been employed by some central banks (figure 1, right hand panel), and the current crisis may see more central banks consider it. So far, Sweden – the first country to use a negative policy rate – is the only country to have exited the policy, after its success in seeing inflation return to 2%.

At present market pricing suggests a high probability that the RBNZ will take the OCR negative. Some other central banks have not shown the same openness to the possibility and so far markets are pricing in only a small possibility that central banks in countries such as Australia and the United States will deploy negative rates (table 1).

**Figure 1. Policy rates in selected economies**



Source: Bloomberg, ANZ Research

**Table 1. Market pricing for policy rates**

	Current cash rate	Change priced mid-2021
New Zealand	0.25%	-42bps
Australia	0.1% (Policy rate 0.25%)	-5bps
United States	0-0.25%	-4bps
United Kingdom	0.1%	-19bps
Euro area	-0.5%	-10bps
Canada	0.25%	-2bps

Source: Bloomberg, ANZ Research

In terms of the timeline and how it might play out, we think that the RBNZ will lower the OCR by 50bps to -0.25% at its April 2021 meeting, then pause.

The RBNZ has said on numerous occasions that it will not move the OCR before March next year. We take this forward guidance very seriously, because we believe they take it very seriously. Moving in February or April is really neither here nor there in terms of effective stimulus if the April move is well signalled in advance. Some argue that speed is of the essence and there is no reason not to go sooner, assuming the financial system is ready for negative rates. But we think that maintaining credibility is paramount. Forward guidance could be an extremely important tool for the RBNZ to use in the future to stop market speculation of future hikes leading to a premature tightening in yields. If the RBNZ reneges on its previous, frequently reiterated guidance now, that could affect its credibility in using such guidance to manage expectations in the future.

### 3. Which rates will be negative – and how low will they go?

If the OCR were negative, this would directly affect the interest rate pertaining to banks' cash holdings at the RBNZ. Rather than being remunerated for overnight deposits, banks would be charged for their settlement cash. The RBNZ may introduce a tiering system to buffer banks to some extent from the worst impacts of what is essentially an unavoidable system "tax", but the RBNZ won't want banks to avoid this completely, as that would undermine the negative OCR. Ensuring that excess/marginal cash is traded at the OCR is crucial for setting a benchmark for wholesale rates.

Settlement cash balances are used to facilitate payment flows between banks and the Government, with the RBNZ acting as "banker to the banks". When a person pays someone who is a customer of a different bank, this results in an IOU between the banks that has to be settled. There are many transactions like this each day. All of them are netted out between the banks, and settled via the settlement cash system. It is a closed system, which means that if one bank reduces its cash holdings, that money has to end up in another bank's account, with the RBNZ or Government, or back where it started.

In order to facilitate payments, banks can trade in the inter-bank market if they have excess/insufficient cash to meet short-term flows. The inter-bank rate at which this occurs is closely tied to the OCR, since the alternative is that banks could park excess cash (or borrow) from the RBNZ. Although banks can trade with each other if they have excess/insufficient cash, banks in aggregate cannot avoid holding cash. Put all this together, and it means that if the OCR were negative, then inter-bank rates would be negative too. This would be the case with or without a FLP. In response to this, other wholesale rates would likely go negative too, such as bond yields, bill rates and swap rates. See [question 4](#) for more on how interest rate markets would respond.

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A negative OCR means banks do not want to hold more cash than necessary. Deposit rates faced by large wholesale and institutional investors and corporates would therefore likely go negative too. For example, a large wholesale investor who wanted to park cash in a bank account would likely find that they are charged for it, since banks will be charged for any settlement cash balances once transactions, including this one, are netted out. Compared to retail deposits, corporate deposits tend to be flightier and less sticky, and do not count as core funding either. That reduces the incentive for banks to try to attract corporate deposits in this scenario.

The impact on retail lending and deposit rates faced by households and smaller businesses would depend on the implementation and design of any FLP ([question 8](#)). Overall, we would expect retail lending and deposit rates to go lower, but not negative. That's for a couple of reasons:

- Retail deposit rates are anchored to bank funding costs. However, there is a limit to how low they can go as banks require stable retail deposits, which represent a large portion of their funding. Retail deposits are also one of the types of funding that count towards the core funding ratio. Charging "mums and dads" for putting their money in the bank is also a challenging reputational proposition.
- Retail lending rates are set at a margin above OCR, reflecting funding costs, bank margins, risk assessment, and bank risk appetite. The size of this margin is such that the OCR would have to be deeply negative before retail lending rates would be negative, and there are limits that would prevent the OCR ever going this low.

To expand on the latter point, there are two lower limits on how negative the OCR could go (once operational readiness of the financial system has been achieved), and these limits will have flow-on effects to how low other market and retail interest rates might fall.

These are:

- The **physical lower bound**. This is the point at which it would be cheaper for large deposit holders to take out their money as cash, store and insure it. Once this point is reached, mass physical cash hoarding would be expected to occur. Monetary policy transmission would be eroded, and the functioning of the financial system could be negatively affected. The physical lower bound is thought to be around -0.75%, though the level is uncertain. Implementation of an FLP would not affect the level of the physical lower bound; the only way to circumvent or lower this level is to provide a strong disincentive to hold physical cash by imposing a penalty for withdrawing cash, or in the extreme, banning cash altogether (with all payments electronic).
- The **effective lower bound** (sometimes called the reversal rate) is the point at which the costs of taking the OCR lower start to outweigh the benefits, and the policy becomes counter-productive. The key cost that is the squeeze that a lower OCR places on the banking system, which at some point can lead to a perverse tightening in credit supply and financial conditions. See [question 6](#). The point at which this occurs is highly uncertain. By mitigating some of the margin squeeze from a negative OCR, a FLP can lower the effective lower bound, potentially down as far as the physical lower bound if incentives to lower deposit rates and expand new lending are strong enough. Without a FLP, [our previous thinking](#) has been that the effective lower bound might be reached at an OCR of -0.25%. The level is highly uncertain, however, and country-specific factors are relevant; dependence on deposit funding and foreign bank ownership here in New Zealand would perhaps tend to result in a higher effective lower

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bound relative to other countries. By contrast, in Sweden, the policy rate was taken to -0.5% without a FLP, but policy was still expansionary, as evidenced by the fact that growth and inflation recovered.

