

A matter of interest

The new interest rate landscape: Practical implications

- **There will be a greater margin between actual lending rates and the OCR/swap rates.**
- **Borrowing and saving rates will move independent of the OCR.**
- **The OCR will have reduced impact on borrowing/saving rates.**
- **No effect on amplitude of OCR cycles.**
- **On average over time, NZ interest rates will be higher than they would have been in the absence of funding changes.**
- **NZ growth will be slower than it would have been in the absence of funding changes.**

The first bulletin in our series “*The new interest rate landscape*” covered how the Global Financial Crisis (GFC) has affected the ways banks obtain funds. In this, the second article of the series, we detail what those changes will mean for the interest rates that really matter – mortgage rates, business lending rates, and the rates paid on savings. The changes will affect every New Zealand household or business that saves or borrows money – in other words, pretty much everybody!

The first couple of pages summarise the six key implications of the new funding reality. The nuts and bolts underlying the analysis is presented in the form of supply and demand graphs on the last two pages of the report.

Implication 1: There will be a greater margin between actual lending rates and the OCR/swap rates

This is the most basic implication, and has been widely identified elsewhere. Banks must now pay well in excess of the OCR or swap rates if they want to borrow money from overseas. The higher cost of funds has been passed on to customers in the form of retail lending rates that are well above the OCR/swap rates. Local deposit rates have also been driven well higher than the OCR/swap rates, as banks have competed for funds.

Implication 2: Borrowing and saving rates will move independent of the OCR

Banks can no longer borrow as much as they like at the going interest rate from overseas. We are now finding that the more NZ borrows, the greater the premium it must pay, because lenders

have become wary of lending too much to any one country or bank. Nowadays, if New Zealanders went on a borrowing spree, banks would find that the cost of raising extra funds would become progressively more expensive. This would be passed on to borrowers, and lending rates would rise independent of the OCR. Deposit rates would rise in tandem as banks competed for local funds in preference to increasingly expensive overseas funds. Similarly, if New Zealanders’ inclination to borrow waned, then banks’ requirement for overseas funding would shrink and local interest rates would fall independent of the OCR.

This implies an element of *procyclicality* in the gap between retail interest rates and the OCR. Interest rates will be pushed up (independent of the OCR) when the local economy is doing well, and down (independent of the OCR) during bad times. Such independent interest rate movements should prove helpful to the Reserve Bank in its quest to moderate economic cycles.¹

But local interest rates could also respond to global developments in ways that are unhelpful to the RBNZ. When global investors become more risk averse, they tend to demand higher interest rates before they will lend to New Zealand. Actually, NZ interest rates have always had this feature. But it may become more noticeable because term funding markets, upon which banks are now forced to rely more heavily, may be more sensitive to global risk aversion than the commercial paper markets that used to be the marginal provider of funds. This would imply an element of *countercyclicality* in the gap between retail interest rates and the OCR. Interest rates could be pushed up (independent of the OCR) when the global economy is weak, and down when the global economy is strong, which will tend to exacerbate economic cycles and make the RBNZ’s job harder.

A key point here is that swaps can no longer be considered a complete hedge for interest rate exposures, because the funding cost component of interest rates could move around unexpectedly (as it has done over the last couple of years). Of course, households and corporations can achieve interest rate certainty by taking out fixed-rate loans. But their bank or finance company is likely to charge a higher price for this service,

¹ Reserve Bank of New Zealand (2010), *Financial Stability Report*, May 2010, page 49, covers this aspect of the new regulation.

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because they are themselves exposed to the risk that funding costs will change – a risk that is difficult/expensive to hedge.

Implication 3: The OCR will have reduced impact on borrowing/saving rates

Figure 3 of panel 2 shows that OCR changes will tend to have a less-than-one-for-one effect on retail interest rates, under the new funding reality. The basic idea is this: if the RBNZ hikes the OCR², demand for loans will fall and domestic savings will rise. Therefore, the size of the banking system's external funding task will shrink, and so lenders will demand a lesser premium. We'd expect OCR hikes to be partly offset by a reduction in the premium between the OCR and actual interest rates. Consequently, the RBNZ will have to move the OCR by more to produce a given change in retail interest rates.

