



Institute  
and Faculty  
of Actuaries

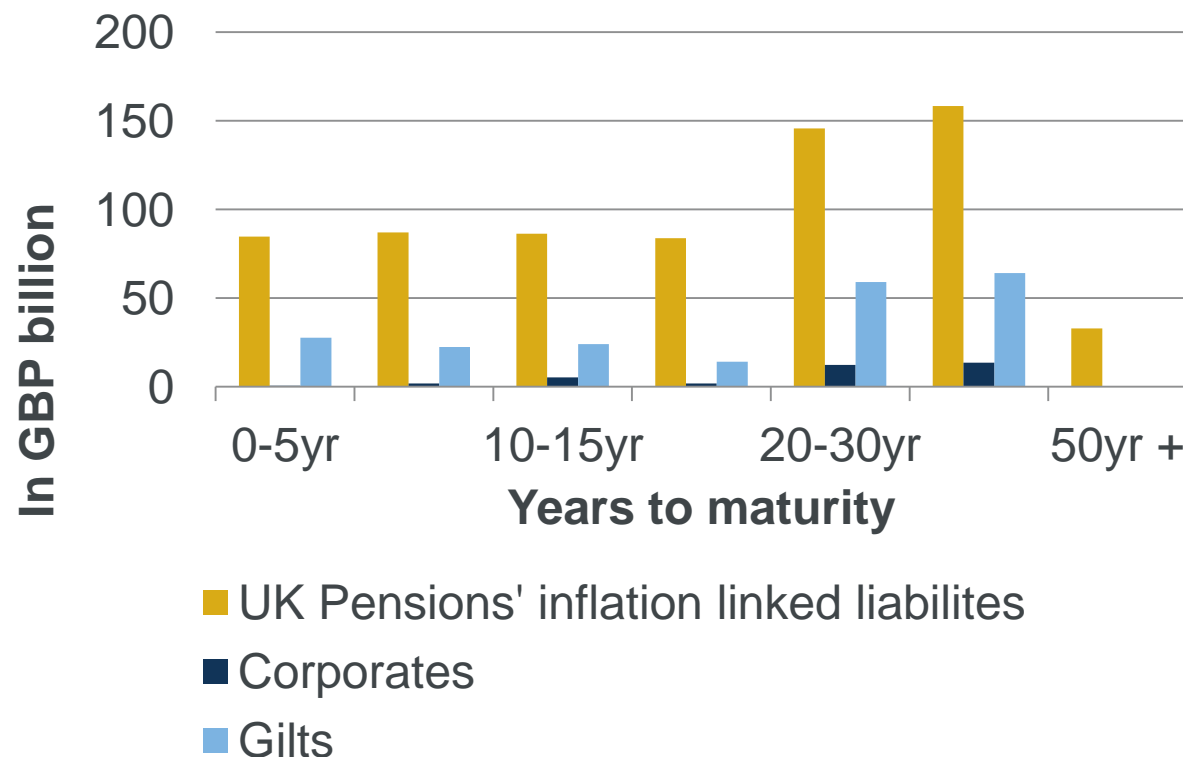
# Alternative Inflation Hedging Investments

David Bennett



# The Need For An Alternative: Strong Demand for 'Traditional' Inflation-Hedging

- Based on data published by The Pension Protection Fund in November 2012, UK defined benefit total liabilities last year amounted to c. £1.2trn
- 56% of these liabilities are inflation-linked
- In total, this amount is about three times the total size of the UK index-linked bond market

