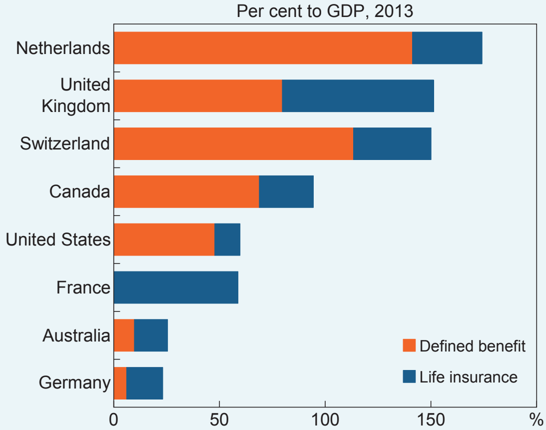
Box A

Effects of Low Yields on Life Insurers and Pension Funds

Life insurance firms and defined benefit pension funds are important participants in the global financial system. They provide insurance against mortality risks and help fund retirements, as well as channelling significant funding to banks, corporates and governments. Their combined assets of around US$23 trillion in Organisation for Economic Co-operation and Development (OECD) economies as at 2013 represented around 8 per cent of total financial assets of financial firms in these countries.

This box outlines the effects of the low-yield environment that has prevailed since the financial crisis on the life insurance and defined benefit pension fund industries and the measures that some firms have taken in response. Australia is less affected than some other countries because these sectors are small here (Graph A1).

Graph A1
Financial Sector Assets
Per cent to GDP, 2013

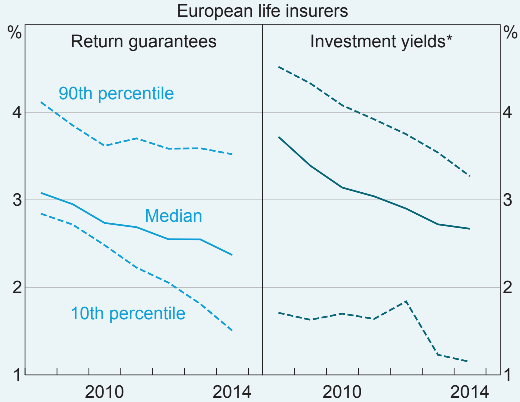


Sources: APRA; BIS; OECD; RBA

Impact of Low Interest Rates

Low interest rates can present challenges for life insurance firms and defined benefit pension funds if they had previously offered to pay guaranteed benefits to policyholders based on the higher interest rates, and hence asset yields, prevailing at the time. Recent data suggest there are some European life insurers whose return guarantees to policyholders now exceed their own investment returns (Graph A2).

Graph A2
Return Guarantees and Investment Yields
European life insurers



* Based on a sample of 43 European life insurance companies

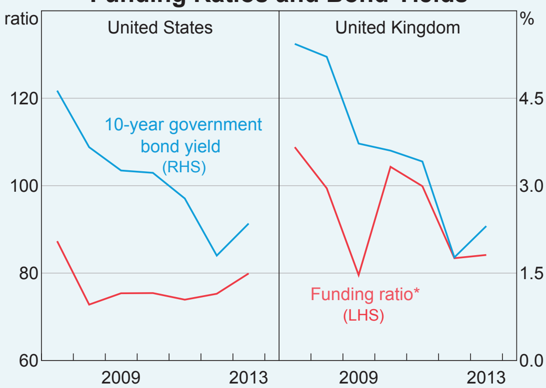
Sources: European Insurance and Occupational Pensions Authority; SNL Financial

These promised benefits – which represent liabilities on pension funds' and life insurers' balance sheets – are typically expected to become payable long into the future, with maturities that are much longer than those of many financial assets. The resulting maturity gap has meant that the decline in interest rates following the financial crisis often increased the present value of these firms' liabilities by more than the present value of their assets;

the ratio of the two, termed the 'funding ratio', has therefore tended to decline. Other factors have probably exacerbated this effect, including increased longevity and reduced policy 'surrenders' (cancellations) that have lengthened the duration of liabilities, and regulatory changes that have required greater use of market interest rates when calculating assets and liabilities.[1]

Funding ratios for defined benefit pension funds in the United States and the United Kingdom illustrate some of these concerns. With the onset of the financial crisis, these ratios fell sharply (Graph A3), driven by falls in equity prices. Since then, funding ratios in these countries have generally remained below 100 per cent, weighed down by declining interest rates. Funding ratios below 100 per cent typically indicate underfunding and, if persistent, can signal that business models need to change to ensure that liabilities can be met when they fall due.

