

The Impact of Quantitative Easing on the Bond Market ¹

New Zealand Fixed Income Commentary

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Key points

- Quantitative Easing was a giant step into the unknown for both policymakers and financial markets.
- It has driven down global interest rates and the US dollar, and fed a massive rebound in credit, equities, and commodities.
- The end and exit from Quantitative Easing will be a key influence on global markets over 2011 and 2012, well beyond the US bond market.

In response to the Global Financial Crisis (GFC), the Bank of England and US Federal Reserve (Fed) cut interest rates to near zero and experimented with Quantitative Easing (QE). This was uncharted territory for both policymakers and markets. It was unclear exactly how the policy would work. But the fear of depression and deflation was an even worse prospect.

As major economies begin to recover, and there is growing talk of inflation pressures, one of the biggest questions facing markets is how the end of the Fed's QE program will impact markets, both globally and in New Zealand.

What is QE?

With no room left to cut overnight interest rates, QE amounts to the Fed expanding its balance sheet, to help lower long-term interest rates and expand the availability of credit. The expansion of the Fed's balance sheet has occurred in a number of distinct phases.

- i. Emergency liquidity schemes and direct loans to banks at the beginning of the banking crisis in 2008.
- ii. Purchases of Mortgage-Backed Securities (MBS) and Agencies debt, and some US Treasuries (so-called QE 1), from the November 2008.

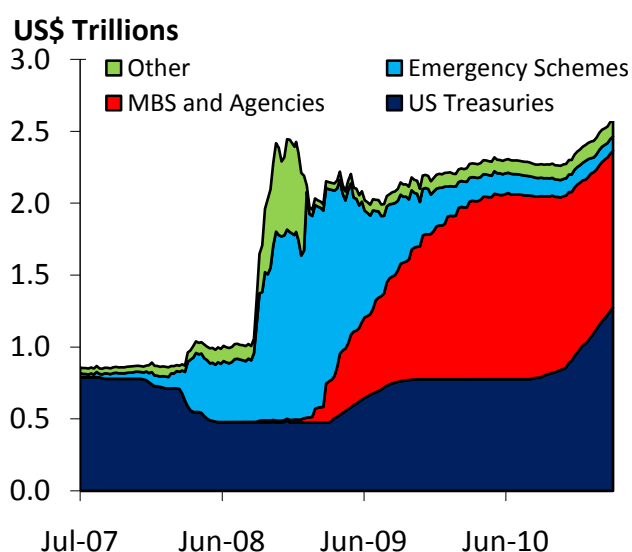
¹ This note was presented to the NZ Philanthropy Conference on 7 April 2011. For an alternative description see "Quantitative Easing Explained" <http://www.youtube.com/watch?v=PTUY16CkS-k>

² Thanks to input from Mark Brown, Andrew Bascand and Darryl Briggs.

- iii. Further purchases of US Treasures (so-called QE 2) from November 2010, scheduled to finish in June 2011.

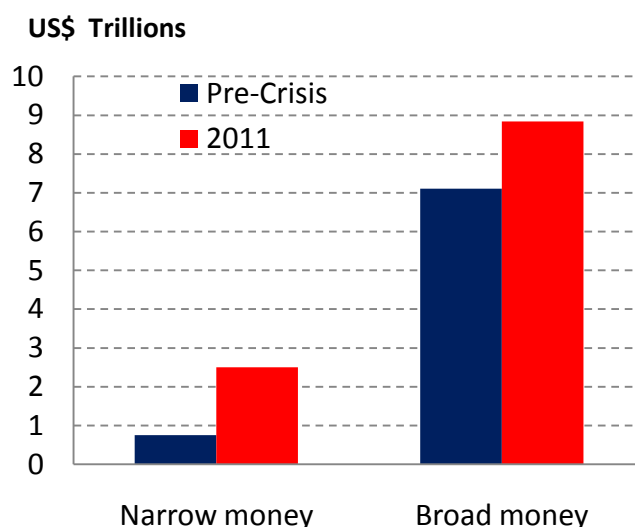
The combined result of these loans and asset purchases has expanded the Fed's balance sheet threefold (Chart 1). But this has not caused a rapid expansion of broad money. Narrow money and broad money have increased roughly one-for-one in dollar terms, implying little or no money multiplier effect from QE through to broad money growth (Chart 2).

