

Box B

The Decline in Bond Yields and Inflation Expectations

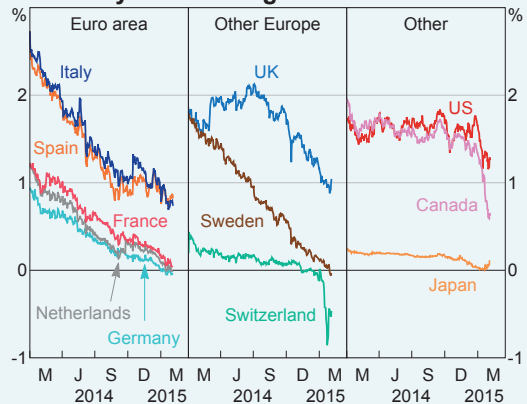
Yields on bonds issued by governments of developed economies have declined significantly over recent months across the whole yield curve. As a result, securities issued by a number of governments – among them Japan, most core euro area economies, as well as Sweden and Switzerland – have recently traded at negative yields for maturities up to five years (Graph B1). In total, around US\$7.6 trillion, or almost one-quarter of developed markets' sovereign debt, has recently traded with yields at or below zero. This includes almost half of Japanese sovereign debt and about two-thirds of German sovereign debt (Graph B2).

While the magnitude of these falls in sovereign bond yields is difficult to explain, the declines reflect developments in both supply and demand for such securities. On the supply side, government debt issuance in major economies (with the exception of Japan) has decreased over recent years as budget deficits have narrowed. For example, the German Government plans to issue only €26 billion of new debt in 2015, compared with €50 billion five years ago, while the supply of new US Treasury paper is expected to be less than half what it was five years earlier.

On the demand side, yields over shorter maturities are heavily influenced by expectations for central bank policy, and European yields have declined as the European Central Bank (ECB) has lowered its policy rate to zero. Yields on medium-term bonds in Europe and other economies have also been depressed by growing expectations that policy rates in these economies will remain close to zero for an extended period.

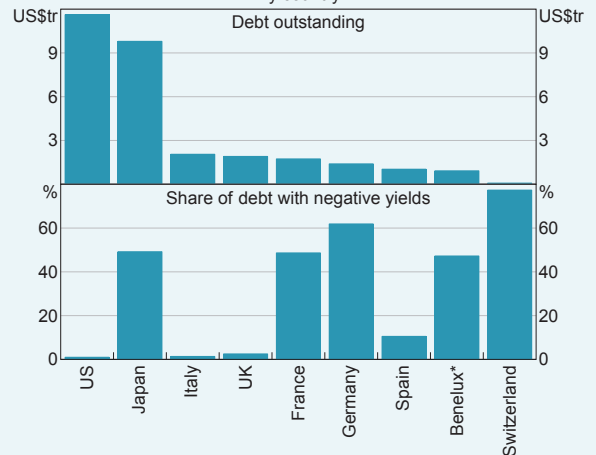
At longer maturities, demand for sovereign bonds has increased due to direct purchases of such bonds by the Bank of Japan and US Federal Reserve, and

Graph B1
5-year Sovereign Bond Yields



Source: Bloomberg

Graph B2
Central Government Bonds Outstanding
By country



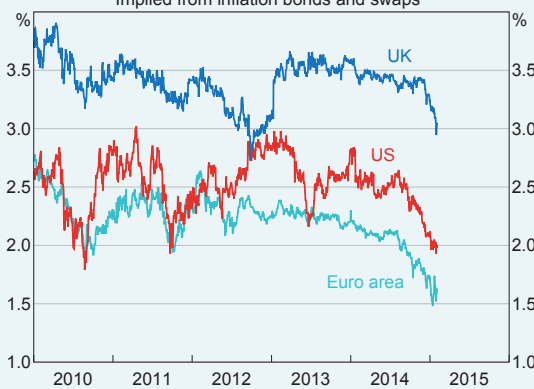
* Belgium, the Netherlands and Luxembourg

Sources: Bloomberg; RBA

expectations of such actions by the ECB. Partly reflecting this, term premiums – the compensation that investors receive for holding long-maturity bonds, rather than holding a series of equivalent short-maturity securities – have declined to around zero.

These influences have also depressed yields on inflation-linked bonds, which have turned negative in most developed economies. However, the declines in yields on nominal bonds have been larger, particularly in the United States and euro area. Accordingly, the compensation that owners of nominal bonds receive for inflation has fallen sharply since mid 2014. This is even true when considering long-term measures of inflation compensation, such as those calculated for a five-year period beginning five years from today (Graph B3). Indeed, the compensation that owners of long-term bonds now receive for inflation is lower than the relevant central banks' inflation target in some cases.¹ These falls in long-term inflation compensation have coincided with a sharp fall in the price of oil and a number of other commodities over the second half of last year, although this appears to explain only some of the recent falls in inflation compensation.

Graph B3
Long-term Inflation Expectations
 Implied from inflation bonds and swaps*



* 5-year, 5-year forward break-even inflation rates; US rate implied from bonds, while euro area and UK rates implied from swaps
 Sources: Bloomberg; Federal Reserve Bank of St. Louis; RBA

1 In the United States, inflation-linked bonds reference the consumer price index (CPI), which tends to grow by around half a percentage point faster than the personal consumption expenditure deflator that the Fed uses for its 2 per cent inflation target. In the United Kingdom, swaps reference the retail price index, which the Bank of England forecasts to grow around 1¼ per cent per annum faster than the CPI, the measure for its 2 per cent inflation target.

Inflation compensation is commonly used as a measure of inflation expectations. However, the fall in inflation compensation is at odds with survey-based measures of long-term inflation expectations for the United States, euro area and the United Kingdom, based on responses from market participants as well as economists and households, which have been relatively stable (Graph B4).² A possible reconciliation comes from the fact that measures of inflation compensation derived from bond markets reflect both expectations of future inflation and a premium to compensate investors for the risk that realised inflation may deviate from these expectations. Given this, it is possible that the fall in inflation compensation implied by bond yields largely reflects a fall in the premium investors demand for exposing themselves to any given level of inflation risk, rather than a fall in these investors' central expectation for inflation. Unfortunately, it is not possible to accurately disentangle these two components with available data and so it is not entirely clear why bond yields have fallen to the extent they have. ↗

Graph B4
Survey Measures of Inflation Expectations
 Expected annual inflation



* Over next ten years
 ** Five years from survey date
 *** Over next five years

Sources: Bank of England; European Central Bank; Federal Reserve Bank of New York; Federal Reserve Bank of Philadelphia; University of Michigan

2 Inflation expectations in Japan have been rising, though measures of inflation compensation have still declined recently.