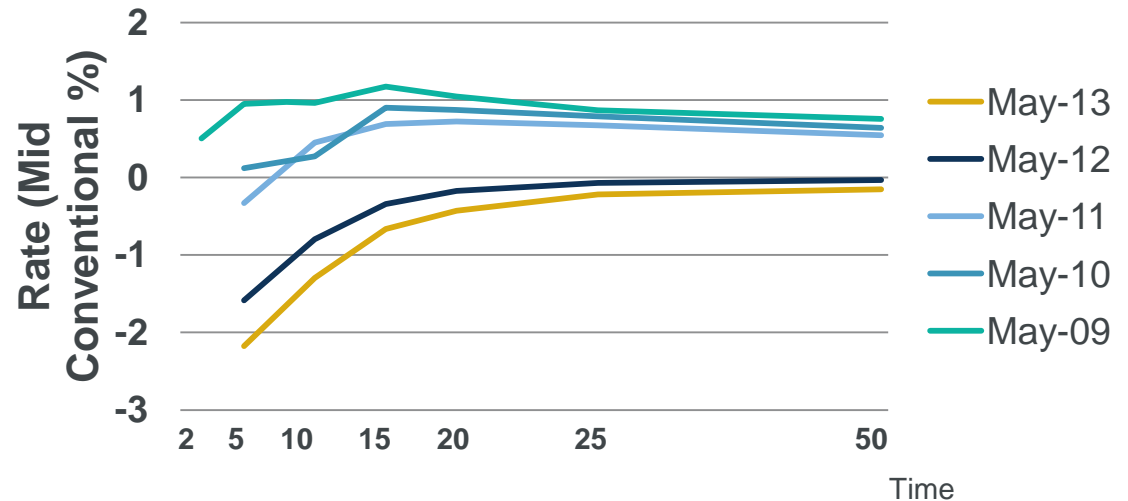


Source: Bloomberg, PPF, Redington

# Index-Linked Gilts

- Primary source of inflation
- ca. £280bn inflation-adjusted notional of index-linked gilts
- ca. £32bn of corporate linkers
- Yields have been moving steadily more negative in recent years
- Accessing real yields through index-linked gilts is therefore unattractive

## Change in Yield on Index-Linked Gilts



## Results of Recent Index-Linked Gilt Auctions

| Auction Date | Maturity | Issuance (£m) | Yield  | Times Covered |
|--------------|----------|---------------|--------|---------------|
| May-13       | 2044     | 1172          | -0.23% | 1.84          |
| Apr-13       | 2029     | 1385          | -0.64% | 1.51          |
| Apr-13       | 2024     | 1624          | -1.26% | 1.86          |
| Mar-13       | 2044     | 990           | -0.03% | 2.02          |
| Feb-13       | 2024     | 1104          | -0.84% | 1.97          |

Source: Bloomberg, PPF, Redington



Institute  
and Faculty  
of Actuaries

# Inflation-Linked Corporate Bonds

- Issuers of inflation-linked bonds typically come from a relatively restricted set of market sectors, typically with earnings linked to inflation
- Dominant issuer: Network Rail – explicit UK government guarantee.
- Peak of c. £5.5bn issuance in 2006
- Less than £2bn of UK corporate index-linked debt with over 35 years to maturity in 2011 and 2012 combined
- Major constraint on growth within the market has been a lack of liquidity

Source: UK Debt Management Office

## 10 Largest UK Inflation-Linked Bond Issuers

| Issuer                      | Average maturity | Size (£ bn) | % Corporate IL Issuance |
|-----------------------------|------------------|-------------|-------------------------|
| Network Rail Infrastructure | 32               | 12          | 33%                     |
| National Grid Gas Plc       | 26               | 2           | 6%                      |
| Anglian Water               | 32               | 1           | 4%                      |
| National Grid               | 21               | 1           | 4%                      |
| United Utility              | 35               | 1           | 4%                      |
| Thames Water                | 37               | 1           | 4%                      |
| Severn Trent                | 40               | 1           | 2%                      |
| Channel Link                | 30               | 1           | 2%                      |
| Yorkshire Water             | 41               | 1           | 2%                      |
| Tesco Plc                   | 13               | 1           | 2%                      |
| <b>10 Largest Combined</b>  |                  |             | <b>63%</b>              |



Institute  
and Faculty  
of Actuaries

# The Need for an Alternative: Inflation Swaps

- The total capacity of the RPI swap market is estimated to be c. £100bn notional<sup>1</sup>
- Demand for inflation from pension schemes and insurance companies has been sustained
- Supply of inflation has been limited
- Supply from sources such as commercial mortgage backed securities and PFI deals has dried up
- Only significant sources of supply remaining are index-linked gilt asset swaps
- Banks are also increasingly unwilling to warehouse risk due to regulatory changes

## Inflation Swap Market Dynamics:

### Supply:

- Governments
- Corporates (e.g. utilities, PFI)



