Box A

The Bond–Overnight Index Swap Spread and Asset Scarcity in Government Bond Markets

Government bond yields are an indicator of overall financial conditions and provide a reference point against which many other interest rates are set. This can make them an important part of the monetary policy transmission mechanism in many economies, although to a lesser extent in Australia given the importance of the three-month bank bill swap rate to bank funding costs and lending rates. Typically, government bond yields reflect average expected policy interest rates over the term of the bond plus additional compensation for uncertainty about that path. The compensation that investors require for other risks, such as credit and liquidity risk, is typically low for advanced economy sovereign bonds given they are safe and liquid assets.

An overnight index swap (OIS) is a derivative contract where one party pays a fixed interest rate over the term of the contact (OIS rate) and receives a floating interest rate based on the (overnight) monetary policy rate, and the other party does the opposite. The fixed OIS rate reflects market expectations of the average policy rate over the term of the contract, and possibly also term and liquidity premia. As no principal is exchanged in an OIS, there is no compensation for credit risk embedded in OIS rates.

Since government bond yields and OIS rates are determined by similar factors, the spread between them is typically small and relatively stable. An exception to this is the period of positive spreads in Australia from around 2015, which may be associated with reduced demand to hold government bonds for liquidity purposes following the introduction of the Committed Liquidity Facility.[1] In 2020, the spread between bond yields and OIS rates returned to around zero alongside the sharp increase in Exchange Settlement balances and the Reserve Bank's unconventional policy measures.

The spread between government bond yields and OIS rates declined sharply in early 2022, at the same time as central banks in Australia and other advanced economies were raising policy rates rapidly (Graph A.1). While the current magnitude of the spread in most advanced economies is not unusual by historical standards, the fall in the spread means that changes in central banks' policy rates, and expectations for the policy rate, may not have fully passed through to other rates that use government bond yields as a benchmark. This could affect the strength of transmission to broader financial conditions in some economies.

This Box examines the factors that contributed to the spread between bond yields and OIS rates in a number of advanced economies, including Australia, over the past few years. In mid-to-late 2022, demand for short-dated government bonds increased amid heightened economic uncertainty and rising central bank policy rates. Investors substituted longer dated bonds and riskier assets for safe and liquid assets, which in turn put downwards pressure on short-dated government bond yields. In addition, this rise in demand for short-dated sovereign debt followed a period of central bank asset purchases that reduced the stock of government bonds available to the private sector (the so-called 'free float'). The combination of higher demand and a decline in the free float contributed to a 'scarcity premium' that put downward pressure on yields in some bond lines in a number of countries. More recently, the spread between bonds and OIS has narrowed in most economies.

Increased demand for safe and liquid assets put downward pressure on government bond yields

Demand for short-dated government bonds typically increases during periods of heightened policy rate uncertainty as investors look to increase holdings of safe and liquid assets and reduce interest rate risk. This puts downwards pressure on short-dated government bond yields relative to expected policy rates. This occurred in early 2022 when market uncertainty increased sharply as advanced economy central banks began raising policy rates rapidly and the outlook for the global economy became less certain. Russia's invasion of Ukraine in February 2022 and the UK mini-budget in September 2022 also contributed to higher bond price volatility, particularly in Europe.

The extra demand for safe assets in the face of such uncertainty is unlikely to extend to longer term bonds because investors tend to favour buying and holding shorter term securities to limit exposure to interest rate risk in an environment of rising interest rates. Long-term government bond prices are typically more volatile than short-term government bond prices; this is because, for a given change in yield, the price of a long-term bond moves more than for a short-term bond (Graph A.2).

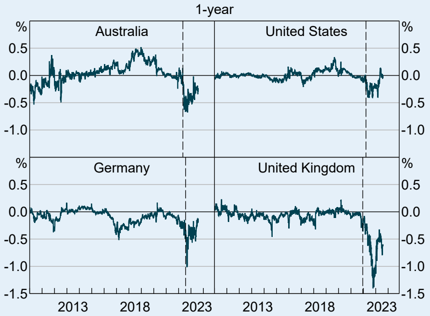
Meanwhile, central bank asset purchases reduced the supply of government bonds available to other market participants

During the COVID-19 pandemic, advanced economy central banks purchased significant quantities of government bonds, with net purchases continuing until either late 2021 or early 2022 in most economies. This activity reduced the stock of government bonds available to other market participants. In some cases, this contributed to a scarcity premium, as the scarcity of government bonds put additional downward pressure on