Currently, we expect that the OCR will be lowered by 50bps to -0.25% in April alongside a FLP and that the RBNZ will wait to observe the impacts of these policy changes before going further, given uncertainties about the effective lower bound, effects of the FLP, the outlook for the economy, the credit supply response, impacts on cash use and other side effects. The RBNZ will want to pause for long enough to see evidence of any negative consequences and will proceed relatively cautiously once the OCR is in negative territory.

The RBNZ may choose to take the OCR lower than this, to say -0.5%, if it were confident that the negative OCR was effective at lowering retail and business lending rates, and that the FLP had successfully lowered the effective lower bound to either this level or below. However, we think that the RBNZ would be reluctant to take the OCR lower than this without first pausing for a time, given uncertainties about the location of and potential consequences of hitting the physical lower bound.

#### 4. How would interest rate markets respond?

We would expect bond and swap yield curves – market jargon for the term structure of wholesale interest rates – to go lower, just like it would ahead of and following any other OCR cut. These rates form the foundations or “building blocks” for lending interest rates, with the government borrowing at the lowest rates (as they are considered to be free of the risk of default), followed by banks, corporates and households, usually (but not always) in that order.

As with earlier OCR cuts, we would expect swap rates and bond yields to do most of the moving in anticipation of the cut, and to finally settle slightly lower once the cut has actually occurred (with the exact timing and magnitude of the cut not known for sure until it is actually announced). Further reductions after that will depend on forward guidance at the time of the cut.

However, one key difference would be the degree to which each of the different interest rates fell below zero. In particular, it will depend on how banks get remunerated on their cash balances at the RBNZ (including any tiering) and at what spread to the OCR the FLP is offered ([question 7](#)). This will make very little difference to those who do not directly participate in wholesale markets, but it will matter to banks and financial market participants. Suffice to say, we assume that a good chunk of deposits held at the RBNZ will be remunerated at the OCR (and if the OCR is negative, that becomes a charge), such that this becomes an anchor for wholesale rates.

We would expect high-quality liquid assets (especially short-dated government bonds and bank bills) to eventually settle at a rate close to the OCR. This is because banks with excess cash and other financial market participants sitting on deposits would find themselves being charged for doing so, which would in turn incentivise them to hold any other broadly risk-equivalent asset with a better (positive or less-negative) yield.

But how motivated people will be to avoid being “charged” for deposits remains an open question. Overseas experience suggests that people are more averse to being charged, say, 0.25%, than they are to earning 0.25% less than otherwise. Yet both outcomes simply represent a 0.25% lower return. So there’s psychology at play. But to some extent, large deposit holders require liquid assets, and so the impact of a lower rate would be unavoidable.

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How much flatter the yield curve became would depend largely on the strength of forward guidance. This would result from a combination of explicit guidance (for example, making comments like “we expect to leave the OCR unchanged for at least two years” as well as the RBNZ’s published OCR projections) and implicit actions. Implicit guidance could, for example, be derived from the RBNZ offering the FLP for a term of three years at the OCR. That’s not a firm commitment to keep the OCR on hold for three years, but it’s a strong signal. Any bank that drew funds for that period could invest or lend them as if the OCR were going to be on hold for three years. If the RBNZ tweaked its explicit guidance to something like “we do not expect the OCR to be increased for at least two years” and offered to lower the rate on drawn FLP loans if the OCR were to go lower (see [question 7](#)), we could even see parts of the yield curve invert. That’s because the market would read that as a signal that the OCR wouldn’t go higher, but it could go lower.

It is less clear what would happen to less creditworthy assets such as corporate bonds. As QE has progressed, yields on these have fallen too (in most cases more rapidly than yields on government bonds). That trend is likely to continue as investors seek higher returns. However, some investors may be reluctant (or prevented) from owning private assets at negative yields. Consider a retail managed bond fund, for example. If there were no bonds left in the market with positive yields, the fund manager may be bound by investment guidelines preventing it from knowingly putting client funds at high risk of loss. If that were the case, the fund manager may prefer to close the fund and return the money to investors, who could then leave it on deposit at a bank at a zero rate. That’s not earning anything, but it’s not locking in a loss either. On the other hand, a FLP may boost demand for assets across the credit spectrum (see [question 9](#)).

## 5. How would the foreign exchange markets respond?

The exchange rate would likely be under downward pressure on implementation of a negative OCR. While we see a negative OCR as potentially having a material negative influence on the NZD, we prefer to think of it in the context of a continuation of usual depreciation forces from further monetary easing, rather than a sharp correction (or inciting a large capital outflow). For one, markets are already pricing in a negative OCR (so it’s “in the price”), and with other countries’ policy rates either at or potentially heading negative, interest rate differentials won’t change all that much. In short, it’s a relative game, and the RBNZ have accordingly tended to describe the impact on the exchange rates in reference to the counterfactual. We also think that’s a useful way to think about it: the NZD will likely be lower with a negative OCR than it otherwise would have been.

Much has been made of the so-called “carry trade” over the last few decades. The idea behind that is simple – buy exchange rates of countries with high interest rates and sell the exchange rates of countries with low interest rates. Not only does that lock in a spread, but if others follow that logic, the exchange rate itself will move, adding to returns.

