The NZ term structure: going long in infrastructure

The growing need for infrastructure funding by central and regional governments, on both sides of the Tasman, can be utilised to complete long-term debt markets. One possible structure is a sovereign infrastructure vehicle that invests in long-term primary debt securities written by state and local government to fund infrastructure projects and repackage these into asset-backed securities issued to the public. Synergistic enhancements include lifecycle derivatives and retirement funding.

THE NEW ZEALAND DEBT MARKETS are long on the short end of the market but short on the long end. The horizontal axis of our term structure curve ends abruptly about 10 years out. In this paper we make some suggestions about: how we can extend the axis; why we should want to do so; and who the issuers and holders might be. Our basic proposal brings together several exigencies of current concern, applicable also to Australia. One of these is the market completeness problem arising at the long end of the term structure. A public debt issuance program does more than just finance this or that capital project. It has a social role in developing the country’s capital markets and assisting its people to plan their own financial future or to handle employment or asset risk. The importance of this latter aspect has been clearly demonstrated in recent months with the collapse of more than 20 finance companies, resulting in total losses by an estimated 108,000 investors, mostly retirees, of around NZ$3.5 billion. High-grade long-term debt can underpin alternatives for retirement planning that are safer and more cost effective than reverse equity mortgages or similar products.

A further exigency is that New Zealand will soon face the need for significant infrastructure replenishment and development (Bowden 2008a). With the export economy looking strong in the years ahead, this can be readily achieved through the issue of long-term debt. NZ gross government debt is now down to only 6.7% relative to GDP, a striking contrast with the UK fiscal responsibility target ratio of 40%. Given the more optimistic long-term prospects for the NZ economy, there is now a case for...
The market for long-term bonds
The remarks in this paper relate to high-grade fixed interest securities, not floating rate notes or callable bonds. Similarly, capital notes typically have an annual interest rate reset, and have junior ranking among the firm’s obligations, so do not come within the scope of the paper. With respect to maturity, the categorisations used in the London gilt markets are a good basis for deciding what is ‘long’:

- Shorts — 0–7 years left to run
- Mediums — more than 7 and less than 15 years to run
- Longs — 15 or more years to run
- Undated — pay a fixed coupon but have no financial maturity date.

On this classification, New Zealand has no long-dated fixed interest instruments of investment grade. Government bonds typically do not extend beyond 12 years, so these are medium-term instruments. In this respect, the instruments currently denoted as ‘infrastructure bonds’ appear to have little to distinguish them, beyond a statement as to purpose. Kauri bonds are high grade, but 10 years has been the effective horizon for these as well, with most around the three to five-year maturity band (Groom 2008; Ridler and Besson 2008). Local authority stock does not extend much beyond five years, similarly for bank bonds.

The lack of long-term bonds contrasts with a revival of long-term issuance in major international capital markets. The French, UK and German governments have recently floated 50-year issues. The US Government was forced to back down on its 2001 plan to discontinue its longer 30-year issues, with a well-subscribed issue in November 2006. Some high-rated international agencies issue very long-dated debt, notably the World Bank and the Asian Development Bank (ADB). The former issues out to 50 years and the ADB debt extends out to 30 years. In the international corporate sector, maturities of 20–30 year maturities are reasonably common, but in recent years there have been some issues even longer. IBM and Apache both issued 100-year bonds (century bonds) in 1996, while Walt Disney’s 100-year issue in 1993 quickly became part of financial folklore as ‘sleeping beauty’ bonds, taking the fizz out of Coca Cola’s 100-year issue in the same year.
holders. Figure 1 provides an overview of the structure. The IFSV is itself embedded within a more embracing financial structure that encompasses the way that the IFS projects are themselves financed; more detail is provided in what follows.

**Funding flows and capital structure**

**Special IFS funding vehicle**

An Infrastructure Special Investment Fund Vehicle (IFSV) is established with the objective of enhancing the market for public sector IFS debt. To initiate funding for a specific project, the NZ Government and participating local government authorities would contribute capital backing to the IFSV through the purchase of non-cumulative perpetual preference shares in the IFSV.

**Debt funding**

Debt funding for infrastructure projects is provided through Public Infrastructure Bonds. Long-dated bonds would be issued by the NZ Government. Participating local authorities would issue medium-dated infrastructure debt (6–12 years). Such bonds could be purchased directly by wholesale market participants, but many would become assets of the IFSV. Alternatively, the government/local authority bodies might issue a series of shorter dated bonds, which would be repackaged by the IFSV into a mix that includes longer dated debt instruments for onward sale to the public.

The IFSV would, in turn, fund its assets through the offer of debt instruments, which may also be backed by specific assets or asset classes, in a range of credit tranches and maturities attractive to a targeted variety of market participants. Credit ranking for the IFSV would be high, given the strong asset quality together with the above capital backing from central and local government.

**Infrastructure equity funding**

Equity funding for the specific infrastructure projects would come from three sources:

- NZ Government;
- Participating local authorities; and
- Private partners.

The equity funding from NZ Government and the local authorities would be ‘permanent’ shares, while that of the private partners would be in the form of long-to-medium term structured capital notes (say, 20 years), with amortising principal. For a project such as the Auckland Harbour Tunnels, the private partners would progressively be paid out with replacement capital contributed largely by the participating local authorities, although additional capital could be provided by the NZ Government. This could be structured via amortising capital notes, or else as a financial lease. In the first arrangement, the specific IFS holding company (e.g. Auckland Harbour Tunnels Ltd) would issue amortising capital notes to the private partner. In the second, the private partner would be the lessor for a block of equity and would again be progressively paid out by the public partners.