### Banks

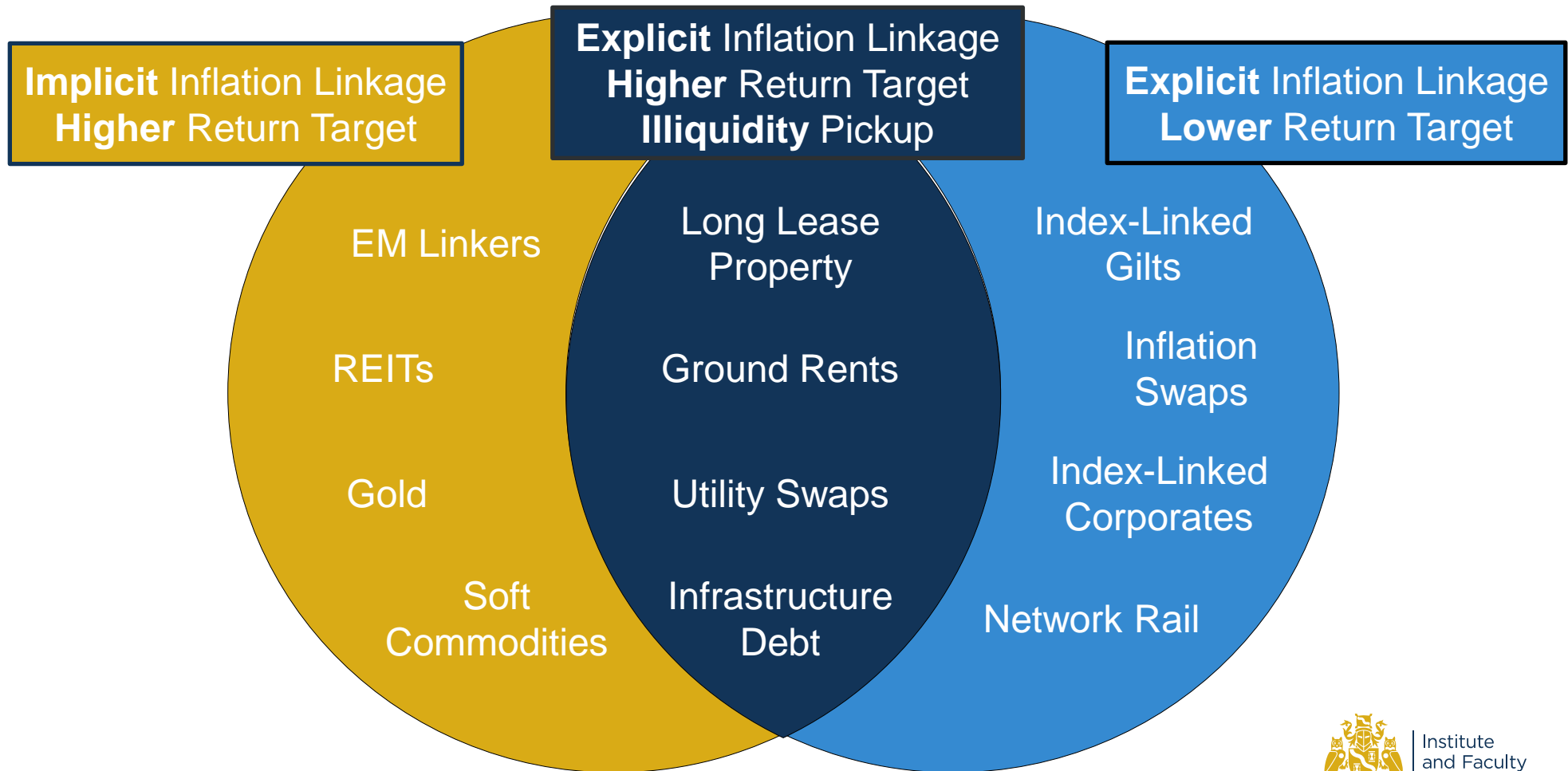


### Demand:

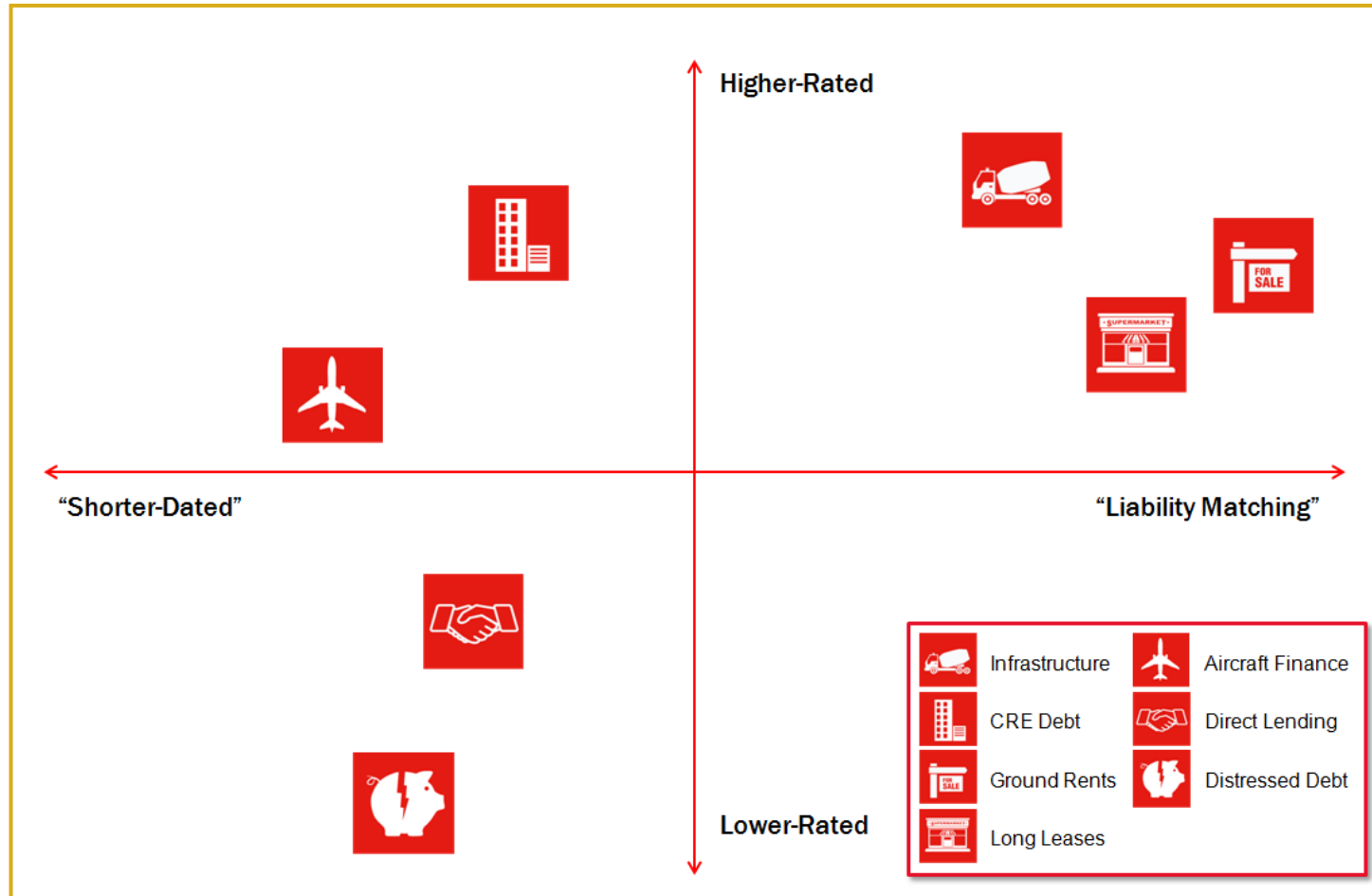
- Pension Funds
- Insurers
- Retail Banks