By and large this has been how the NZD has behaved since it was floated in 1985. It’s not a universal truth, and things like milk prices and GDP growth matter too, but it has been a broad trend. In an environment like now, with NZ, US and Australian policy rates all at 0.25%, the market has become more attuned to longer-term interest rates, like rates on 5-10 year bonds. As those yields have converged, relative interest rates have become less of a driver. But they still matter at the margin, and if New Zealand’s government bond yields go negative or fall further than their US and Australian equivalents, that will undermine the appetite to invest here, and incentivise local financial market participants to invest offshore.

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## 6. What would a negative OCR mean for bank margins?

It is possible that without an FLP bank margins would be squeezed. This is a key reason why a negative OCR and FLP are complementary. See [question 7](#) for more on how an FLP works.

A negative OCR could squeeze margins in three ways, assuming no offset from an FLP:

- It would **flatten the yield curve**, at least in the short term. Banks earn profits primarily through “maturity transformation”. That is, they lend out long term but borrow at shorter terms. When the yield curve flattens, this reduces the margin between longer-term and shorter-term rates, which compresses banks’ net interest margins (NIMs) – the difference between the return on interest-bearing assets (predominantly loans) and that paid on interest-bearing liabilities (like deposits). This phenomenon can also occur when policy rates are lowered but are still in positive territory. When the yield curve eventually steepens again, this would contribute to NIMs widening again.
- There would be a **floor on deposit rates**, since banks need deposits to fund lending and meet the core funding ratio. Banks would be reluctant to fully pass a negative OCR through to deposit rates since they need this funding. And when you get to the point of actually charging customers to put their money in the bank, broader customer retention becomes an issue as well. On the other hand, the pass-through from the OCR to retail lending rates is usually reasonably strong, given competition. This larger reduction in lending rates relative to deposit rates would squeeze NIMs further and could bring about counterproductive effects on credit supply, or even reduce pass-through to mortgage rates as banks look to retain margins. These effects are more potent when banks are reliant on deposit funding as banks in New Zealand tend to be.
- In addition to effects on net interest margins, there would also be the additional **charge on settlement cash** held with the RBNZ based on the OCR. Banks would be encouraged to trade to rid themselves of excess cash that they didn’t need on a given day, but this “tax” would not be avoidable in aggregate, given that the settlement cash system is ‘closed’.

All else equal, these factors would tend to reduce the profitability of banks’ intermediary activities. This is a concern because bank margins can affect credit supply, and a tightening in credit supply could have contractionary effects on the economy.

Lower profitability could also affect the capital allocation decisions of New Zealand banks. Banks that operate globally would take into account the lower return on equity of operating in New Zealand versus other jurisdictions when allocating capital, and it is therefore possible that lower margins would lead to a reduction in credit supply at some point. This is particularly relevant in New Zealand given that our major banks are Australian owned. In time systems evolve, of course, but there could be a squeeze in the meantime.

If such contractionary effects were seen and started to outweigh the stimulatory benefits of a lower OCR, then that would mean that the effective lower bound had been reached (see [question 3](#)). The design of an FLP to offset some of the margin squeeze, reduce any contractionary effects and lower the effective lower bound would be likely very important in the successful implementation of a negative OCR policy. See [question 7](#) for how this would work.

Another way that banks could respond to retain NIMs would be by allocating more capital towards risky lending, as has been seen in other countries when the policy rate is negative. Given economic uncertainty at present, we don’t

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think a material shift towards more risk taking is likely. But this channel could work against a tightening in risk assessments that might otherwise occur in an economic downturn, dampening some of the potential effect we might otherwise see on NIMs.

Even if NIMs were unambiguously lower under a negative OCR policy, impacts on banks' cash profit and return on equity/assets would depend on the impact on not only NIMs but also the design of an FLP, the size of loan books, risk taking, and how banks respond in other ways (for example, fee changes). If banks are expanding new lending, then they might earn a smaller net interest margin on a bigger book. Depending on how banks respond, overall cash profit could decline, be stable or increase. And of course, the state of the economy matters hugely for bank profitability too – if the policy is effective at stimulating the economy then this would reduce losses from lending write-offs.

So even if net interest margins came under pressure, the impact on credit supply is unclear, and it is unknown at what point it might become contractionary. In the case of Sweden, the policy rate was cut to -0.5% and was effective at generating inflation back at target, with a subsequent reversal of the policy. The transmission of monetary policy via bank lending may have been dampened, but policy was expansionary and good bank profitability was maintained, even without a FLP.<sup>1</sup> This resilience in profitability has been attributed to strong demand for mortgages at lower interest rates.

But we think there are reasons to be cautious about potential effects on credit supply when employing a negative OCR in a New Zealand context. In our view, some margin squeeze as a result of a negative OCR is likely, even with a FLP and increased risk taking, since New Zealand banks are very deposit-reliant and have a high share of foreign ownership.

A FLP would help to reduce the profit squeeze and work against any perverse tightening in credit supply. And importantly, if they come with incentives that encourage new lending ([question 8](#)), it would help to expand credit supply and provide stimulus, especially since there would be an additional expansion of liquidity alongside a stimulatory reduction in the OCR. These effects may lower the effective lower bound and reduce the credit supply risks associated with negative side effects on bank profitability.

## 7. How would a Bank FLP work?

Examples of FLPs have been seen in many countries, implemented with or without policy rates in negative territory. See [question 8](#) for more on FLPs in other countries, and how design features chosen by the RBNZ might compare.

By itself, a FLP – as used by the Bank of England, Reserve Bank of Australia, and others – can be used to encourage lending as a monetary policy tool. By offering lending at (or near) the policy rate, a FLP lowers bank funding costs and provides a direct injection of liquidity (see [question 9](#)), encourages lending and lowers retail rates, increasing the money supply and providing stimulus to the economy.