Graph A3
Defined Benefit Pension Funding Ratios and Bond Yields



* Ratio of the present value of assets to liabilities. US data includes private and publicly funded occupational pensions; UK data includes privately managed occupational pensions

Sources: European Insurance and Occupational Pensions Authority; Federal Reserve Board; RBA

In other jurisdictions where data are available, funding ratios for defined benefit pension funds remain lower than before the crisis but have generally remained above 100 per cent, in some cases because regulation requires this.[2] That said, aggregate funding ratios can disguise funding challenges at individual funds and in many cases are not directly comparable across countries.

Changes in Business Models in Response to Lower Interest Rates

In response to the persistent low-yield environment and the associated pressures on their funding ratios and cash flows, life insurance firms and defined benefit pension funds have altered their business models significantly. Sponsors of some defined benefit pension plans are reported to have increased age and contribution requirements for current and future employees, reduced benefit promises for new employees (including closing defined benefit plans) and, in some cases, sold pension liabilities to third parties. Insurance firms have made efforts to improve operating efficiency, increased offshore investments and expanded offerings of flexible return guarantee products and protection policies that do not entail interest rate risks.

Firms in both industries have also adjusted their asset allocations in response to the low-yield environment. Aggregate data indicate that investment in fixed income assets has increased, equity allocations have fallen and bond durations have been lengthened to reduce duration gaps.[3] There has also been evidence of 'search for yield', with some institutions increasing allocations to lower-rated securities (Graph A4) and alternative investments, such as private equity and real estate. These shifts in asset allocation may have increased expected returns at the cost of greater exposure to credit risk, liquidity risk and asset price volatility.

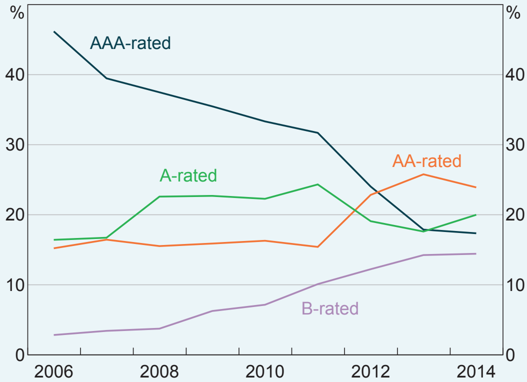
1 In addition, existing maturity gaps tend to widen as yields fall because of 'negative convexity' effects. For more details, see Domanski D, Shin H S and Sushko V (2015), 'The Hunt for Duration: Not Waving But Drowning?', BIS Working Paper No. 519.

2 For example, in the Netherlands the minimum funding ratio is 105 per cent.

3 Japan is a notable exception to this trend, with government policy resulting in increasing equity allocations in public pension funds.

Graph A4
Life Insurers' Assets by Credit Rating

Share of total assets bearing credit risk, median*



* Based on a sample of 42 European life insurance companies

Source: SNL Financial

Financial Stability Considerations

Insurance firms and pension funds promote financial stability because they have long investment horizons and fund themselves with premium contributions, which are less susceptible to bank-style runs and associated asset 'fire sales'.[4] Nonetheless, their large size, concentration and interconnectedness within the broader financial system mean that problems with these institutions could still pose risks to financial system stability.

Funding problems with defined-benefit pension funds can be transferred onto sponsors, such as corporate entities and governments. For corporations, this risk potentially creates a heightened level of uncertainty about funding their regular business operations, distracts management from their core responsibilities and can raise firms' costs of capital. For governments, which can include state and municipal authorities, defined benefit pension funding shortfalls could place additional pressure on budgets. If this was to occur during a time of reduced revenues, it could narrow the scope for counter-cyclical fiscal policies.

More generally, problems at insurance firms and pension funds could harm confidence if a significant share of the population became concerned about the security of their wealth held in these institutions. That said, such risks are mitigated in some jurisdictions by insurance mechanisms that protect policyholders if a life insurance firm or defined benefit pension plan should fail.[5] For example, seven small and mid-sized Japanese life insurance firms failed between 1997 and 2008 because low interest rates, combined with declines in equity and real estate prices, rendered them unable to meet return promises. However, these failures had little effect on broader financial stability. These firms were resolved in an orderly manner with support from policyholder protection schemes, although return promises had to be lowered and policy surrenders were suspended for a time.

Life insurance firms and defined benefit pension funds have adjusted their business models in recent years, increasing their resilience to low yields. And life insurers have generally remained profitable, in part because capital gains on existing asset holdings partly offset lower interest income. Nevertheless, pressure from the low interest rate environment and other structural forces, such as increasing longevity, remain. Firm managers and regulators need to ensure that funding positions are resilient to a range of possible future interest rate scenarios.

4 Life insurance products can be subject to liquidity risk through policyholders exercising their surrender option. Historically, large-scale policy surrenders have not occurred when interest rates have increased, but have occurred in some situations in which the parent entity was near failure.

5 In Australia, the Financial Claims Scheme provides a form of insurance cover for general insurance policyholders in the event of an insurance firm insolvency. However, there is no formal scheme in place to protect life insurance policyholders.