Chart 1: US Federal Reserve Assets



Source: New York Federal Reserve

Chart 2: US Narrow and Broad Money



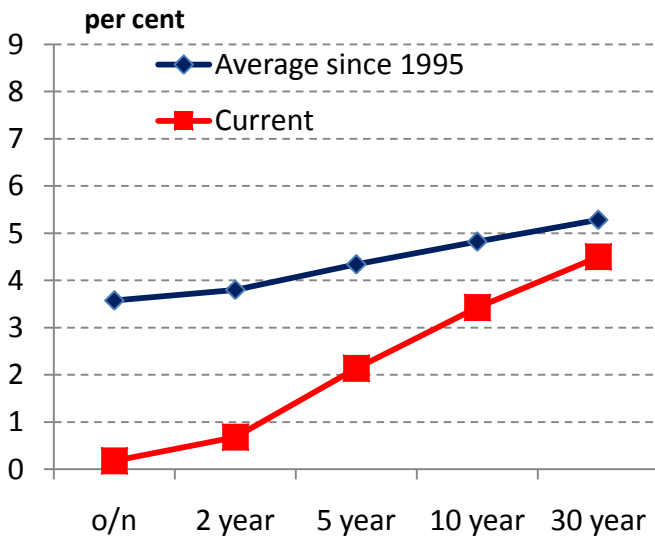
Source: Bloomberg

The Impact of QE on Markets

The main impact of QE on the US bond market has been to hold down interest rates. In normal times, the Fed implements policy through setting the US overnight interest rates. Through QE, the Fed has been able to hold down interest rates at much longer maturities, both through direct purchases of those securities, and prompting other investors to switch to longer maturities in the search for yield (Chart 3).

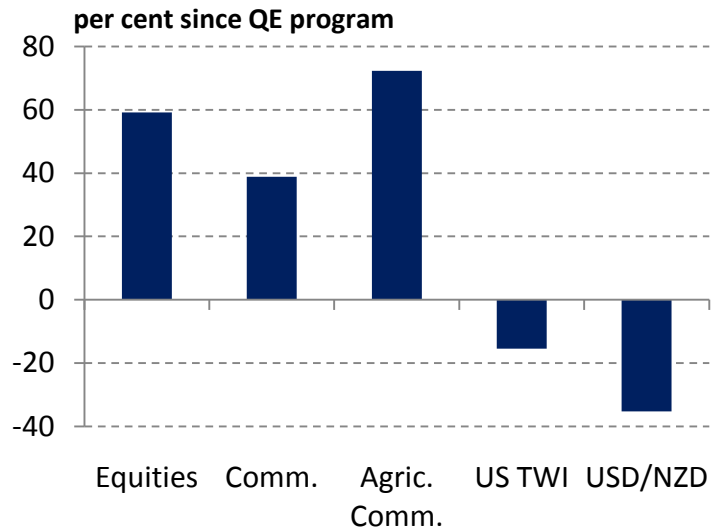
More generally, QE, combined with capital injections into the banking sector, has also prompted investors to shift into riskier assets. This helped drive a massive rebound in a number of asset markets, including credit and equities. In the case of commodities, it has fed growth already supported by real demand for resources by China and other emerging market economies (EMEs). At the same time, QE has also prompted investors to look for investments outside low-yielding US dollar assets, including New Zealand, Australia and high-yielding EMEs. This has driven a depreciation in the US, against New Zealand and a broader trade weighted index (Chart 4).