Additionally, when an FLP is implemented when the policy rate is negative – as done by the ECB and Bank of Japan – then in addition to having these benefits, the FLP can be targeted to mitigate the negative impacts of a negative policy rate on bank margins and credit supply. Sweden did not implement a FLP when the policy rate was negative, but its central bank (the Riksbank) has since introduced one in response to the COVID-19 economic crisis.

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<sup>1</sup> <https://www.riksbank.se/globalassets/media/rapporter/rpp/engelska/2020/the-riksbanks-experiences-of-a-negative-repo-rate-article-in-account-of-monetary-policy-2019.pdf>



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For the RBNZ, a key design aspect would be to ensure that the programme was set up to work effectively alongside a negative OCR. The FLP would be designed to encourage credit supply to flow when a negative OCR was employed, working against any contractionary effects of a squeeze on bank margins, and ideally directly incentivising new lending.

Done well, this would ensure that a negative OCR was expansionary and potentially reduce the level at which the effective lower bound might be reached, providing scope for more stimulus from the OCR (see [question 3](#)), while also providing additional liquidity to stimulate the economy beyond the stimulus of the negative OCR alone.

Broadly speaking, we think the RBNZ would lend the banks funds at close to the OCR (or perhaps a little below that to provide a strong incentive to take up the funds) up to a certain limit, for terms of say 2-3 years, with the banks pledging collateral as security to access the funds. It's complicated, but effectively the RBNZ would be incentivising the banks to take newly printed money and lend it out. See [question 9](#) for more on how it would affect bank balance sheets and flow through to the economy.

There would be an increase in funding available to banks that would encourage them to expand their lending and purchase other assets, like government bonds (see [question 9](#)). Lending expansion would directly add to the stimulatory effects of the negative OCR, but purchasing other assets (say bonds) would have stimulatory effects too, reducing market yields, potentially in a widespread way.

With the RBNZ providing this money, banks would not need to source as much funding from other, more expensive sources, and bank funding costs would be lower. This would mean pass-through to lending rates would be greater and banks would not have to compete so aggressively to source deposits. Deposit rates would fall further than without the scheme, resulting in less squeeze on bank NIMs. Inter-bank and wholesale rates would still be anchored by the OCR. Funding cost effects would be particularly potent if there was significant take-up of the scheme, although there could be downwards pressure on deposit rates even if take-up was not large, since banks would know they have the option of taking up the funding if deposit growth slowed.

An FLP might also include additional incentives to encourage banks to use the funds to expand new lending. In other countries, banks have been given a more favourable interest rate or higher funding caps if new lending growth expands. We don't think the RBNZ would want to be too prescriptive in including these sorts of lending incentives, particularly since take-up could be lower if red tape to access the funds was onerous. But some sort of carrot to expand new lending could be useful, potentially in the form of a cap increase or slightly lower price if lending expands over, say, the next year. These sorts of incentives have been used in other countries (see [question 8](#)).

Because the FLP would likely involve caps that limit how much banks can fund from the scheme, banks would only be partially funded by the RBNZ. Banks would still use deposits (especially since deposit growth is a natural consequence of lending growth) and offshore funding would likely reduce to some degree. This reduced reliance on offshore wholesale funding could potentially add to any exchange rate weakness associated with a negative OCR policy.

The size of funding caps faced by banks when accessing the scheme (if used) would likely be determined by some combination of risk tolerance (since the RBNZ will be taking on some credit risk in holding collateral), practical constraints (in terms of high-quality collateral available) and the size of the overall lending market. The RBNZ would need to be clear on its ultimate tolerance for the size of the scheme in setting its initial size and any cap increases that might be used to encourage new lending.

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The combination of an FLP and negative OCR together could be quite potent, by allowing declines in the OCR to be effective and larger, while simultaneously directly providing liquidity to banks. But for the scheme to be most effective, and to mitigate risks associated with the effective lower bound as much as possible, the scheme should be carefully designed to achieve “bang for buck”. This could be achieved through favourable pricing and lending incentives designed to encourage take-up within the RBNZ’s tolerance for the size of the scheme. See [question 8](#). To mitigate the effect of the scheme on bank margins and ensure maximum effectiveness, relief tiering in the cash system (where a portion of ESAS balances are not charged at OCR) would also be a good idea ([question 9](#)).

## 8. How might a FLP compare to schemes in other countries?

A range of countries have used FLP-type schemes in crisis situations where market dysfunction has been evident, to ensure there is sufficient liquidity available in the financial system. In these instances, the schemes reflect central banks acting as lender of last resort, and are designed to help in times of stress, rather than act as a stimulatory monetary policy tool. An example is the RBNZ’s term auction facility, introduced in March to provide liquidity if required, with loans for 3 to 12 months.

As a monetary policy tool or to complement low interest rates, some countries have used these schemes to keep funding costs low, to ensure that credit is flowing and to provide monetary stimulus without employing a negative policy rate. The UK and Australia have two very similar such schemes. In both these cases, it was noted that the scheme was aimed at supporting the move to lower (but positive) interest rates, with the Bank of England specifically noting the floor on deposit rates as a transmission constraint. These schemes consist of longer-term loans at the prevailing policy rate with incentives to expand lending to businesses in particular. Sweden has also introduced a FLP in response to the COVID-19 crisis, but did not do so when the policy rate was negative.