Graph A.1

Government Bond Yield Less OIS Rate*

1-year



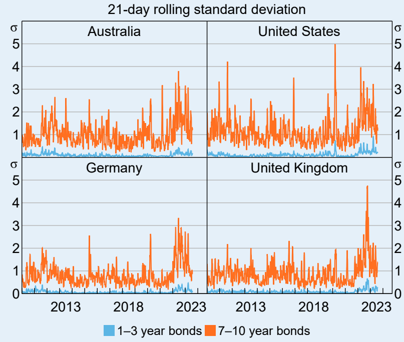
* Dashed lines correspond with first increase in policy rate.

Sources: Bloomberg; RBA.

Graph A.2

Government Bond Price Volatility

21-day rolling standard deviation



Source: ICE Data is used with permission.

the spread between bonds and OIS. The relatively larger free float in Australia – as well as the United States and Canada – compared with some European economies may help to explain why the spread between bonds and OIS did not decline as sharply in these countries (Graph A.3).

Central bank securities lending facilities can help to address the scarcity premium on particular bond lines by providing a backstop to access government bonds in high demand. Differences in the terms of these facilities appear to explain some of the variation in spreads between bonds and OIS across advanced economies. Demand for securities lending from the Reserve Bank has been concentrated on the bond lines with the lowest free float, and the Bank's lending of these bonds to the market has helped to reduce the scarcity premium and contribute to less-negative spreads between bonds and OIS. By contrast, more expensive borrowing costs and smaller limits on securities lending facilities are likely to have contributed to a more negative spread between bonds and OIS in some European economies.

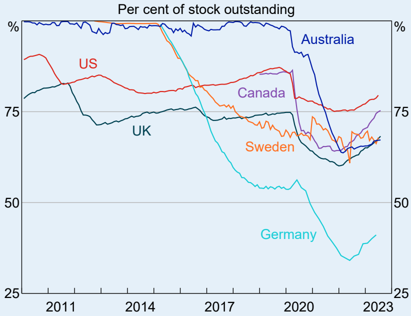
Spreads between government bond yields and OIS rates are likely to narrow in the period ahead

Some central banks and/or debt management authorities have taken steps to improve market functioning in a way that is likely to lead to a further narrowing in spreads between bonds and OIS back towards pre-pandemic levels. This includes providing targeted securities lending on scarce bond lines, such as the German Debt Management Office from October 2022, or pursuing active quantitative tightening and selling bonds, such as the Riksbank from early 2023. Moreover, volatility in government bond yields may decline as market expectations for policy rates stabilise and changes to policy rates become more modest. Finally, the free float of sovereign bonds will increase as quantitative tightening progresses (Graph A.4).[2]

Graph A.3

Sovereign Bond Free Float*

Per cent of stock outstanding



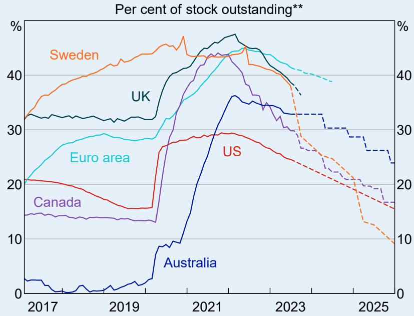
* Total outstanding issuance of central government marketable sovereign debt net of central bank holdings.

Sources: Central banks; debt management offices.

Graph A.4

Central Bank Government Bond Holdings*

Per cent of stock outstanding**



* Holdings include QE purchases as well as bonds held for operational or liquidity purposes except in euro area (QE purchases only) and the United Kingdom (excludes purchases for financial stability purposes). Projections represented by dashed lines.

** Projections use current outstanding stock.

Sources: Central banks; debt management offices; RBA; Refinitiv.

Endnotes

[1] The Committed Liquidity Facility was a commitment by the Bank to provide funds secured by high-quality collateral to certain authorised deposit-taking institutions in a period of liquidity stress. The Committed Liquidity Facility was introduced in 2015 to support Australia's implementation of the Basel III liquidity standard and ceased at the start of 2023 due to the improved availability of high-quality liquid assets to meet prudential liquidity requirements.

[2] As well as the projected reduction in outright central bank bond holdings, some sovereign bonds will re-enter the free float as collateral is returned from the unwinding of term funding schemes. However, sovereign bonds make up only a small proportion of the collateral pledged to these schemes, particularly in Australia.