

## **E PHILIP DAVIS – WRITTEN EVIDENCE (QEI0019)**

### **QUANTITATIVE EASING INQUIRY**

#### Note on the issues for pension funds arising from Quantitative Easing

Low long term interest rates are an established trend worldwide, reflecting trends such as low productivity growth and low inflation (OECD 2015). They may also have been further reduced by Quantitative Easing. Note however, as shown in Chart 1, that the decline in long rates precedes QE (which took place from 2009 onwards) although further declines did take place thereafter.

Low long term interest rates affect defined benefit pension funds as they reduce the discount rate on liabilities, which are boosted as long rates fall. See Chart 2 which is based on Dutch, UK, and US defined-benefit pensions with \$5.5 trillion in assets as of 2019:Q1. This shows a rise of 40% in liabilities over 2013-19, with a close relation to the long term interest rate (bearing in mind that longevity and wage growth also affect liabilities).

On the asset side, lower yields raise the value of bonds also but typically less so than liabilities due to shorter duration. Also this maturity mismatch entails reinvestment risk.

This overall pattern has led to solvency issues for defined benefit funds, reflected in deficits (see Chart 3). Note however that these problems predate QE which began in 2009. These problems will be aggravated going forwards if wage growth exceeds returns (wage growth has tended to fall less than long rates). An offsetting benefit may be to reduce credit risk as companies in which funds invest will benefit from lower interest rates on their debts.

IFRS accounting standards require deficits to be measured at market (fair) value, discounted by a corporate bond yield and put on balance sheets – thus putting a focus on interest rate risk. Firms wish to avoid risks of (further) deficits in case interest rates change. That focus on interest rate risk may shorten time horizons and limit investment in illiquid assets.

Our understanding is that IFRS requires to discount the projected outflows with a single “high-grade corporate bond rate”, such as yields of available, long term AA rated corporate bonds. Such bond yields are affected by QE. Firms that sponsor defined benefit pension funds are much more averse to deficits since IFRS as they now affect balance sheets, which can affect credit ratings, share values and hence stock option values.

Following the point on interest rate risk, there is a common pattern of a rising share of bonds, as funds seek to match assets and liabilities. This implies funds may be more affected by QE on the asset side than would otherwise be the case. Besides the influence of accounting standards, the shift to bonds reflects the tightening of solvency regulation (where bonds are less volatile and likely to generate deficits in times of market volatility) and growing maturity of funds (where a preponderance of elderly members entails shorter term liabilities) as

well as concern over volatility of equities. It implies a large impact of low long term interest rates on asset returns, as reinvestment takes place. The shift to bonds has occurred despite a shift in a number of countries from “portfolio restrictions” to “prudent person” rule for asset allocation which allow greater freedom to invest in capital uncertain assets. (The UK has of course established “prudent person” rules over many decades.)

In this context, research on UK pension funds suggests that in the early stages of QE, funds shifted within bonds from nominal government bonds to index linked and corporate bonds (Joyce et al 2017).

There is a countervailing risk that pension funds are seeking to invest in high-risk assets going forward to obtain required rate of return in context of low long rates and the shift to bonds (see IMF (2017) for the incentives). There is indeed some evidence of a “search for yield” (leveraged alternative assets, structured products, private equity, derivatives) see IMF (2019) and Chart 4, based on asset allocation data of 700 of the largest pension funds, representing \$13 trillion in assets.

Possible solutions to issues for defined benefit funds arising from low long term interest rates can include increasing duration of assets to match liabilities, if longer duration assets are available, renegotiating promises, adjusting existing contracts, increasing contributions/“topping up”, and regulatory forbearance for deficits till rates “renormalise”.

Owing to these problems as well as issues of rising longevity and tighter solvency rules, defined benefit funds are increasingly likely to be closed to new members and/or accruals. Risk may be transferred to insurers after recapitalisation (IMF 2017).