Implication 4: No effect on amplitude of OCR cycles

This is more of a non-implication. The Reserve Bank and some private sector economists have suggested that the new bank funding rules will reduce the amplitude of OCR cycles. This view recognises that NZ interest rates will move autonomously in response to domestically-generated economic shocks, thereby reducing the need for an RBNZ response. However, we note that the RBNZ response that *is* required will involve larger movements in the OCR, because the OCR has become less effective at influencing retail interest rates. Our analysis suggests these two effects will completely offset one another, meaning similar OCR responses will be required to address same-sized domestically-generated shocks, compared to just-before the GFC.

Global economic shocks may require larger OCR responses than they used to. The term paper markets that New Zealand is now more reliant upon are more sensitive to global risk sentiment. In the event of a rapid deterioration in global economic conditions that drives risk aversion higher, NZ could face a bigger increase in funding spreads than it would have before the GFC. The OCR would need to respond to both increased funding spreads and the weaker economic outlook.

Implication 5: On average over time, NZ lending and deposit rates will be higher than they would have been in the absence of funding changes

In this section we discuss the average interest rate that prevails over economic cycles – the so-called neutral interest rate. The GFC and the RBNZ's liquidity policy have made international funds more expensive and scarcer. This should cause a higher equilibrium (neutral) interest rate. It's a standard proposition – higher marginal cost, and/or restricted supply, leads to a higher equilibrium price.

A natural question at this point is: "can't the RBNZ just lower the OCR to offset the higher cost of funds?" The answer is no – not permanently.

It is critical to understand that New Zealand's long-run average interest rates are determined by market forces, not by the Reserve Bank. The Reserve Bank's powers are limited to causing temporary deviations from the market-determined equilibrium interest rate, at the short end of the curve. The RBNZ simply

cannot *permanently* alter the market-determined interest rate while simultaneously keeping inflation stable. Let's illustrate why not with an extreme example. Suppose the RBNZ announced tomorrow that all interest rates in NZ were going to be zero, forever. We can be pretty sure that global lenders would, quite understandably, refuse to lend us any money on such terms. To fill the resulting shortfall in loanable funds (and thereby enforce its decree), the RBNZ would itself have to lend money to banks. And the only way to do that (short of draining limited reserves) would be to "print", or create, or allow the banking system to create, the needed funds... which, in time, would cause ever-accelerating inflation and the eventual debasement of the currency.

The things that *do* affect the neutral interest rate are deep fundamentals around saving and investment decisions. Any of these fundamentals could change at any time, so we cannot be certain about what will happen to the neutral interest rate in the future. But we do know that in New Zealand, the marginal dollar of savings is provided by an overseas lender. Those overseas lenders are now more reluctant to lend to us, *and* there are greater restrictions on us accessing their capital. This amounts to New Zealand facing a reduced supply of savings, which should of course have a bearing on the equilibrium price in New Zealand's market for savings and loans – see the graphs on the last two pages of this document for more details.

Another way to think about the effect of the RBNZ's liquidity policy is to consider what NZ's neutral interest rate would be if NZ had a closed capital market – zero access to international funds. New Zealand would have to ensure that domestic savings were equal to domestic borrowing – in other words, far more saving and far less borrowing than currently takes place! To do that, we would require a very high average interest rate indeed. The Reserve Bank's restrictions on bank funding amount to a partial step towards this closed capital market scenario.

Implication 6: NZ growth will be slower than it would have been in the absence of funding changes

The obvious corollary to a higher cost of capital, and/or restricted access to capital, is lower economic growth (compared to the counterfactual of cheap / plentiful capital).³ Restricted access to capital reduces the options for bringing growth about.

This is a good time to point out the gaping flaw in the argument that "higher funding costs can be permanently offset by a lower OCR and New Zealand will carry on as before." That argument produces no *real* consequence to what is ultimately a *real* shock. It suggests that loose monetary policy can be used to permanently improve the underlying realities of an economy – an idea that was firmly rejected by a broad consensus of macroeconomists decades ago.