Chart 3: US Government Bond Yields



Source: Bloomberg

Chart 4: Global Asset Markets

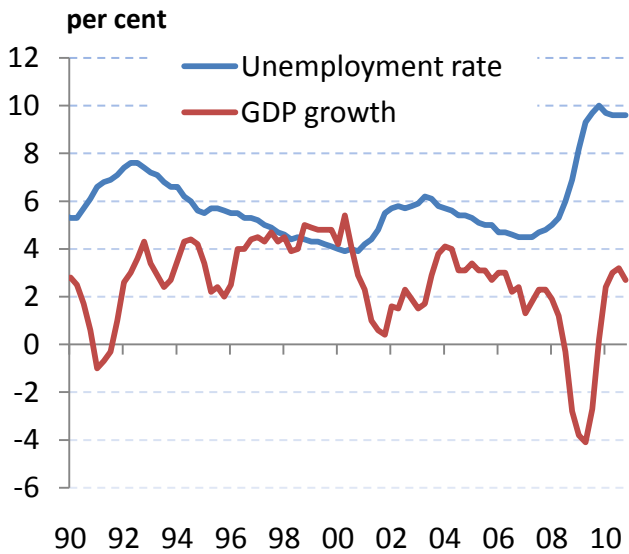


Source: Bloomberg

The Impact of QE on the Economy

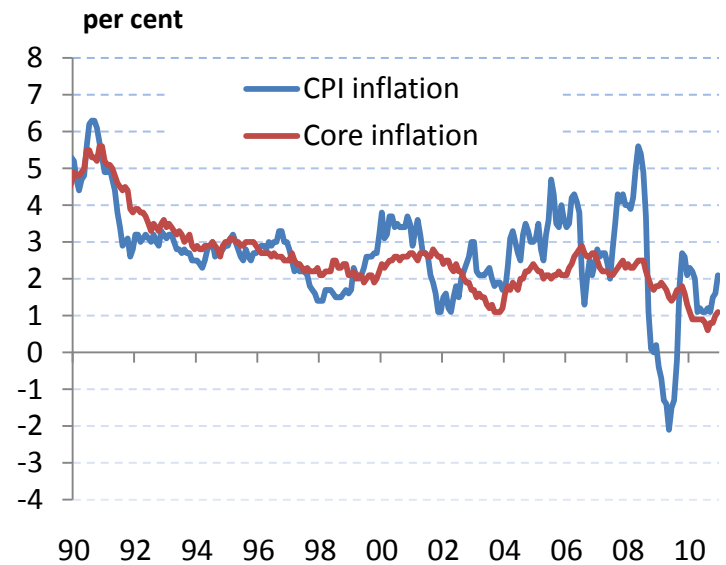
While QE has helped avert a deeper recession and the spectre of deflation, on the whole the US economy remains subdued. Economic growth has returned broadly to trend growth, but US unemployment remains stubbornly high (Chart 5) and core inflation (after stripping out volatile items like food and energy) remains stubbornly low (Chart 6). For that reason, up until recently the Fed has been at pains to emphasise that they are in no hurry to stop or quickly reverse the QE program.

Chart 5: US Economic Activity



Source: Bloomberg

Chart 6: US Inflation



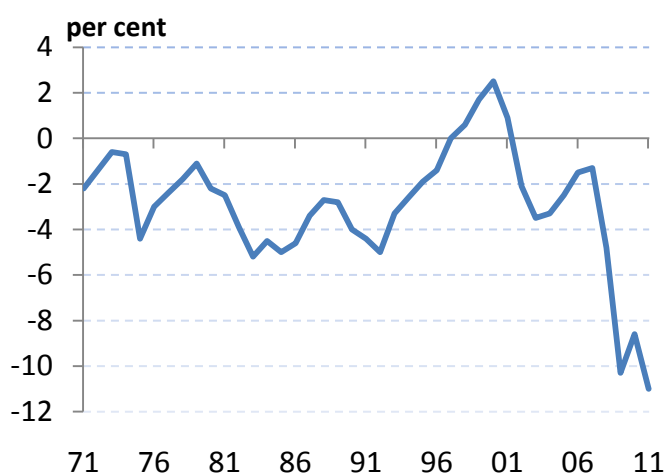
Source: Bloomberg

QE Exit Worries

But the market remains on edge about the end of QE, for a number of reasons.

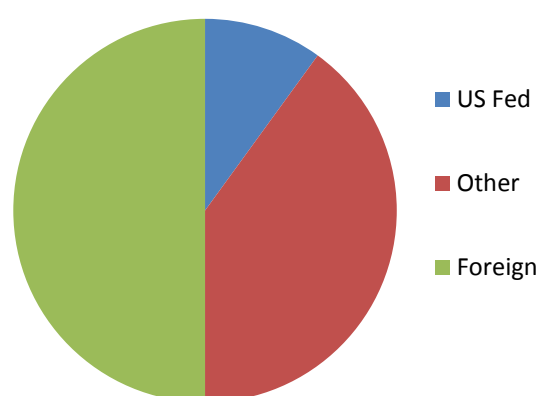
First, the US fiscal situation has deteriorated rapidly as the economy fell into recession, and the US is now running record fiscal deficits (Chart 7). Since the QE program started, the Fed has purchased the equivalent of around 75% of the new issuance of US Treasuries, and is now the largest holder of outstanding US Treasuries alongside the Chinese and Japanese (Chart 8). Markets are worried about who will buy US Treasuries when QE stops.