**Income and financing flows**

**Central government**

The NZ Government would receive dividends on its holding of preference shares in the IFSV (from asset cash flows) and on its equity in the specific infrastructure asset holding company (funded by tolls or rent). The NZ Government would pay interest on its outstanding infrastructure bonds, funded by current tax receipts.

---

**FIGURE 1: IFSV – overview**

![Diagram of IFSV overview](image-url)
Local Authorities
The participating local authority would receive dividends on its holding of preference shares in the IFSV (from asset cash flows) and on its equity in the infrastructure asset holding company (funded by tolls or ‘rent’). The local authority would pay interest on its outstanding infrastructure bonds, funded by this together with current council tax receipts.

The local authority could increase its equity holding in specific infrastructure assets over time by a funding arrangement such as a financing lease, or as an end result of the amortising capital notes issued to a private partner by the specific asset holding company, effectively buying out the private partner as the capital notes progressively amortise.

The IFSV is set up as a holding and repackaging centre for the primary long-term debt issued by central and local government to finance its equity in specific infrastructure projects. It finances this by issuing its own asset-backed securities to the general public.

FIGURE 2A: Capital structure and funding flows
Infrastructure IFSV

The IFSV would receive interest payments from the issuers of its bond holdings (i.e. NZ Government and local authorities). It would pay dividends to its preference share holders and interest to its own (IFSV) debt holders.

To summarise, the IFSV is set up as a holding and repackaging centre for the primary long-term debt issued by central and local government to finance its equity in specific infrastructure projects. It finances this by issuing its own asset-backed securities to the general public. The IFSV debt may also be enhanced in targeted ways, such as coupon strips, zero coupon or delayed start coupon bonds, or lifecycle derivatives for retirement income. The IFSV would derive enough margin income from such activities to finance its repackaging of its source government/local authority bonds.

Concluding remarks

For a small country, a government-backed IFSV is in a stronger position to offer long-dated bonds with objectives of market development as well as IFS financing. The same IFSV could itself enhance its long-term debt with retirement products such as annuities or lifecycle options. Alternatively, the enhancement could be carried out by banks or insurance companies that have credit status high enough to provide assurance of institutional longevity.

The IFSV arrangement has a number of advantages over the direct issue of central or local body debt, which may be summarised as follows:

(a) It underpins both by acting as a true intermediary, funnelling the savings of many small investors that would not otherwise go directly into government or semi-government securities.

FIGURE 2B: The flow of dividends & interest
(b) It enhances the credit of participating local authorities, improving the cost at which the latter can issue their own debt. Because the IFSV would be a significant holder, this constitutes a source of review and discipline on debt programs of the local authorities.

(c) By the same token, the local authorities might now be able to mount longer term debt, knowing that a market base would exist in the form of the IFSV.

(d) It can restructure its own asset-backed securities into more marketable maturities and credit tranches that need not precisely mirror the primary debt that underpins them.

(e) The IFSV can offer enhancements to its debt that increase the market appeal to targeted audiences, such as retirees (via lifecycle derivatives), insurance companies (coupon strips) and hedge funds (the residual zero coupon bonds).

(f) The IFSV is a more visible 'one stop, one shop' point of contact and marketing to local and offshore investors.

(g) The IFSV is part of a more embracing structure that represents a more efficient way to finance and own infrastructure assets. Structures such as financing leases or amortising capital notes represent ways that local authorities can, if they so desire, gradually increase their holdings of the IFS asset; while the private partners, if they wish, can gradually divest themselves in the pursuit of further opportunities.

(h) A NZ-based IFSV would be a suitable cooperative vehicle for a Trans-Tasman IFSV (see below).

**Australasian perspectives**

Issuing a special class of bonds to finance infrastructure has also been discussed from time to time in Australia. The 2006 Allan Inquiry report into the Financial Sustainability of Local Government in New South Wales flagged a $6.3 billion shortfall in regional infrastructure funding, projected to grow to $14.6 billion by 2021. In early 2007 the Wollongong City Council proposed federal tax incentives for investors in designated infrastructure bonds, and also floated the idea of a cooperative issuance vehicle.

A more embracing possibility is to extend the scope of the IFSV to Australasia via a regional arrangement with the Australian federal and state governments, perhaps within the Closer Economics Relations or common currency framework (Grimes et al. 2000).

This paper provides a scoping proposal, which aims to resolve problems relating to infrastructure financing and financial market development that are common to both sides of the Tasman. In raising these issues we hope to stimulate a policy discussion that will facilitate the development of alternative structures to meet these needs.

**Risk management**

With any long-dated bonds, risk management is a potential issue. But if the long-dated bonds are issued by the owner of the IFS, then lower interest rates would increase the economic value of the infrastructure concerned, compensating for marked-to-market losses on the debt. The equity component of the IFSV, which has very long duration, is a further buffer. Discussions with the New Zealand Debt Management Office (NZDMO) suggest that the government recognises the asset-matching duration argument.

As far as the IFSV itself is concerned, it will be holding long-dated assets (the underlying government stock) to offset long-dated liabilities to its investors. But because liquidity in New Zealand will not be all that high in this maturity band, the IFSV may have to supplement its asset portfolio with shorter dated stock. In principle, it could handle any resulting marked-to-market risk with bond futures, but New Zealand does not have an active bond futures market, though the physicals would then exist to underpin a long-dated forward swaps market. Another way to ensure that the IFSV has adequate depth and liquidity in its asset portfolio is to allow it to hold high-quality long-term offshore bonds.

**Note**


**References**


