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Key market themes and implications for defined benefit pension liability risk management

27 September 2016



Interest rate market update

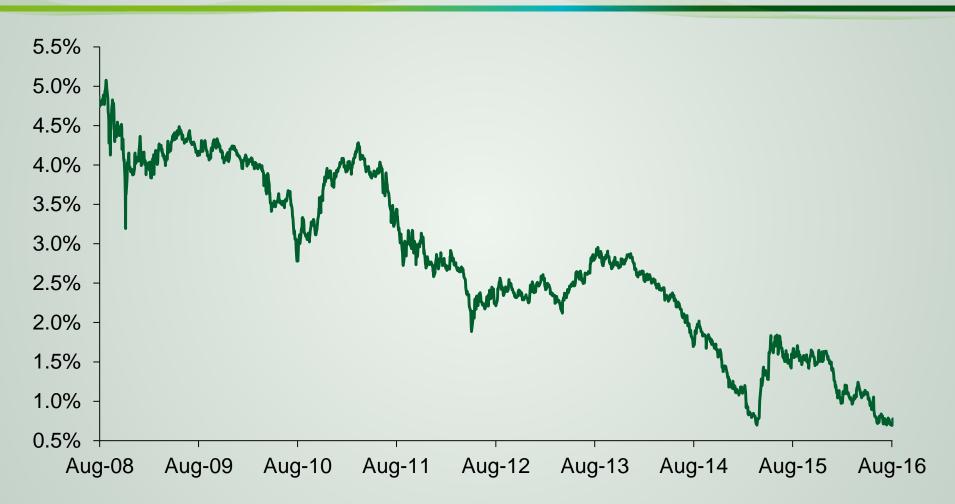
David Jamieson

Senior Market Strategist, Financial Solutions Group



20 year European interest rate swaps





Source: Bloomberg. Data as at 31 August 2016.

20 year global rates

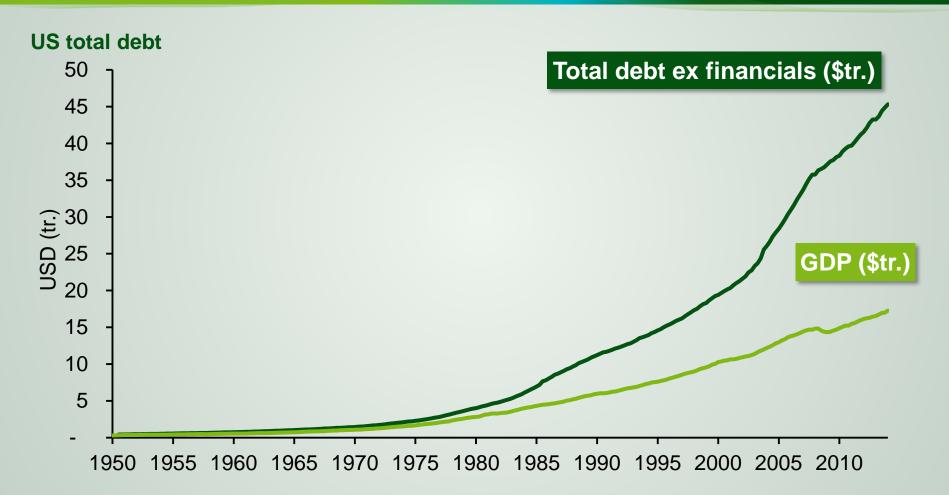




Source: Bloomberg. Data as at 31 August 2016.