Chart 7: US Fiscal Deficit to GDP



Source: Bloomberg

Chart 8: Holdings of US Treasuries

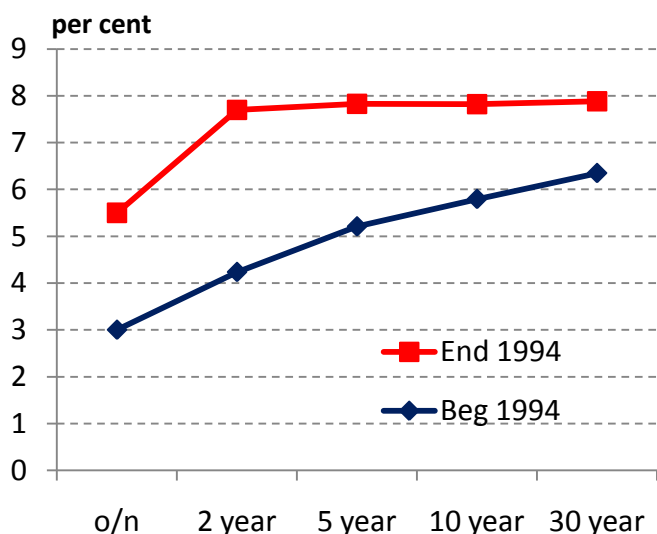


Source: Pimco

Second, the market also remembers what happened to interest rates in 1994, when the Fed began to tighten policy after a long period of low interest rates, causing a sharp increase in US interest rates across all maturities (Chart 9). On that occasion, NZ interest rates rose even more sharply than in the US. Periods of tighter monetary policy also tend to be associated with sluggish asset price growth, and an appreciation of the US dollar (Chart 10).

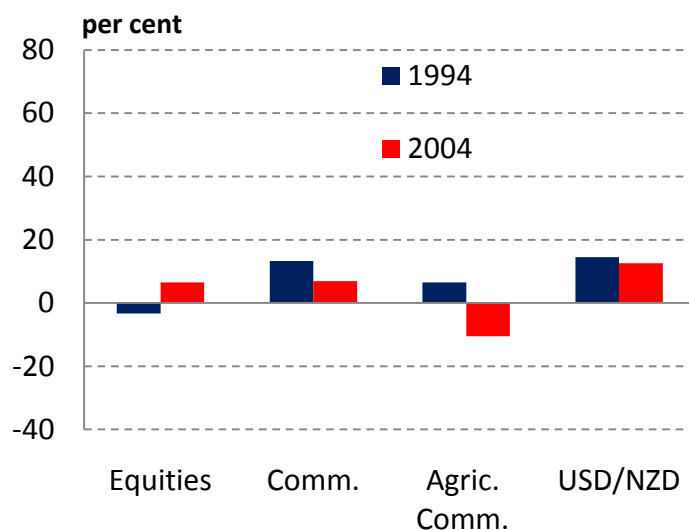
Finally, QE is uncharted territory, for both policymakers and markets. For instance, in the UK, the Monetary Policy Committee was unanimous in its decisions at the outset of its QE program. The nine member committee is now split four ways: one voting for more QE, five voting for no-change, two voting for a 25 basis point rise in interest rates, and one voting for a 50 basis point increase. As much as entering QE had uncertain outcomes, markets are now wary of the uncertainty around QE unwind.