FLP-type schemes have been used alongside negative policy rates in the euro area and Japan. Whether implemented with or without a negative OCR, all have had very favourable pricing, at or near the policy rate. The ECB is an outlier in that pricing is much lower than the policy rate. As a result, the scheme has had very strong take-up (with funds amounting to around 2.7% of GDP), reflecting strong monetary incentives. An FLP implemented by the RBNZ would probably be benchmarked at the OCR, at least initially, but there could be some advantages to choosing a slightly lower rate (say 5-10bps lower) to encourage take-up and maximise the impact of the programme right from the outset. This would not undermine the OCR, since marginal/excess cash balances would still be charged at the OCR, with some relief tiering expected. If the rate were lower than the OCR, then banks could take the funds and park them as cash, but buying other assets or lending the funds would be a more profitable response and would have expansionary effects (see [question 9](#)).

The ECB and Bank of Japan have cash tier systems similar to what we envisage the RBNZ introducing, with negative rates charged only on a portion of settlement cash, to reduce the impact of the policy on banks. These are relief tiers (where certain balances are not charged) and work in the opposite way to penalty tiers (where large balances are charged more). The RBNZ removed penalty tiers when the cash system expanded due to QE, and would be expected to introduce relief tiers with the introduction of a negative OCR.

Table 2 summarises some of the key elements of selected FLP schemes. They differ in some ways, but there are key threads with collateral generally the same as for usual monetary policy operations.

**Table 2. FLP schemes implemented by selected central banks**

	UK	Australia	Sweden	Euro area	Japan
With negative policy rate?	No	No	No	Yes	Yes
Size	Linked to bank loan book size, with additional funding for business loans	AUD84bn, recently extended to \$200bn based on bank caps ~USD 61bn (extended to 146bn) 10.7% of GDP	SEK 500bn   ~USD 57bn 10.7% of GDP	Linked to loan book size, taking into account existing LTROs	JPY 90tn (plus another 20tn for corporate bonds and commercial paper) ~USD 0.85t 16.9% of GDP
Rate	At or very close to policy rate (currently 0.1%)	Fixed at 0.25%	Floating based on policy rate (currently 0%)	Fixed at -0.75% Policy rate currently -0.5%	Fixed at 0%, with effective rate of -0.1% if banks expand business lending. Policy rate currently -0.1%
Maturity of loans	4 years	3 years	2 years	3 years	1 year
Take-up	GBP 34bn ~USD 44bn 1.5% of GDP	AUD 52bn ~USD 38bn 2.7% of GDP	SEK 165bn ~USD 19bn 3.5% of GDP	EUR 1.3tn, very strong take up ~USD 1.5tn 11.5% of GDP	YEN 35tn ~USD 0.3tn 6.6% of GDP
Incentives to lend	Caps linked to expansion of business lending, particularly to SMEs, plus a penalty of up to +0.25%pts if lending contracts	Caps linked to expansion of business lending, particularly to SMEs	+0.2%pt penalty if net corporate lending does not increase by 20% of amount borrowed	Bank lending to households and businesses must not contract, or interest rate increases to -0.5%	+0.1% bonus payment to banks who increase SME lending

Source: Bank of England, Bank of Japan, European Central Bank, Reserve Bank of Australia, Sveriges Riksbank, World Bank, ANZ Research

We think it makes sense that funds offered under the FLP would be “capped and floating” in the sense that the rate on them could go lower once drawn, but couldn’t go higher. Say, for example, that the FLP was offered for a multi-year term at the then-OCR rate. Banks might put off taking FLP loans if they thought the OCR could go lower in future. However, if the rate was capped at its drawdown rate but got the benefit of any future falls, that would give the RBNZ the ability to take rates lower if desired, while also ensuring that banks would not be penalised for being early adopters. We expect that loans would be two to three years in length to reinforce forward guidance.

We also expect there would be an incentive to expand lending, though nothing too prescriptive or onerous – perhaps an increase in funding cap or slightly better pricing if lending increases over the next year, as seen in other countries. We don’t expect that the size of the programme would be anywhere near as big as in other countries (in dollar terms), reflecting the much smaller size of our banking system. In % of GDP terms, the size of the programme could be comparable, but will likely depend on the RBNZ’s judgement on what collateral to include, and the quantity available.

It is possible that the RBNZ could implement a FLP without taking the OCR negative, but we think it is unlikely, given the RBNZ’s stated preference for a combination of a negative OCR and FLP as the next step to provide stimulus when the system is operationally ready. Whether or not either are actually introduced, the RBNZ would want to design the scheme to be effective alongside a negative OCR to preserve the option of future cuts.

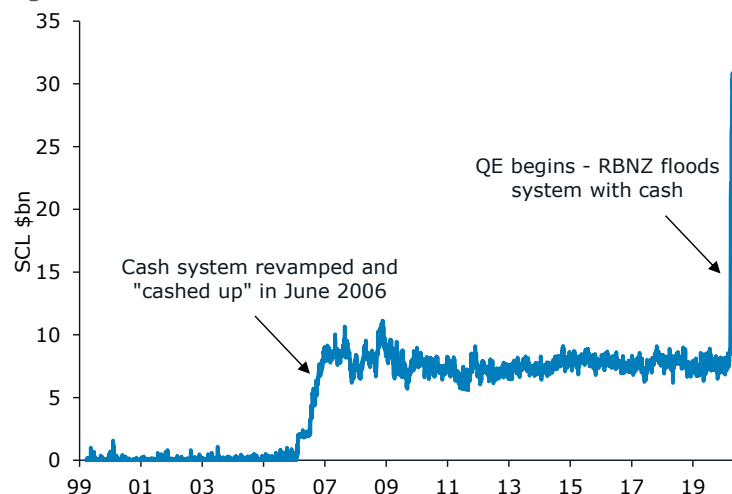
## 9. How would a negative OCR affect bank balance sheets?

Moving to a negative OCR would not in itself directly change the make-up of bank balance sheets, though it does impact profitability (see [question 6](#)). But an FLP has important effects on balance sheets, as does QE. Before exploring these, a refresher on the payments system and how cash moves around the financial system is useful. These effects are reasonably technical and readers may prefer to skip ahead to [question 10](#), which discusses whether banks might become overly reliant on RBNZ funding.