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² All else unchanged.

³ Sun, Yan (2010) IMF Working Paper 10/127 "Potential growth of Australia and New Zealand in the aftermath of the global crisis", details how the higher cost of capital that has resulted from the GFC is expected to cause slower economic growth.

Graphical description of New Zealand's market for savings and loans

Panel 1: Before Global Financial Crisis

Figure 1: Supply of domestic funds. The higher the interest rate offered on deposits, the more NZers are willing to deposit with banks. The curve is steep – banks cannot easily ramp up deposits by offering higher interest.

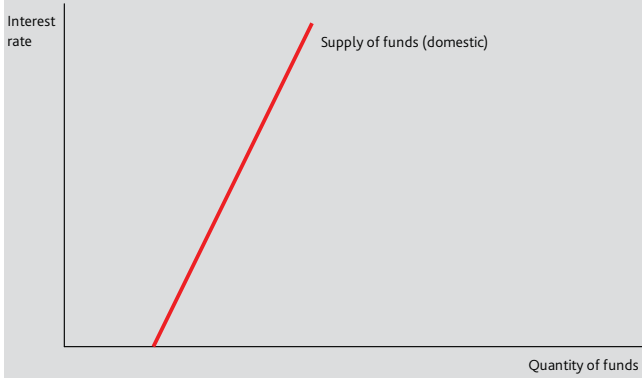


Figure 2: Supply of foreign funds pre GFC. NZ banks could access practically unlimited funds at "the going interest rate".



Figure 3: Market equilibrium pre GFC. The two sources of funds can be added horizontally to give the aggregate supply of funds curve faced by the NZ banking system. The demand for loans curve shows that the lower the interest rate, the more NZ firms and consumers would like to borrow. The intersection of the two curves shows the market equilibrium. Banks lend Q^* funds, but source only S^* from NZ savers. The remainder is sourced from overseas. The "going rate" on international funds is the marginal cost of funds, and is the market equilibrium interest rate in New Zealand.

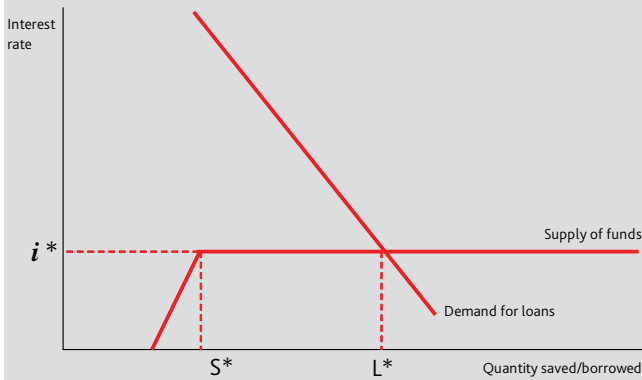


Figure 4: Domestic borrowing boom pre GFC (for example, a housing mania causes NZers to want to borrow more at any given interest rate). NZ banks simply borrow more from overseas, without needing to change the local interest rate. Local lending rises and local saving stays unchanged.

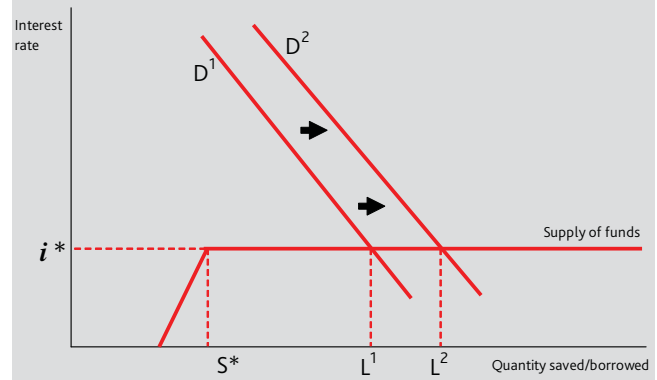


Figure 5: RBNZ hike pre GFC. The higher cost of short-term funds translates one-for-one into a higher local interest rate. Local borrowing slows, and local saving rises. The quantity borrowed from overseas falls.