Debt saturation

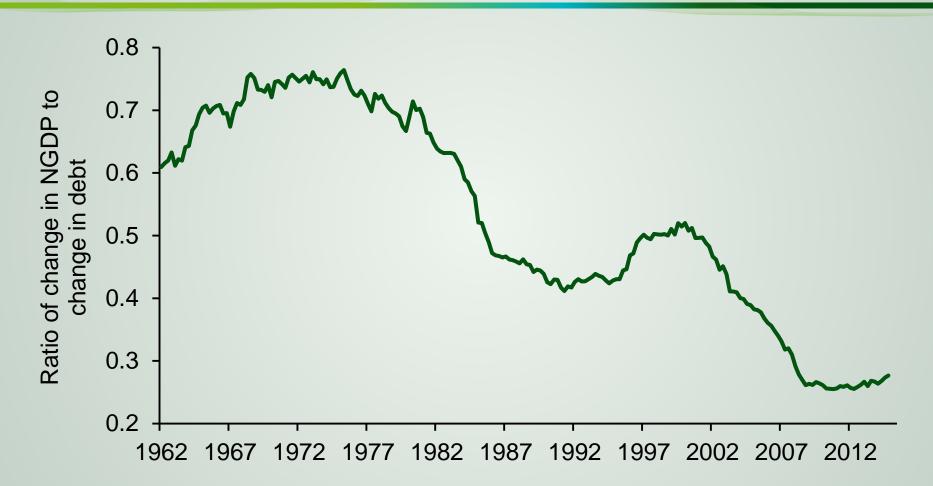




Source: Datastream and Insight. Data as at December 2015.

US debt productivity

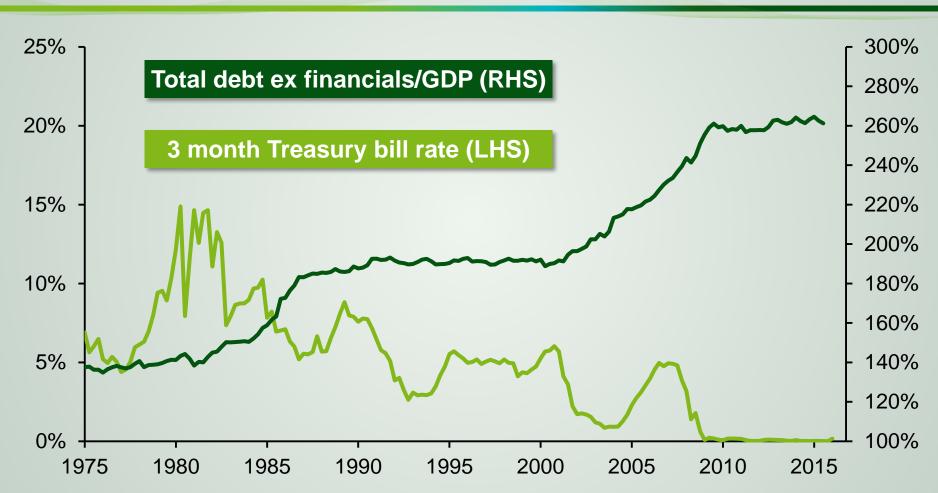




Source: Datastream and Insight. Data as at December 2015.

US debt and short-term rates





Source: Datastream and Insight. Data as at December 2015.