At a whole-of-system level, banks cannot influence the amount of cash they collectively have on deposit at the RBNZ in their Exchange Settlement Account System (ESAS) balances, which sum to make up the settlement cash level (SCL). Rather, the level of SCL is controlled by the RBNZ. Historically, the level of SCL was held fairly constant, with the RBNZ injecting or withdrawing cash as needed. For example, on the day the Government pays teachers' salaries, those funds would flow from the Crown settlement account to each bank's settlement account, and the funds would be visible to each teacher in their transaction account. Having received the funds from the Crown, each bank will be holding more cash than they did before the salaries were paid. The RBNZ would then look to withdraw that excess liquidity by selling bonds or T-Bills to the banks. Under this arrangement, the level of SCL was simply set at a level that allowed the payments system to operate smoothly, and it wasn't a policy tool or signal.

In the new world of QE, the amount of cash in the banking system (SCL) is being deliberately expanded (figure 2) in a bid to expand the money supply and generate borrowing, spending and investment.

**Figure 2. Settlement cash**



Source: Bloomberg

From a balance sheet perspective, QE flows through the system as in Figure 3 below. Because the Reserve Bank isn't withdrawing liquidity, bank balance sheets expand, and so too does bank lending.

**Figure 3. Impact of QE on the banking system**

**RBNZ buys \$1bn of bonds from a bank, increases demand for bonds, lowers yields**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Bonds +1	Cash +1	Cash +1		Cash +1			
		Bonds -1		Bonds -1			
<b>Total +1</b>	<b>Total +1</b>	<b>Unchanged</b>		<b>Unchanged</b>			

**Bank then buys other assets, lowering other yields, deposits increase**

**Total bank balance sheet expands**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Bonds +1	Cash +1	Cash +1		Cash +1			
		Bonds -1		Bonds -1			
		Cash -1		Cash -1 (Bank A)	Deposits +1	Deposits +1	
		Bonds +1		Bonds +1		Bonds -1	
				Cash +1 (Bank B)			
<b>Total +1</b>	<b>Total +1</b>	<b>Unchanged</b>		<b>Total +1</b>	<b>Total +1</b>	<b>Unchanged</b>	

**This has a similar balance sheet result to...**

**RBNZ buys \$1bn of bonds from a customer directly**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Bonds +1	Cash +1	Cash +1	Deposits +1	Cash +1	Deposits +1	Bonds -1	
						Deposits +1	
<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Unchanged</b>	

**When balance sheet expands, customer deposits increase...**

**Banks lend out deposits**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Bonds +1	Cash +1	Cash +1	Deposits +1	Cash +1	Deposits +1	Bonds -1	
						Deposits +1	
		Loans +1		Loans +1	Deposits +1	Deposits +1	Loans +1
		Cash -1		Cash -1 (Bank A)			
				Cash +1 (Bank B)			
<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +2</b>	<b>Total +2</b>	<b>Total +1</b>	<b>Total +1</b>

**This continues to propagate, generating a liquidity multiplier effect and an expansion in credit/money supply**

Source: ANZ Research

As interest rates go into negative territory, that doesn't change the above process (especially if QE is ongoing, as it is likely to be). But it does ratchet up the stakes a little as banks look to hold fewer low-yielding liquid assets and the collective clients of each bank look to avoid having money on deposit, especially wholesale customers who are subject to negative rates. This encourages holding other assets, suppressing their yields.

The composition of deposits may change, but overall deposit growth will not necessarily decline. This is because when customers use their deposits to do something (like buy an asset), this will show up as a deposit in someone else's account, so there will be no effect on overall deposits unless the money is withdrawn as cash. And ultimately credit growth is the biggest determinant of deposit growth; it is possible that this could decline, but that will depend on how credit demand and supply evolve.

A negative OCR could support risk taking and willingness to lend (assuming the effective lower bound is not reached) and it will likely boost demand for credit as lending rates fall, partially offsetting any drag from broader weakness in the economy. In this way a negative OCR can "super-charge" the multiplier process outlined above. However, if the effective lower bound is reached, then

squeezed bank profitability can work against these forces and constrain lending, stymieing the multiplier process or leading to an outright contraction in credit (see [question 3](#) and [question 6](#)). That’s where an FLP comes in. We would envisage that FLP funding would constitute core funding because it will be term funding offered by the RBNZ at a term of 2-3 years.

Introduction of an FLP impacts bank balance sheets in the following way (figure 4), working against margin compression ([question 6](#)). This means that the possible contractionary effects described above are muted or no longer relevant. Broadly, the FLP would lower funding costs, dampening deposit rates, and would provide a direct expansion in liquidity, encouraging credit expansion in a similar way to QE, perhaps with additional direct incentives to encourage new lending.

**Figure 4. Impact of FLP on the banking system**

**RBNZ lends \$1bn to bank through FLP at a cheap rate, lowers overall funding costs**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Securities +1	Cash +1	Cash +1	Securities +1	Cash +1	Securities +1		
		Loans unchanged		Loans unchanged			
<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>		

**Banks use the funds to increase lending**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Securities +1	Cash +1	Cash +1	Securities +1	Cash +1	Securities +1		
		Loans +1		Loans +1	Deposits +1	Deposits +1	Loans +1
		Cash -1		Cash -1 (Bank A)			
				Cash +1 (Bank B)			
<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +1</b>	<b>Total +2</b>	<b>Total +2</b>	<b>Total +1</b>	<b>Total +1</b>

