Negative rates in Europe and Japan: what does it mean for NZ?

- Over 25% of the Global Aggregate bond index and vast swathes of the Japanese and European government bond markets are now trading with negative yields.
- Negative yields in Europe/Japan and falling rates in NZ reflect an underlying common factor – slower global growth, subdued inflation and central bank easing.
- There is also the potential for negative rates in Europe/Japan to depress term premia in foreign markets, indirectly lowering NZ rates.
- There is little empirical evidence of foreigners buying NZGBs due to negative rates abroad. In fact, foreign investors have been net sellers of NZGBs for 3 years.
- FX-hedged yields on NZGBs are lower than most other markets and, for unhedged investors, the NZD appears relatively overvalued versus other currencies.

Negative yields in large sections of global fixed income
The massive rally in global rates this year has driven government bond yields to record lows in many developed markets, including New Zealand. Over 25% of the market value of the commonly followed Bloomberg/Barclays Global Aggregate bond index now trades with negative yields (see Chart 1). This is mainly a reflection of Europe and Japan, two of the largest bond markets in the world, having negative central bank cash rates and markets having increased their expectations of more easing. Table 1 shows that over three quarters of nominal JGBs by face value and the entire German yield curve trade with negative yields. In this note we discuss what impact this growing stock of negative yielding bonds in Europe and Japan might mean for the NZ market.

<table>
<thead>
<tr>
<th>Country</th>
<th>Nominal govt bonds (face value, USD)</th>
<th>Negative yielding bonds (USD)</th>
<th>Proportion negative yielding</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>11,528</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Japan</td>
<td>8,769</td>
<td>6,756</td>
<td>77%</td>
</tr>
<tr>
<td>UK</td>
<td>1,405</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Canada</td>
<td>389</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Australia</td>
<td>387</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Denmark</td>
<td>84</td>
<td>84</td>
<td>100%</td>
</tr>
<tr>
<td>Swiss</td>
<td>67</td>
<td>67</td>
<td>100%</td>
</tr>
<tr>
<td>Sweden</td>
<td>58</td>
<td>53</td>
<td>92%</td>
</tr>
<tr>
<td>NZ</td>
<td>49</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Norway</td>
<td>43</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Eurozone</td>
<td>7,186</td>
<td>4,441</td>
<td>62%</td>
</tr>
<tr>
<td>France</td>
<td>1,902</td>
<td>1,379</td>
<td>73%</td>
</tr>
<tr>
<td>Italy</td>
<td>1,865</td>
<td>253</td>
<td>14%</td>
</tr>
<tr>
<td>Germany</td>
<td>1,148</td>
<td>1,148</td>
<td>100%</td>
</tr>
<tr>
<td>Spain</td>
<td>965</td>
<td>599</td>
<td>62%</td>
</tr>
<tr>
<td>Belgium</td>
<td>348</td>
<td>276</td>
<td>79%</td>
</tr>
<tr>
<td>Holland</td>
<td>317</td>
<td>317</td>
<td>100%</td>
</tr>
<tr>
<td>Austria</td>
<td>236</td>
<td>192</td>
<td>81%</td>
</tr>
<tr>
<td>Portugal</td>
<td>152</td>
<td>88</td>
<td>58%</td>
</tr>
<tr>
<td>Ireland</td>
<td>150</td>
<td>91</td>
<td>61%</td>
</tr>
<tr>
<td>Finland</td>
<td>100</td>
<td>96</td>
<td>92%</td>
</tr>
<tr>
<td>Total</td>
<td>30,345</td>
<td>11,401</td>
<td>38%</td>
</tr>
</tbody>
</table>

There is a common factor behind recent yield moves
Obviously, the increased prevalence of negative yields and the rally in NZ rates largely reflects a common global factor. That is, the slowdown in global growth, emergence of trade tensions and subdued inflation have led major central banks pivot towards easing. This can be seen in Chart 2, which shows the recent decline in NZGB yields and increase in negative yielding bonds has occurred amidst a steady decline in the Global PMI. The last time there was such a rise in negative yielding bonds was in mid-2016, when the PMI hit similarly low levels and the 10 year NZGB yield reached its previous low of 2.12%.
There can be an indirect effect on rates via term premiums

There is a school of thought that negative yields in Europe and Japan will result in capital flows to those markets with positive yields, including NZ, and that this will depress bond yields over-and-above the common factor outlined above. Of course, one might expect this to happen even if yields were in positive territory (i.e. when German bund yields fell from 1% to 0%).1 But there is a perception that some investors have a particular aversion to negative yields and therefore the potential for capital flows, and market impact, is greater this time round.