Interest rate levels

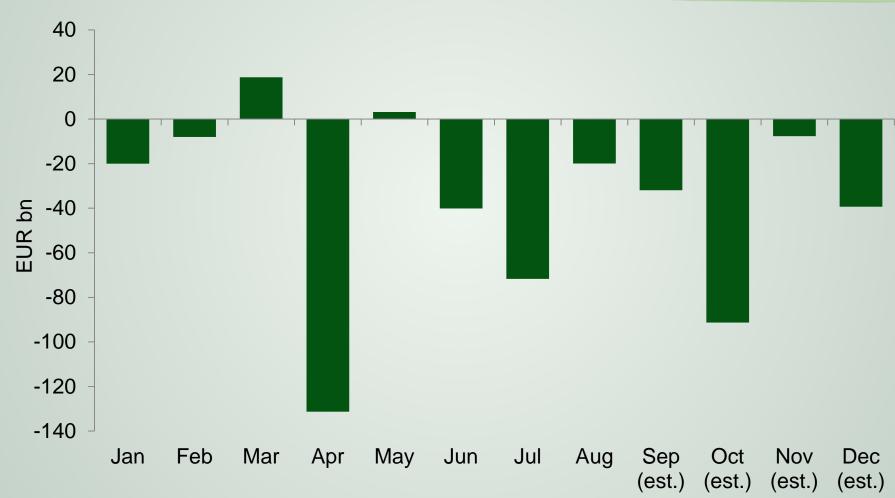


Country	3 months	2 years	5 years	10 years	20 years
Germany	-0.82	-0.63	-0.50	-0.07	0.27
France	-0.58	-0.59	-0.39	0.18	0.79
Netherlands	-0.63	-0.61	-0.43	0.04	0.35
Denmark	-0.69	-0.57	-0.35	0.02	0.50
Italy	-0.36	-0.09	0.25	1.14	1.80
Sweden	-0.75	-0.65	-0.36	0.10	0.90
Switzerland	-1.05	-0.95	-0.81	-0.50	-0.19
Japan	-0.25	-0.20	-0.18	-0.07	0.34
UK	0.23	0.14	0.21	0.64	1.14
US	0.33	0.81	1.20	1.58	1.93

Source: Reuters. Data as at 31 August 2016.

2016 European net bond supply

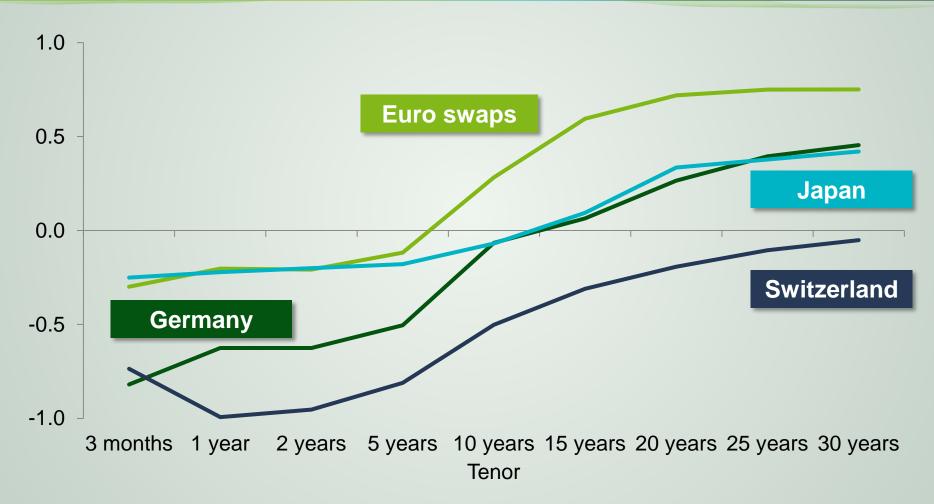




Source: BAML. Data as at 16 September 2016.

'Japanification' of European interest rates





Source: Bloomberg. Data as at 16 September 2016.

Persistently low rates are bad too





Source: Bloomberg. Data as at 31 August 2016. 1 year carry is PV weighted.

A question of risk management





Source: Pension Protection Fund, 7800 index. Data as at 31 July 2016.

Implications for defined benefit (DB) pension liability risk management

Serkan Bektas Head of Client Solutions Group



Key pension risk management trends



DB pension risk management demand remains high and growing

- Interest rate and inflation risk management
- Equity risk management
- Currency risk management
- Synthetic exposures
- Longevity risk management

Affordability of liability hedging is a key consideration, especially for pension schemes that are yet to commence liability hedging programmes

- Trigger programmes to manage the pace of implementation
- Instrument and maturity selection as a way to enhance affordability
- Replacing passive physical investments with synthetic alternatives to provide flexibility and enhance return
- Use of options to cheapen liability hedges and/or provide downside partial protection

Size and timing of liability hedge implementation



Ensure hedge size is consistent with downside risk appetite and the overall funding plan

Treatment of hedges under MFS can be a potential consideration

- Hedging of pensioner liabilities as a potential starting point
- Deferred and active liability hedging subject to consideration of long term implications versus
 MFS