**This continues to propagate, generating a liquidity multiplier effect and an expansion in credit/money supply**

**OR bank buys other assets, lowering yields (for simplicity, assume bondholder banks with bank A)**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Securities +1	Cash +1	Cash +1	Securities +1	Cash +1	Securities +1		
		Bonds +1	Deposits +1	Bonds +1	Deposits +1	Deposits +1	
						Bonds -1	
<b>Total +1</b>	<b>Total +1</b>	<b>Total +2</b>	<b>Total +2</b>	<b>Total +2</b>	<b>Total +2</b>	<b>Unchanged</b>	

**This flows through to customer deposits and banks lend out deposits, as with QE**

RBNZ		Bank A		Total all banks		Non-banks / customers	
Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
Securities +1	Cash +1	Cash +1	Securities +1	Cash +1	Securities +1		
		Bonds +1	Deposits +1	Bonds +1	Deposits +1	Deposits +1	
		Loans +1		Loans +1	Deposits +1	Bonds -1	
		Cash -1		Cash -1 (Bank A)		Deposits +1	Loans +1
				Cash +1 (Bank B)			
<b>Total +1</b>	<b>Total +1</b>	<b>Total +2</b>	<b>Total +2</b>	<b>Total +3</b>	<b>Total +3</b>	<b>Unchanged</b>	

**This continues to propagate, generating a liquidity multiplier effect and an expansion in credit/money supply**

Source: ANZ Research

## 10. Will banks become reliant on RBNZ funding?

No, for two reasons.

First, there would be caps on how much banks can borrow under the scheme, and second, we expect there would be some incentive to encourage new lending, as in schemes seen in other countries.

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Borrowing caps would be important design elements – otherwise, at the limit, banks might choose to securitise as much of their existing assets as possible (subject to constraints on eligible collateral) and fund as much of their non-equity liabilities as possible through the RBNZ. That is not an outcome that would be desirable nor allowed to happen, since it would effectively amount to the RBNZ taking the banking system onto its balance sheet, with associated credit risk for the tax-payer. The scheme needs to (and will) be carefully designed to ensure that:

- lending is incentivised;
- banks do not become overly reliant on it;
- the RBNZ's balance sheet does not take on undue risk; and that
- there is an exit strategy.

Second, deposits would not disappear, especially since new lending by definition creates more deposits. Some new funding would come through this scheme, with banks keen to take up the offer, but that would likely be matched by an expansion in new credit, with perhaps some expansion of other asset holdings. But new credit growth will create new deposit growth in the banking system.

Not all of this would be retail deposits, meaning it wouldn't all count as core funding, but some deposit growth would certainly be expected as bank balance sheets expand. That, combined with limits on how much funding banks can take up from an FLP, means the deposit share of bank funding might fall a bit, but probably not much at all. In Australia and some other countries, central bank funding through FLP schemes is counted as core funding for the purposes of regulatory requirements; we expect the same would apply here.

Overall, the composition of bank funding would likely shift slightly, but not materially, and not in a way that cannot be reversed. Most likely this would be seen through a reduction in offshore wholesale funding, which can be resumed when bank funding needs increase and/or as the scheme rolls off as loans mature. We would expect that the scheme would be in operation for at least as long as a negative OCR was employed, with banks able to tap new funding over time (for 2-3 year terms) as lending grows. Most likely, we expect the OCR would be increased before the end of the scheme, with pricing of new loans adjusting as the OCR moved higher, followed by the scheme eventually coming to an end.

If the RBNZ were concerned about bank funding stresses at the end of the scheme, then they could extend or more gradually roll off the scheme at the time. Any stresses that might be of concern would be a result of funding market conditions rather than the end of the scheme itself, provided the OCR was again in positive territory.

If the RBNZ were looking to exit from its current stimulus, then once the OCR was in positive territory, the RBNZ would eventually then wind back QE. This would involve a gradual tapering by stopping repurchases and letting bonds mature and roll off the balance sheet. However, we expect that monetary stimulus – and especially the expansion of the RBNZ's balance sheet through QE – will be with us for a long time, given the protracted nature of the recovery ahead and the low level of the neutral interest rate.

## 11. What are the costs and benefits?

A negative OCR would not be without potential costs, and the RBNZ would have to weigh these against perceived benefits of the policy when deciding whether to deploy it. As with conventional monetary policy, there would be winners and losers.

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The key issue is ensuring the policy is in fact net stimulatory. As with any OCR cut, deposit holders will be worse off. Those living off interest income, typically retirees, may have to reduce their spending. Some younger savers may also conclude that they need to save more rather than less, as they get less (or no) help from cumulating interest in terms of hitting their saving targets, whether that is a house deposit or a retirement savings goal. On balance, the RBNZ's modelling will no doubt conclude that the stimulatory impacts on borrowers outweigh the contractionary impact on savers, but the offset is real.

And the impact on the banking system needs to be considered carefully. Done in the wrong way, a negative OCR could be outright contractionary, with significant adverse effects. Credit could be impaired (as a result of margin squeeze, [question 6](#)), particularly if global banks allocate their capital elsewhere because returns in New Zealand are lower. This could have significant contractionary effects on the economy, even if a negative OCR were stimulatory through other channels, and financial system functioning could be hampered. This is a key reason why implementing a well-designed FLP alongside the policy is so important to ensure that the effective lower bound is not breached.

Much of the costs of the policy are focused on impacts on the banking system, but other financial market participants would also be affected. One example is KiwiSaver funds and the like that invest in cash or bonds. A key question that many fund managers will have to tackle is whether or not they "invest" at a negative interest rate, should wholesale term deposits fall below zero. Doing so is tantamount to guaranteeing their clients a loss. Many fund managers are likely to have guidelines preventing this, and some may view a guaranteed loss scenario as a breach of their fiduciary duty to invest responsibly. This could encourage risk taking as funds look to hold higher-yielding assets, but that could come with challenges in terms of managing risk.