<sup>1</sup> Source: Barclays Research

# “Inflation-Linked Assets”: The Available Universe

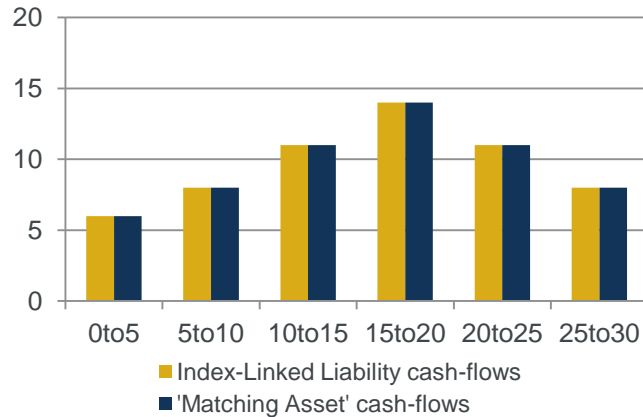


# Alternative Assets: The Available Universe

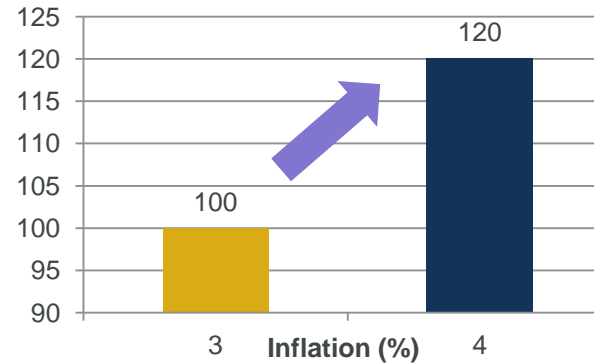


# “Inflation-Linked Assets”: Liability Matching

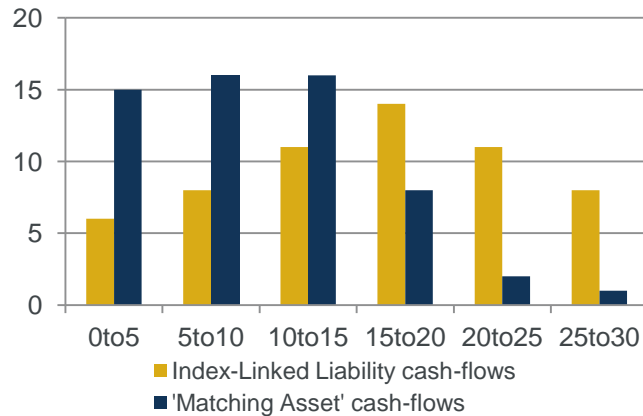
Index-Linked Liabilities and ‘Matching Asset’ cash-flows – ideal scenario



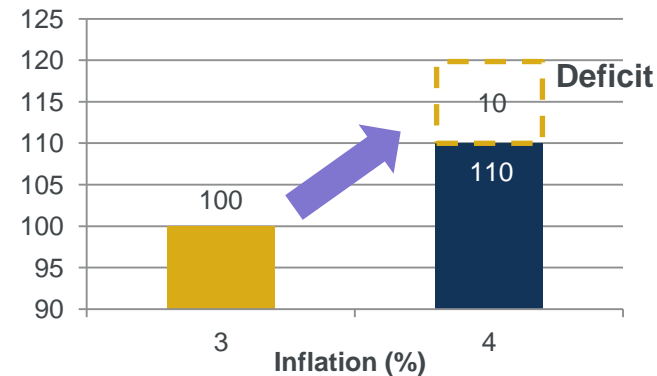
Index-Linked liabilities, Duration 20 years



Index-Linked Liabilities and ‘Matching Asset’ cash-flows – duration mis-match



Matching Asset, Duration 10 years



Institute  
and Faculty  
of Actuaries

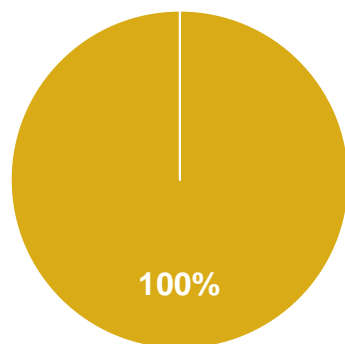


# “Inflation-Linked Assets”: Collateral Drag

Pension Fund X has £100 million to invest, requiring a return of Libor + 250bps and an inflation hedge. The scheme has two options:



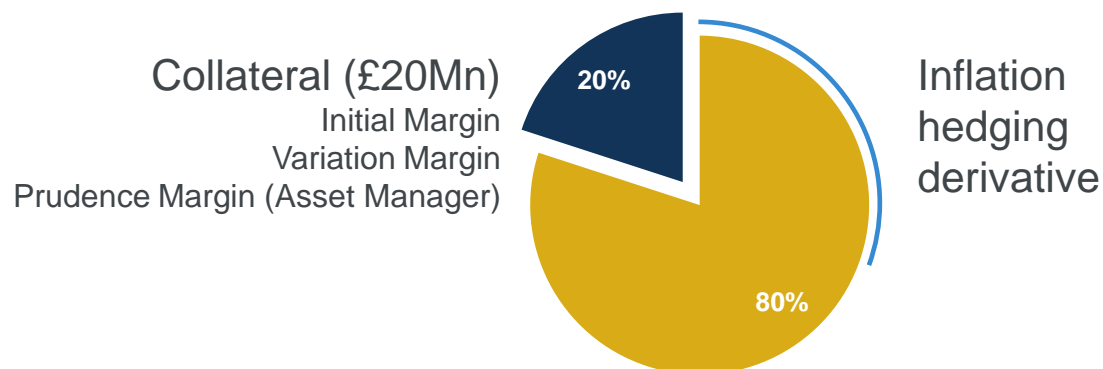
Matching Asset (£100Mn)  
Expected Return: **Libor + 250**



