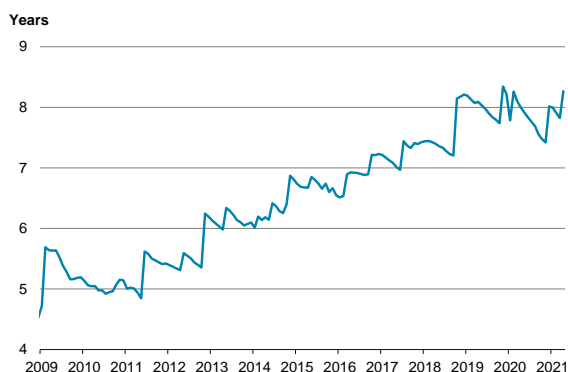


This is the first in a new series of Insights published by New Zealand Debt Management. We intend to publish these notes on a semi-regular basis. They will provide detailed insights on topics that we believe will be of interest to investors in the New Zealand Government Securities market. We welcome feedback on topics for future editions.

Background

The primary objective of New Zealand Debt Management (NZDM) is to minimise the core Crown's borrowing costs over the long-term with due consideration to risk, while ensuring ongoing access to debt funding markets. Secondary objectives include developing New Zealand capital markets and other public good elements of government borrowing. The funding strategy, including selecting the maturity date of any new bond, is aligned to these objectives.

Figure 1: Average weighted maturity of NZGB portfolio



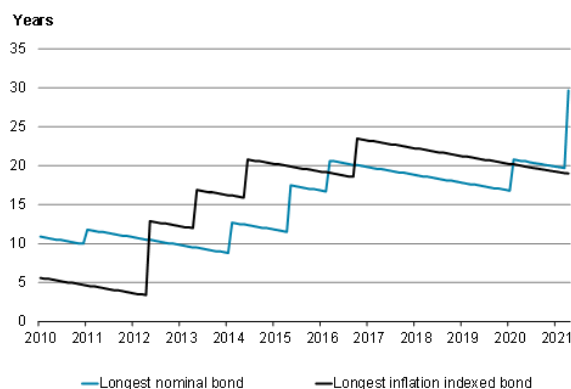
Source: The Treasury

After the Global Financial Crisis, annual bond issuance programmes increased (Figure 3). Alongside this, over the past decade the funding strategy has included gradually increasing the average weighted maturity of the bond portfolio. This has contributed to meeting several objectives. It has improved the Crown's asset-liability matching, taking into account the interest rate sensitivity of the Crown's long-dated assets. It has supported investor diversification by capturing demand from investors with long-dated liabilities and has helped reduce refinancing risk. It has also contributed to the

development of New Zealand's capital markets overall.

The nominal bond curve was gradually extended, reaching 20-years in 2016. This occurred alongside the re-introduction of Inflation-Indexed Bonds, in late-2012, where a curve was developed that extended a bit beyond 20-years.

Figure 2: Longest NZGB outstanding



Source: The Treasury

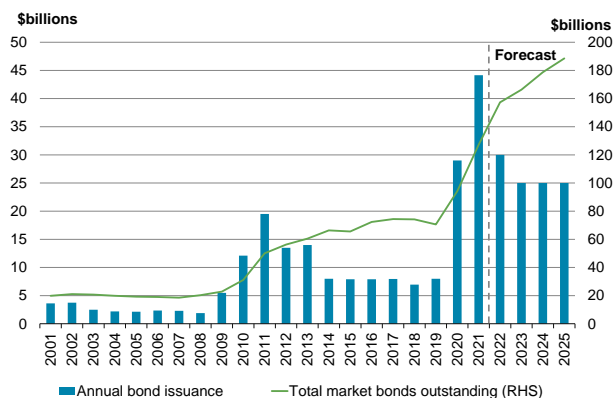
Until recently, further extension of the nominal bond curve past 20-years was more challenging. Between 2014 and 2019 annual New Zealand Government Bond (NZGB) programmes were between NZ\$7 billion and NZ\$8 billion. Programmes of this size may have been insufficient to support curve extension beyond 20-years, assuming a desire to maintain a well-spaced maturity profile for the portfolio, regular issuance across the curve and good liquidity in existing bond lines.

However, more recently, funding requirements have increased, reflecting the impacts of, and fiscal response to, the COVID-19 pandemic. NZ\$45 billion of NZGBs were issued in the

2020/21 fiscal year. Annual NZGB programmes over the forecast period are now expected to be between NZ\$25-30 billion, well above historic levels. Currently, NZGBs on issue are NZ\$136 billion and are forecast to reach almost NZ\$190 billion by the end of 2024/25.

As a result, we are confident future borrowing programmes are of sufficient size to support an extension of the curve out to 30-years, including maintaining a 30-year point on the curve. This holds even if funding requirements were to decline materially from current forecasts.