Chart 9: US Government Bond Yields



Source: Bloomberg

Chart 10: Asset Markets in Fed Tightenings



Source: Bloomberg (Same scale as Chart 4 on QE entry)

QE Exit Scenarios

So what might happen this time around as the Fed moves from QE to more normal policy settings? There are four broad scenarios:

- i. **Hawkish Fed:** Typically, there is always a chance that the Fed misjudges the speed of economic recovery and increases interest rates too quickly. This seems very unlikely this time around, given the Fed’s determination to see a sustained recovery, and to wait for unemployment to fall markedly - an economic indicator that tends to lag other indicators of economic health (We think this is 0% probability).
- ii. **Goldilocks:** With a gradual economic recovery, the Fed would be able to raise interest rates at a gradual pace back to normal, as they did in 2004. This scenario broadly covers a multitude of situations where the Fed “gets it broadly right”. This may even include the lack of economic recovery prompting QE3, before an eventual return to normal. At the moment, the market still trusts the resourcefulness of the Fed to navigate a steady course to recovery (60% probability).
- iii. **Inflation:** But if the economy was to recovery rapidly, then the Fed would be forced to increase interest rates very quickly, as they did in 1994. Although less likely, there is a reasonable chance of this scenario playing out, and it is certainly what the market is beginning to consider as a key risk (30% probability).

- iv. **Stagflation:** An even scarier scenario is that the economy does not recover, but that cost pressures push up inflation expectations and force the Fed to raise interest rates to put a lid on inflation. This would hurt both the economy and asset markets (10% probability).

Implications for the NZ bond market

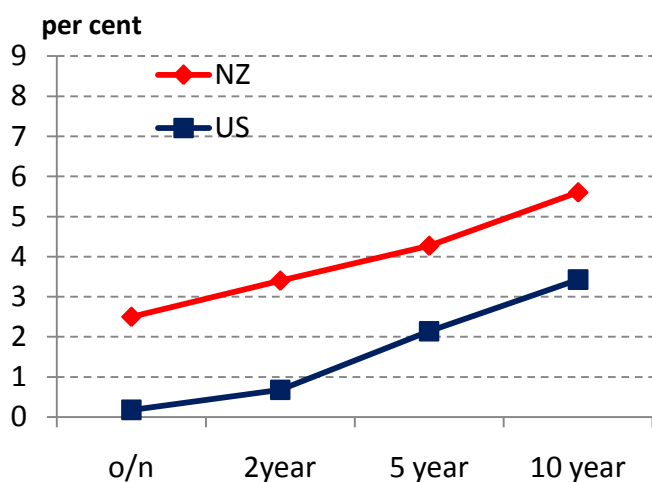
So what are the implications for the NZ bond market? There are definite grounds to be watchful, but also some mitigating factors.

First, NZ interest rates were not driven down as far by QE. The level of NZ interest rates is around 2 percentage points higher than in the US across most maturities (Chart 11). And while NZ short-term interest rates are low by historic standards, (and expected to rise as the economy recovers), NZ long-term interest rates are already reasonably close to normal levels.

Second, holdings of NZ government bonds by non-residents are not particularly high by historic standards. Much of the increase in NZ government bond issuance has been taken up by local banks strengthening their liquidity and funding positions, in response to stricter regulation. So as US interest rates rise, there is less danger of large-scale selling by non-residents rushing back to invest in the US bond market (Chart 12).

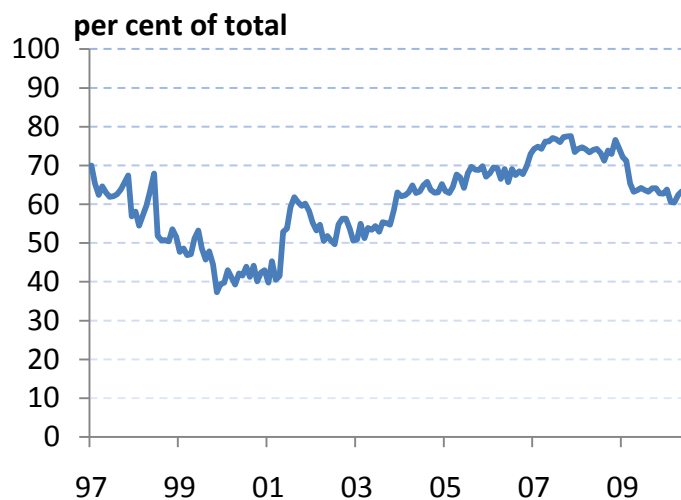
Third, the outlook for the NZ economic growth is clouded by the timing of recovery efforts in Christchurch and the household deleveraging cycle. So the threat of near-term demand-led inflation pressures is less obvious in NZ.