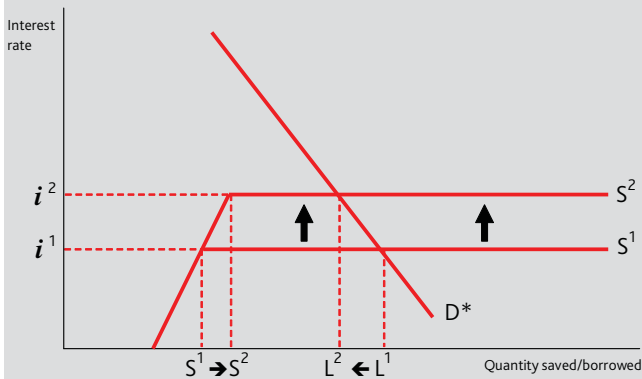
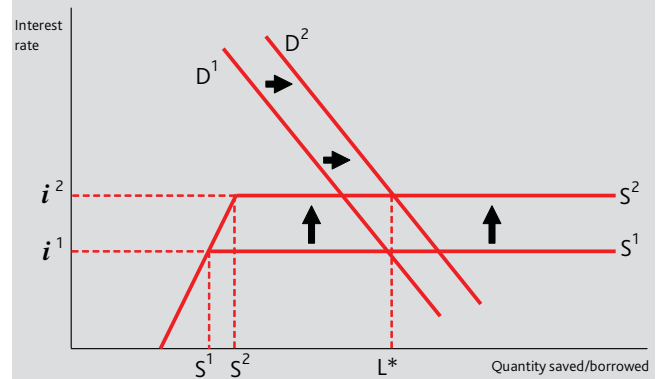


Figure 6: Domestic borrowing boom offset by RBNZ hike. This shows simultaneously a borrowing boom perfectly offset by RBNZ hikes. This shows simultaneously a borrowing boom perfectly offset by RBNZ hikes.



Graphical description of New Zealand’s market for savings and loans

Panel 2: After Global Financial Crisis (“Before GFC” shown in white)

Figure 1: Supply of domestic funds. Not necessarily affected by GFC – curve is certainly still steep.

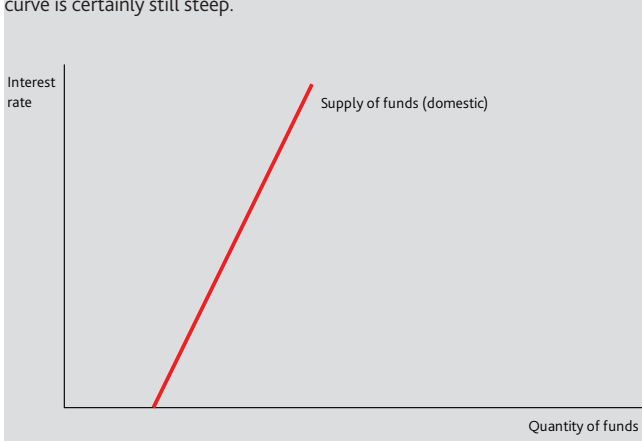


Figure 2: Supply of foreign funds post GFC. The spread charged is higher than it used to be, and the more NZ banks borrow, the more interest they must pay, so the line is sloping.

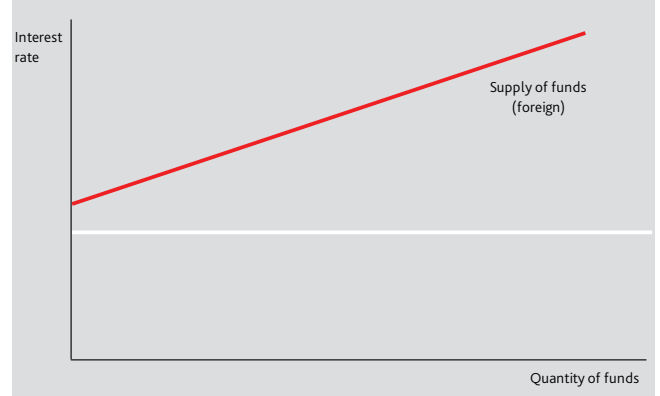


Figure 3: Market equilibrium post GFC. Adding the two sources of funds horizontally now gives a different supply of funds curve for the NZ banking system. The demand for funds curve now intersects the supply of funds curve at a higher interest rate, and at a lower quantity of borrowing. Since interest rates are higher, NZers save more, and the quantity of funds sourced from overseas is lower than pre-GFC.