These patterns also affect defined contribution funds as for the same reasons, low long term rates reduce the pension that individuals receive from a given contribution rate. Annuities that desirably provide a hedge against longevity risk for the individual become more expensive with lower long term interest rates and individuals who avoid them and try to undertake so-called “drawdown” are vulnerable to market risk (especially if they invest in equities) and longevity risk in retirement (running out of funds).

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## References

Joyce M A S, Liu A S and Tonks ! (2017) "Institutional Investors and the QE Portfolio Balance Channel", Journal of money, credit and banking, 09/2017, Volume 49, Issue 6

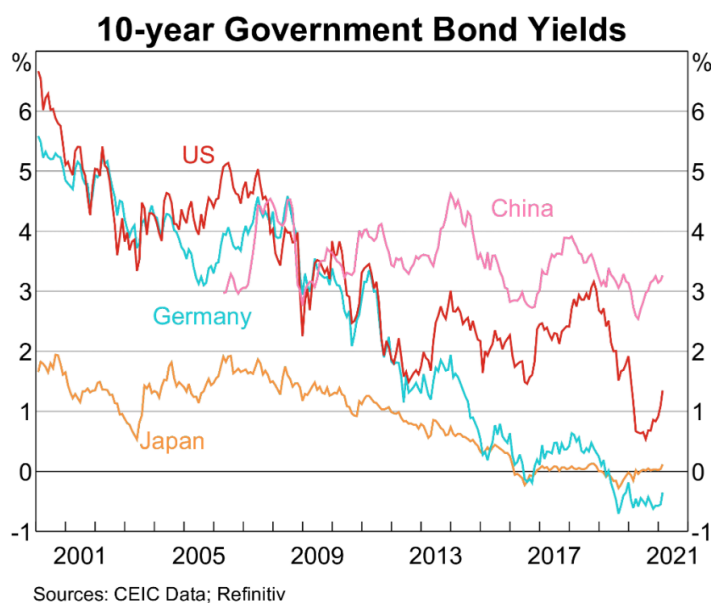
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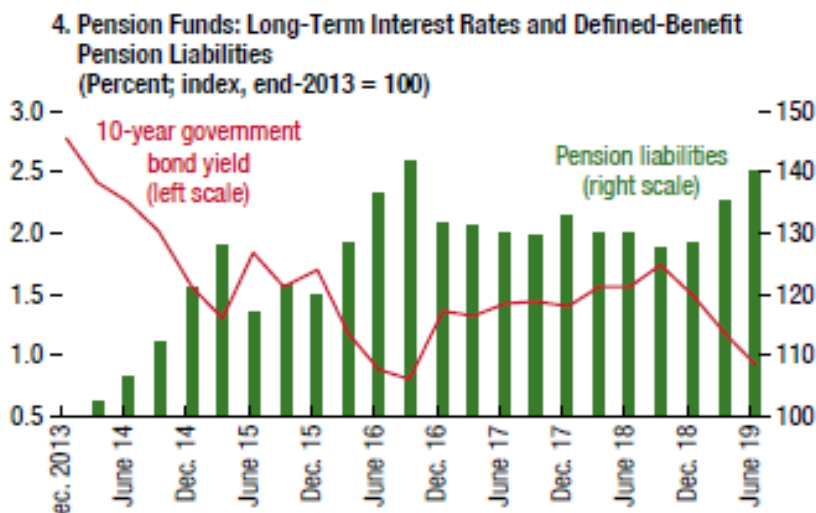
IMF (2017), "Global financial stability report, April 2017", International Monetary Fund

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**CHART 1 (source; Reserve Bank of Australia website)**