Benefits could come through a range of channels, including a lower exchange rate than otherwise. We don't expect dramatic outflows or a sudden currency adjustment, but we do think that a negative OCR would weigh significantly on the NZD, both in advance of the policy and once it was deployed, relative to a state of the world where the policy was not used at all. This would flow through into higher prices for imported goods, but also boost competitiveness of exporting and import-competing firms and contribute to higher net exports. The extent of the currency reaction will to some extent be out of the RBNZ's control, depending on global developments, but its size would have significant implications for the effectiveness of the policy.

A negative OCR and FLP combo would also further lower mortgage rates, contributing to higher house prices and lower debt-servicing costs, spurring spending, building and confidence. If spare capacity in the economy is absorbed as a result and expectations are supported, then price pressures would increase and business investment would recover. All of this would contribute to higher inflation and lower unemployment in line with the RBNZ's objectives. All of this assumes that credit is flowing freely.

Another potential cost is that lower interest rates could worsen wealth inequality via asset price inflation. That is indeed a valid concern, but we would note that there are bigger structural forces that have driven worsening wealth equality, quite separate from monetary policy, including falls in the neutral interest rate and constrained land supply, in the case of house prices. And, if the policy is stimulatory, then it will benefit overall incomes and wealth positions in aggregate.



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That said, the RBNZ would certainly need to carefully consider financial stability risks and the potential build-up of financial imbalances when deploying the policy. These could be particularly relevant if a negative OCR were employed for an extended period and encouraged excessive risk taking. It would be important to monitor the system for such risks and other unintended consequences, and potentially overlay macro-prudential policy to head off any rising risks on that front.

These risks also reinforce the importance of designing an FLP to maximise the effectiveness of a negative OCR, so that benefits can be delivered and the policy reversed relatively promptly. If not enough stimulus is provided, then negative rates could become entrenched and coincide with potentially perverse structural changes, such as deflation, lower inflation expectations, low capital accumulation (and potential growth), and lower neutral interest rates.

The other consideration is that we don't know exactly how a negative OCR policy will go, and neither does the RBNZ. Although they have been employed in other countries, the New Zealand experience might be different. There could be costs or risks that are unforeseen, which may be colouring some of the reluctance from other central banks to consider the policy, including the Fed and the RBA. The RBNZ appears willing to give it a go, given the outlook, but we are in uncharted territory.

## 12. What about other policy options?

The RBNZ has a suite of options, and we – and they – aren't ruling those out.

The RBNZ has expressed a preference for deploying a negative OCR and FLP combination, but other options in its toolkit are still on the table, particularly if more stimulus is needed before the financial system is ready for deployment of a negative OCR.

In fact, we think there is more stimulus to come from the RBNZ's LSAP in particular. Expectations of a negative OCR have been effective at lowering bond yields, particularly at shorter maturities, but we think more could be done to lower longer-term yields. And the RBNZ has the option of increasing the pace of purchases within the LSAP, after they explicitly moved to a tactical approach to purchases in August. The Monetary Committee will review the strategy to purchases as part of its monetary policy decision every six weeks, rather than leaving to staff discretion.

Eventually the overall size of the LSAP will reach its limits, determined by the size of the bond market and the RBNZ's indemnity with the Minister of Finance. But we see scope for one more meaningful increase in the overall size of the programme, and currently expect to see an expansion from \$100bn to \$120bn in November, by which time we think that the economic pain from the current downturn will become much more evident, as the economy comes off fiscal life support and the seasonality of the missing tourism kicks in.

We also wouldn't rule out the addition of foreign asset purchases to the LSAP at some point in the future, whether or not purchases are actually conducted. We acknowledge that there might be barriers to using this tool, but we think the RBNZ has an open mind about doing so, if required. For now, however, a negative OCR combined with an FLP remains the next cab off the rank once we get to April next year.



## Contact us

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### Meet the team

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**Sharon Zollner**  
Chief Economist

Follow Sharon on Twitter  
[@sharon\\_zollner](#)

Telephone: +64 27 664 3554  
Email: [sharon.zollner@anz.com](mailto:sharon.zollner@anz.com)

General enquiries:  
[research@anz.com](mailto:research@anz.com)

Follow ANZ Research  
[@ANZ\\_Research](#) (global)



**David Croy**  
Senior Strategist

Market developments, interest rates, FX, unconventional monetary policy, liaison with market participants.

Telephone: +64 4 576 1022  
Email: [david.croy@anz.com](mailto:david.croy@anz.com)



**Susan Kilsby**  
Agricultural Economist

Primary industry developments and outlook, structural change and regulation, liaison with industry.

Telephone: +64 21 633 469  
Email: [susan.kilsby@anz.com](mailto:susan.kilsby@anz.com)



**Liz Kendall**  
Senior Economist

Research co-ordinator, publication strategy, property market analysis, monetary and prudential policy.

Telephone: +64 27 240 9969  
Email: [elizabeth.kendall@anz.com](mailto:elizabeth.kendall@anz.com)



**Miles Workman**  
Senior Economist

Macroeconomic forecast co-ordinator, fiscal policy, economic risk assessment and credit developments.

Telephone: +64 21 661 792  
Email: [miles.workman@anz.com](mailto:miles.workman@anz.com)



**Kyle Uerata**  
Economic Statistician

Economic statistics, ANZ proprietary data (including ANZ Business Outlook), data capability and infrastructure.

Telephone: +64 21 633 894  
Email: [kyle.uerata@anz.com](mailto:kyle.uerata@anz.com)



**Natalie Denne**  
PA / Desktop Publisher

Business management, general enquiries, mailing lists, publications, chief economist's diary.

Telephone: +64 21 253 6808  
Email: [natalie.denne@anz.com](mailto:natalie.denne@anz.com)



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