Triggers may be used to guide the pace of implementation

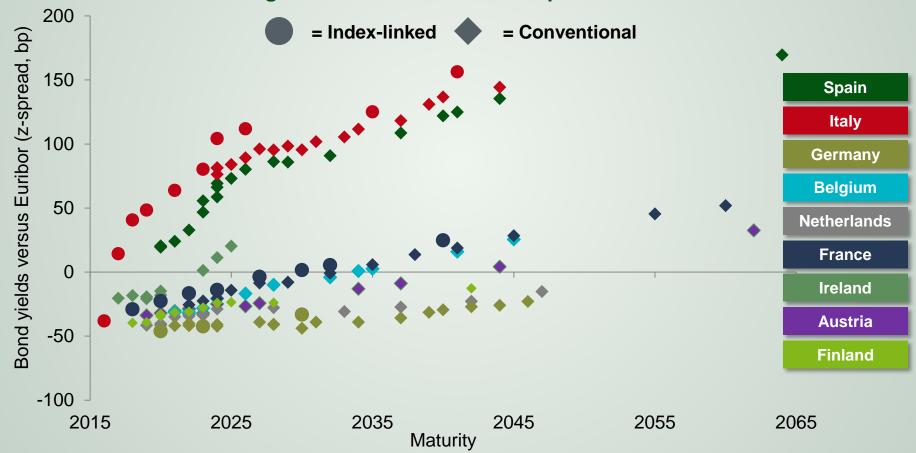
- Market level or funding level triggers to implement or vary pace of hedging
- Alternatively or in addition, time-based triggers, to ensure some minimum hedging is implemented over time

Use of overlays to ensure hedge profile matches liabilities

Instrument selection: government bond versus swap hedges





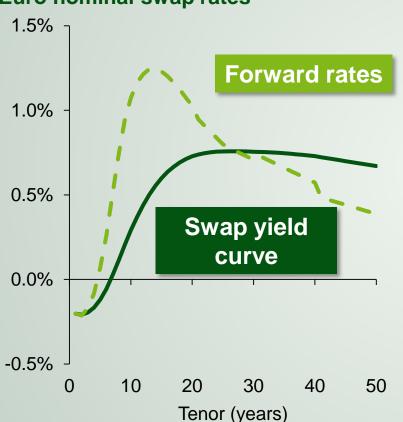


Source: Bloomberg. Data as at 2 September 2016.

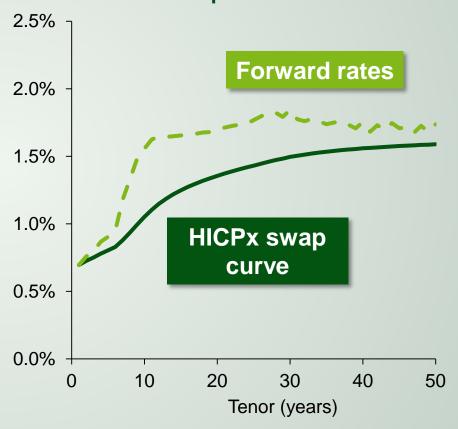
Maturity selection: prioritising hedging of more attractive segments of interest rate and inflation markets







Inflation HICPx swap rates

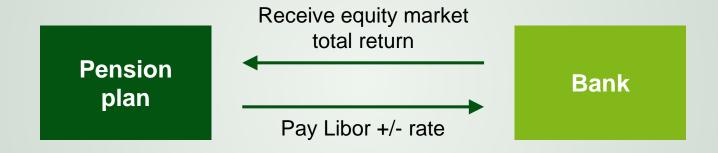


Source: Bloomberg. Data as at 31 August 2016.

Synthetic exposures to replace passive physical portfolios



Establishment of a risk management programme, derivative documentation and collateral agreements enables access to synthetic exposures



If desired, physical investments in passive equities and credit may be efficiently replaced with derivative exposures to market indices, with the cash released enabling greater flexibility across the portfolio

Illustrative option strategies



- Options, when used with care, can enable efficient strategy implementation
- Use of options for downside risk management of return portfolios is a tried and tested approach
- In addition, options may be used in liability risk management context. For example,
 - if a decision is made to hedge liabilities when rates increase, sell an option to enter into the liability hedge at a pre-agreed (higher) interest rate
 - the reverse can also be implemented (reduce the size of a liability hedge if rates decline below a certain level) but, in practice, this is rare

Concluding remarks



- All strategies described in this presentation are illustrative and for discussion purposes only
- All risk management solutions should be coherent with your funding plan and strategic objectives
- There is lots of relevant detail: legal documents, collateral, counterparty risks being examples of some
- Effective engagement with your investment, actuarial and legal advisers is key to the design of your risk management solution

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