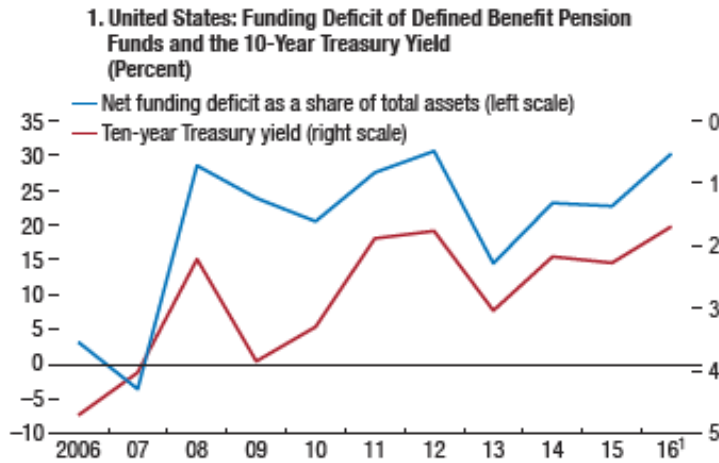
**CHART 2 (source; IMF (2019))**



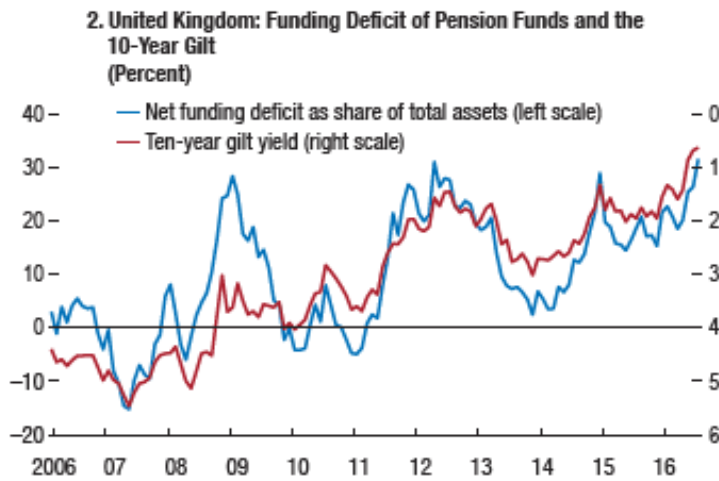
### CHART 3: (Source; IMF (2016))

**Figure 1.21. Pension Funding Shortfalls in the United States and the United Kingdom**

The funding gaps of the U.S. and the U.K. pension funds have risen, reflecting the impact of lower interest rates on future pension obligations.

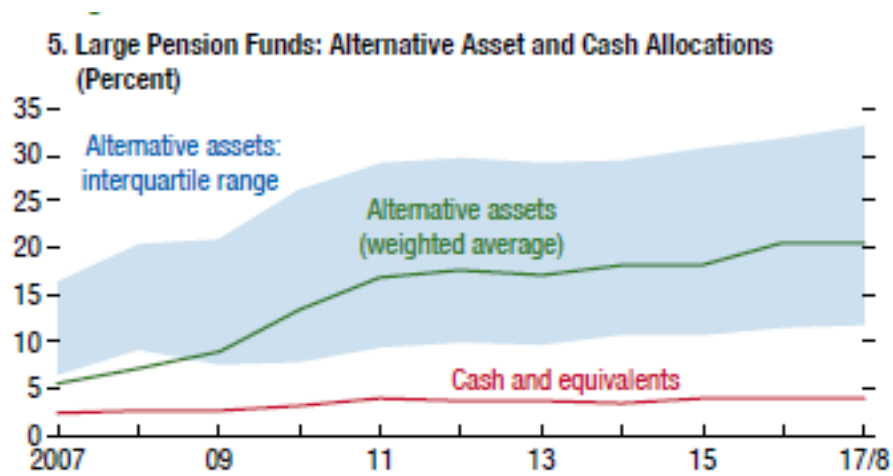


Sources: Bloomberg L.P.; Bank of America Merrill Lynch; and IMF staff calculations.  
 Note: Top 100 firms in the Standard & Poor's 500. The positive values are below the zero line for the right scale.  
<sup>1</sup>Bank of America Merrill Lynch estimate.



Sources: Bloomberg L.P.; Pension Protection Fund; and IMF staff calculations.  
 Note: The positive values are below the zero line for the right scale.

**CHART 4: (Source; IMF (2019))**



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