In principle, this effect should show up in the form of a negative term premium in foreign bond markets (i.e. a reduction in bond yields independent of the expected path of short rates over the life of the bond).

Indeed, since mid-2014, there has been a strong relationship between the proportion of the Global Aggregate bond index which trades with negative yields and the FRBNY’s measure of the US 10 year term premium (see Chart 3). Likewise, there is a relationship evident with a survey-based term premium estimate of the US 10 year rate that we track. Of course, this will partly reflect the high correlation between long-term global bond yields (both positive and negative yielding). It doesn’t necessarily mean that it is the growing stock of negative yielding bonds which is causing the US term premia to go more negative, although it does fit with the thesis.

To the extent that negative rates do have an impact on the US term premium, there should be at least an indirect impact on long-end NZ rates. IMF research has found that the term premium component of US 10 year rate moves has historically had the strongest transmission to other advanced economy markets, including NZ. And, as we have outlined in past research, the 10 year NZ swap rate can be modelled by the 2 year swap rate (reflecting NZ monetary policy expectations) and the FRBNY’s measure of the US 10 year term premium, although this model has overestimated the NZ 10yr rate in recent times (Chart 3).

Hedged versus unhedged investments in foreign markets

Using the example of a German investor faced with almost an entirely negative government bond yield curve, they have a menu of options if they wish to avoid negative nominal yields. That investor could:

- Buy longer maturity bunds (the 30 year bund yield was positive until recently) - i.e. take more duration risk
- Buy lower-rated sovereign bonds, such as Italy, or investment-grade or high-yield corporate bonds with positive yields – i.e. take credit risk
- Buy European equities, real estate or other markets – i.e. take more market risk
- Buy assets in other currencies with positive yields, such as NZGBs, USTs, or EM – i.e. take currency risk

If the German investor wanted to hedge the currency risk with FX forwards, the positive yields in NZ, the US etc, disappear. Chart 5 shows the unhedged yields in grey and the EUR-hedged yields in yellow. In most cases, the EUR-hedged yields are even lower than those available on German bunds. Even taking account of expectations of rate cuts by the likes of the Fed and RBNZ, which will lower the FX hedge cost, EUR-hedged foreign bond investments still generate negative yields (blue bars in Chart 5). That doesn’t mean there won’t be FX-hedged flows into NZGBs or USTs, but that they are likely to be motivated by the potential for capital gain (NZ yields can potentially fall much further than German yields given the RBNZ has more room to cut) rather than the avoidance of negative yields.

Should we expect flows to NZGBs from negative yielders?

While hedged flows into NZ are likely to be driven by investors’ expectations for NZGB yields to fall, either outright or relative to other bond markets, a key driver of unhedged bond flows will be investors’ expectations of NZD currency returns (in addition to the yield on the bonds). While the 10 year NZGB yields around 1.8% more than the 10 year German bund, NZD/EUR exchange rate movements can quickly offset that positive differential.
Foreign holdings of NZGBs have fallen since 2016

Thus far, there has been little evidence that foreign investors, at least in aggregate, have been shifting towards NZGBs, despite the growing stock of global bonds trading with negative yields. In fact, foreign holdings of NZGBs have been in steady decline since mid-2016 (see Chart 6). The fall in NZ yields, both outright and compared to other key markets such as the US (which has had higher yields than NZ for some time now) appears to have led to selling from foreign investors. There was also no significant pick-up in foreign holdings in 2016, the last time German and Japanese yields went negative.

Looking further into the data paints a slightly more nuanced picture, with foreign investors having reduced short-dated bonds significantly, broadly maintained holdings of intermediate sector bonds (the 25s and 27s) over the past year, and increased holdings of longer bonds. That suggests foreign demand for the long-end of the NZ curve is holding up for now, although there doesn’t appear to have been any step-change in investor demand since yields in Europe and Japan went negative earlier this year.