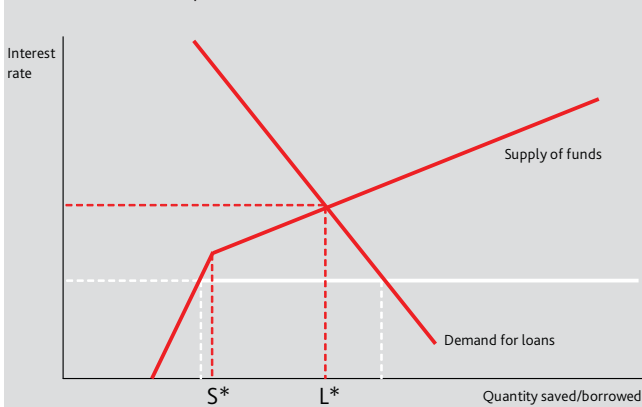


Figure 4: Domestic borrowing boom post GFC. As they attempt to fund the greater demand for loans, banks would face higher interest rates, which they would pass on to borrowers and savers. Domestic borrowing would increase by less than it would have before the GFC, and domestic saving would increase. The extent to which the new funding arrangements act like an automatic stabiliser depends on the slope of the supply of funds curve.

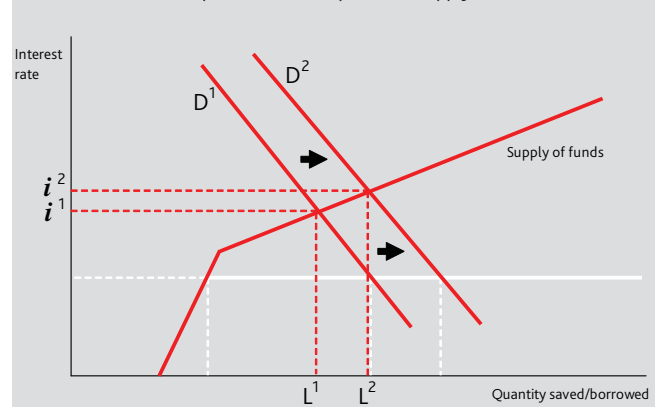


Figure 5: RBNZ hike post GFC. Higher interest rates would reduce demand for loans, making the banks’ funding task smaller, and therefore less expensive than pre-GFC. OCR hikes will have a reduced impact on retail interest rates. The extent of reduction in the OCR’s effectiveness depends on the slope of the supply of funds curve.

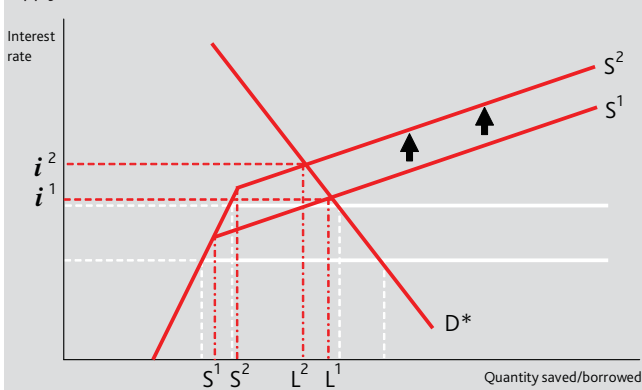


Figure 6: Domestic borrowing boom offset by RBNZ hike post GFC. The market does some, but not all of the Reserve Bank’s “work” in offsetting the borrowing boom. However, the remaining “work” requires a larger OCR response, because the OCR is now less effective. The OCR response required to offset a borrowing boom is not necessarily any different post GFC.