Figure 3: NZGB’s outstanding and annual gross issuance



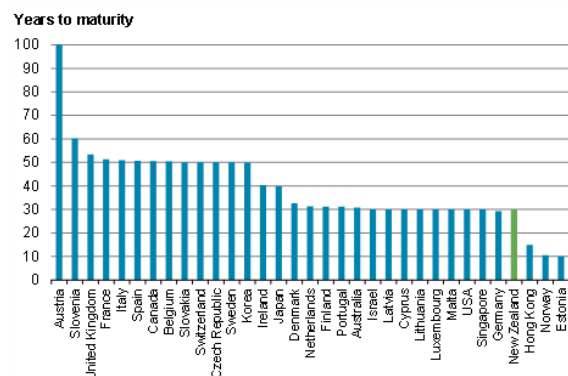
Source: The Treasury

While a larger issuance programme enabled us to consider extending the nominal curve beyond 20-years there were many factors that influenced our decision to issue a new 2051 maturity nominal bond on 14 September 2021, as discussed below.

International Comparison

The majority of other advanced economies have sovereign bond curves that extend to at least 30-years (Figure 4). Over the past few years we have received feedback from investors that they would value having a 30-year nominal NZGB on issue, as it is considered a standard international benchmark.

Figure 4: Advanced economy sovereigns’ longest nominal bond at issuance



Source: Bloomberg (as at 31 August)

Cost and Risk

Cost

As an issuer with an established curve, an important consideration is the marginal cost of issuing a 30-year bond relative to an existing 20-year bond, after accounting for underlying interest rate expectations.

Alongside the Budget Economic and Fiscal Update, in May, we announced our intention to issue a 30-year bond. Ahead of this, we estimated there would be a premium required for the curve extension, as is the case for many other comparative markets. In addition, it was possible a new issue premium would be required. However, our analysis suggested the expected marginal additional cost would be outweighed by benefits, as discussed below.

In the event, the 2051 was issued at a yield to maturity of 2.8575%, at a spread of 25 basis points to the May 2041 nominal bond. This was at the lower end of the initial price guidance, of 25 to 35 basis points. It was within the ‘fair value’ range that we calculated ahead of the launch of the syndication. Total book size, at final price guidance, exceeded NZ\$12 billion.

Risk

Refinancing Risk

To reduce refinancing risk, individual nominal NZGB lines have approved maximum issuance limits of NZ\$18 billion. These limits balance managing refinancing risk with the need to ensure adequate liquidity in each bond line. In addition, having only one nominal bond line maturing in each year supports a structured and full curve, without increasing annual refinancing risk to an unacceptable level.

The standard approach for OECD countries is to limit the proportion of funding rolling-over on an annual basis. Based on current expectations for bonds and Treasury Bills on issue, the annual roll-over proportion of the funding portfolio is estimated to be between 10% and 15% at end-June 2025. This is conservative relative to OECD averages, but appears appropriate for a smaller sovereign issuer, where holdings of its bonds are considered discretionary by many global investors.

Beyond this forecast period, the Treasury’s [Fiscal Strategy Model](#) projections indicate that overall NZGBs on issue will continue to increase. Extending

the nominal bond curve out to 30-years will allow increased NZGBs on issue to be spread over a wider maturity profile, meaning that annual refinancing risk will not rise, as would otherwise be the case.

Investor Risk

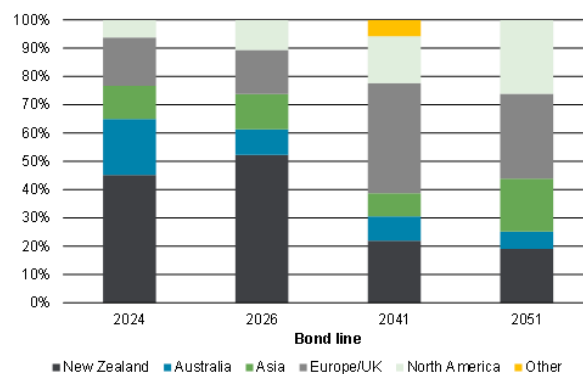
Achieving increased investor diversification was also a goal for the 30-year bond issue. Investor diversity is important from a risk perspective as it increases the probability that NZGBs will always appear attractive to some investors. This is due to different investors having natural demand for different instrument types and maturities, as well as investors in different geographies having their own relative currency. For example, bank balance sheet investors have natural demand for nominal bonds below 10-years to maturity. On the other hand, insurance companies and pension funds have inherent demand for longer-dated bonds, as well as bonds linked to inflation.

There is a well-diversified global investor base for NZGBs, split across investor types and global regions. The diversity is assisted by the make-up of the NZGB portfolio, where we issue a range of instruments – nominal and inflation-indexed, as well as a range of maturities – from 3-years out to 20-years – in order to appeal to a wide set of investors.