One way to view the trade-off facing unhedged investors is to look at the relationship between currency valuation and FX-vol adjusted bond yields. Chart 6 shows currency valuation as the deviation from the 20 year average real effective exchange rate, on the x-axis, and the 10 year bond yield divided by the 3-month implied FX volatility, on the y-axis. For a long-term investor, unhedged investments in markets in the top-left hand corner are preferable, since they imply an undervalued currency and relatively high risk-adjusted yields. Unhedged investments in the bottom-right hand corner imply both negative yields and an overvalued exchange rate (at least, on this REER measure).

On this basis, NZ looks less appealing than several other markets. It has lower yields than Canada and a more overvalued currency, and similar yields to Norway but a significantly more overvalued currency. And while the NZD is not as overvalued as the USD, USTs offer much higher yields. This suggests that we shouldn’t expect a sudden increase in foreign investor demand for NZGBs on an unhedged basis, when there are higher yielding, or similar-yielding but more undervalued, currencies elsewhere.2

Chart 5: No escape: EUR-hedged yields on global govs.

<table>
<thead>
<tr>
<th>Country</th>
<th>10y NZGB</th>
<th>10y UST</th>
<th>10y Germany</th>
<th>10y Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>NZ</td>
<td>0.5%</td>
<td>0.7%</td>
<td>-0.1%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>US</td>
<td>0.3%</td>
<td>0.5%</td>
<td>-0.2%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Germany</td>
<td>0.1%</td>
<td>0.3%</td>
<td>-0.2%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Japan</td>
<td>-0.2%</td>
<td>-0.3%</td>
<td>-0.5%</td>
<td>-0.7%</td>
</tr>
</tbody>
</table>

Source: RBNZ. Gray shaded areas show periods where the 10-year bond traded with a negative yield.

Chart 6: But most of that selling has been in shorter NZGBs

<table>
<thead>
<tr>
<th>Bond yield/currency vol vs. REER deviation from historical avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>NZ</td>
</tr>
<tr>
<td>15%</td>
</tr>
</tbody>
</table>

Source: Bloomberg, Germany shows the EUR REER deviation from 20y average. JPM-CPI based REER indices.

2 Of course, NZGBs offer diversification to foreign investors and the NZ government is in a very strong fiscal position by global standards. But on the basis of this currency depreciation risk measure and bond yield return, NZGBs appear to be less attractive than other markets.

Chart 7: Foreigners have been selling NZGBs since 2016

Chart 8: But most of that selling has been in shorter NZGBs
There is limited data on the geographical breakdown of foreign holders of NZGBs. However, the Japanese MoF does report data on net purchases of long-term New Zealand debt securities. Chart 8 shows there was an increase in net buying of NZ long-term debt securities in the first few months after the 10 year JGB yield went negative, but the amounts were reasonably modest. More recently (the data is available until the end of May), there hasn’t been any net buying since the 10 year JGB yield returned to negative territory.

**Chart 8: Japan monthly net purchases of long-term NZ debt securities**

Chart 9: Japan was a net buyer of long-term NZ debt in '16

**Conclusion**

The global bond rally this year has led to a significant proportion of the developed market bond universe trading with negative yields, mainly in Europe and Japan. The rally has reflected growing downside risks to the global growth outlook amid the US-China trade tensions and the pivot among central banks towards easing. Naturally, NZ rates have fallen sharply in that environment, and the market expects the RBNZ to cut the OCR to at least 1%.

Beyond the fact that these global factors have re-priced long-term rates everywhere, there is the potential for negative rates in Europe and Japan to impact longer-term NZ rates indirectly, via a lower term premium. There is some correlation between the proportion of negative yielding bonds and the US term premium, which itself is strongly correlated to long-end NZ rates.

However, there is little evidence of actual capital flows coming from those negative yielding markets and into NZGBs – in fact, foreign investors have been net sellers of NZGBs for three years now. That foreign selling probably reflects the reduced scope for capital gains on NZGBs at these lower yield levels and that there appear to be more attractive markets from a yield/currency valuation perspective available elsewhere.

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