Chart 11: NZ Government Bond Yields



Source: Bloomberg

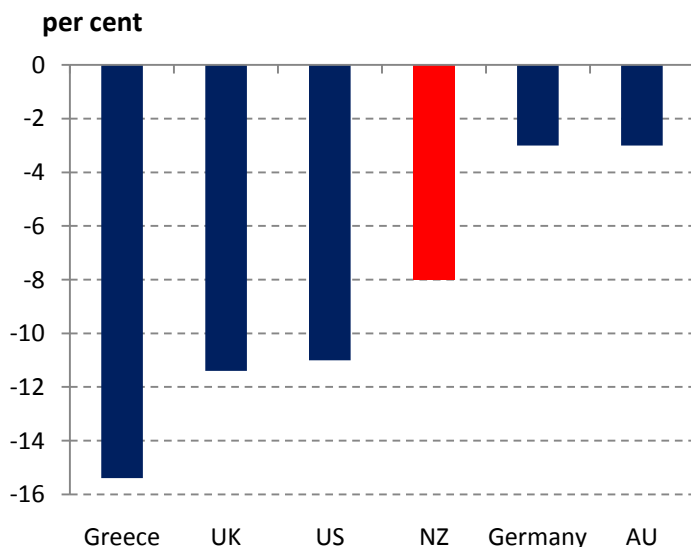
Chart 12: Non-Resident Holdings



Source: Bloomberg

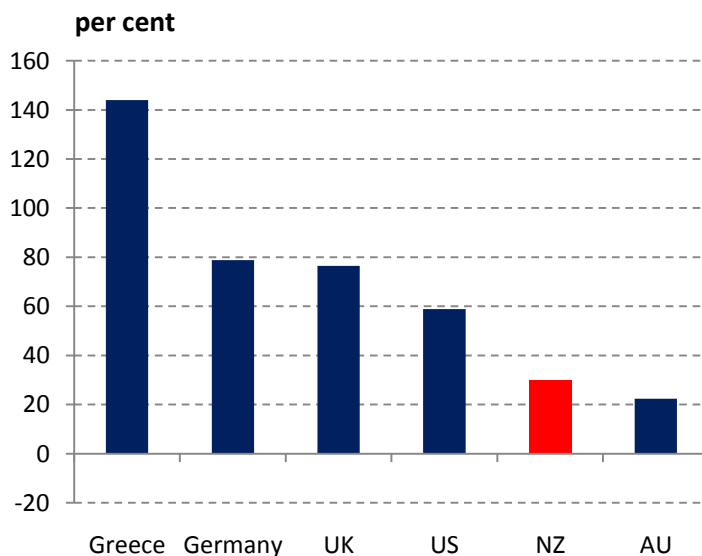
Finally, while the NZ fiscal deficit has deteriorated in recent years (and will be hit again by the costs associated with the Christchurch earthquake), by international standards it looks less ugly than many other countries (Chart 13). In particular, NZ began the GFC with a relatively low level of government debt to GDP (Chart 14). Even if the NZ government is downgraded a notch by the credit rating agencies, its rating remains high in absolute terms.

Chart 13: Fiscal Deficits to GDP



Source: Bloomberg and BNZ estimate of NZ fiscal Deficit/GDP for year end to June 2011.

Chart 14: Government Debt to GDP



Source: Bloomberg and BNZ estimate of peak in NZ Government Debt in 2013.

Conclusion

Quantitative Easing was a giant step into the unknown for both policymakers and financial markets. It has driven down global interest rates and the US dollar, and fed a massive rebound in credit, equities, and commodities. The end and exit from Quantitative Easing will be a key influence on global markets over 2011 and 2012, well beyond the US bond market.

The Fed's exit strategy will be dictated by the speed of economic recovery and the strength of inflation pressures. A repeat of sharp rise in US bond yields in 1994 is not the central case, but at Harbour we are closely monitoring leading indicators of growth and inflation, and reviewing the signals regularly.

Long-term NZ interest rates will be influenced by global factors, but do not need to not move one-for-one with moves in the US. The outlook for NZ short-term interest rates will become clearer once there is more evidence on the timing of the Christchurch rebuild.

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