When the NZGB nominal bond curve was extended to 20-years, an increase in investor diversity was observed. We have seen early evidence of this also occurring for the 30-year issue.

NZGB syndication statistics highlight the different investor base for our long-dated bonds (2041 and 2051 maturities) relative to shorter-dated bonds (Figures 5 and 6). European/UK-based investors made up the largest proportion of allocation for the 2041 and 2051 maturities, with the proportion allocated to New Zealand investors materially lower. Overall, around 80% of the allocation for both bonds was to investors outside of New Zealand. This is in stark contrast to the allocations for the 2024 and 2026 maturities that saw closer to 50% of allocation to New Zealand investors.

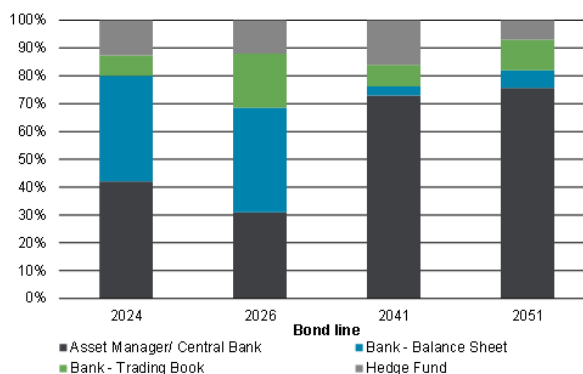
Figure 5: Syndication allocation by region



Source: The Treasury

Allocation by investor type, for the 2041 and 2051 nominal bond syndications were similar, with close to 75% of allocation to the Asset Manager/Central Bank category. This contrasts to the shorter-dated bonds where allocations to this category were around 30-40%. The 2051 maturity also attracted some first-time participants in a NZGB syndication, including some investors that may not have previously been involved in the NZGB market.

Figure 6: Syndication allocation by investor type

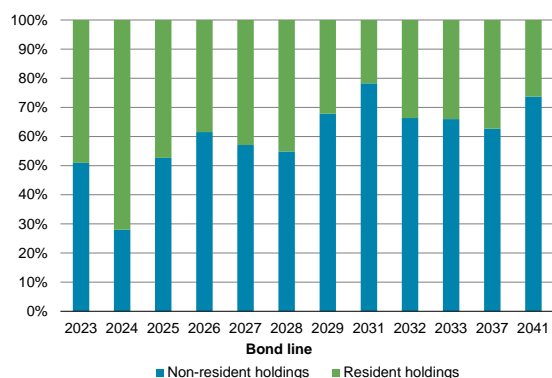


Source: The Treasury

The Reserve Bank of New Zealand (RBNZ) publishes data showing resident and non-resident holdings of NZGBs in the secondary market. This data¹ illustrates some similar themes as the syndication data. Offshore investors hold larger proportions of longer-dated bonds, including 20-year and 10-year benchmark bonds. The most recent figures show the highest proportion of offshore holdings is in the 2031 and 2041 nominal bonds (Figure 7).

¹ Note this data excludes those bonds held by the RBNZ.

Figure 7: Proportion of non-resident holdings by NZGB line



Source: Reserve Bank of New Zealand

Capital Markets Development

There is evidence that when the NZGB curve was extended to 20-years it helped increased liquidity in New Zealand swap rates beyond 10-years. There is now observed liquidity in the NZD swap curve to around 15-years. Having a sovereign bond curve that extends to 30-years could lead to better liquidity in points on the swap curve beyond 15-years. This would be of broad benefit to market participants.

Establishing a longer ‘risk-free’ price benchmark may also help corporates or other entities more easily cost capital for longer-term projects. It may

² That said, Auckland Council have previously issued a 30-year nominal bond, suggesting that absence of a sovereign issue may not be an impediment.

also lead to other issuers extending the length of their curve². That said, currently most New Zealand corporate issuers do not issue beyond 7-years, with limited evidence that extending the NZGB curve to 20-years has prompted extension.

However, the broader capital market benefits from extending the NZGB curve may be via encouraging the use of longer-term financing for infrastructure or similar projects, including by local authorities. Some local asset managers may also benefit from having access to a new longer-dated NZGB line to match their long-dated liabilities.

Conclusion

The decision to issue a 30-year bond was finely balanced. Our pricing analysis suggests issuance of a 30-year bond may often be at a premium relative to a 20-year bond, after accounting for underlying interest rate expectations. However, we expect a reduction in risk through lower refinancing risk and increased investor demand and diversity. These factors, combined with the potential to contribute to capital market development in New Zealand, underpinned our decision to issue an inaugural 30-year bond, establishing this point on the NZGB curve.

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