Overall Expected Return: **Libor + 250**



Matching Asset (£80Mn)  
Expected Return: **Libor + 312.5**

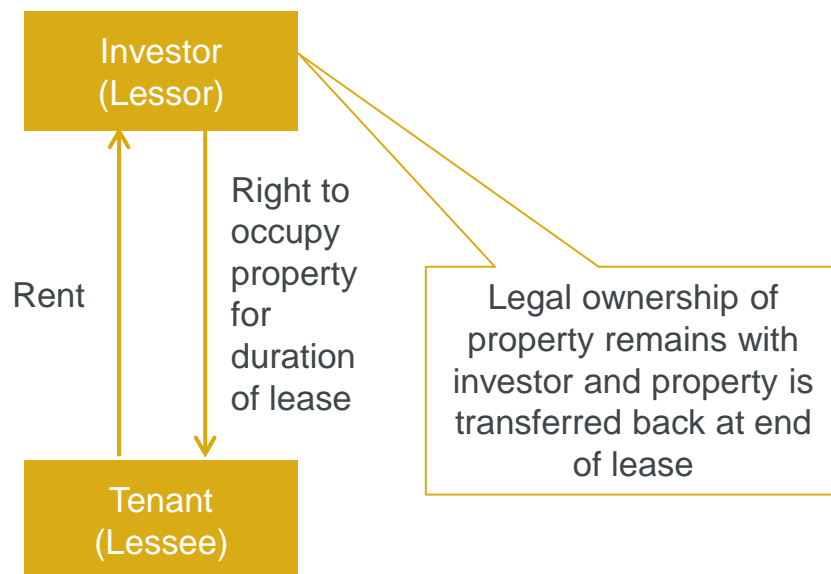


Overall Expected Return: **Libor + 250**

**N.B.** Collateral drag effect only occurs if collateral needs require the scheme to sell return seeking assets that were a part of the strategic asset allocation.

# Real Estate Long Leases

|                                                |                           |
|------------------------------------------------|---------------------------|
| <b>Maturity Profile</b>                        | <b>20 years +</b>         |
| <b>Liquid Alternative</b>                      | <b>20-Year Tesco Bond</b> |
| <b>Expected Spread / Rate</b>                  | <b>285bps</b>             |
| <b>Approx. Premium over Liquid Alternative</b> | <b>100bps</b>             |



## Description

- Long-dated lease cash flows / rental income secured by underlying property
- Investor buys property and agrees to lease it back for a set number of years
- Can be structured with amortising cashflows to mitigate residual value risk

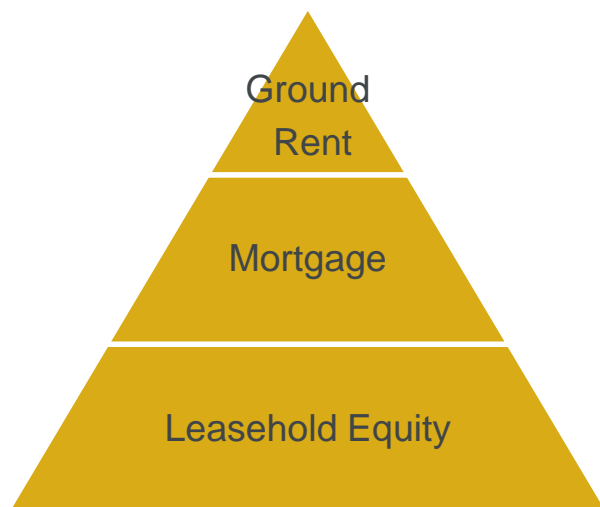
## Inflation Linkage

- Tenants are frequently active in industries where earnings are linked to inflation (e.g. Supermarkets)
- Upward only rental reviews common (e.g. LPI 0, 5)



# Ground Rents

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| Maturity Profile                        | 99 – 999 years                           |
| Liquid Alternative                      | BBB Long-Dated Sterling Corporate Credit |
| Expected Spread / Rate                  | 300bps                                   |
| Approx. Premium over Liquid Alternative | 75bps                                    |



Ground rents rank higher than any claim on the leasehold including mortgage repayments

## Description

- Regular payments made under a lease from a tenant (leaseholder) to the freeholder of a property.
- Freeholder owns the land on which the property is built, not the property itself.
- Secured by the value of the property, therefore heavily over-collateralised (e.g. mortgage provider must make up ground rent payments if tenant defaults).

## Inflation Linkage

- Rental streams can be indexed to RPI, LPI or CPI.
- Typically operate under 'stepped' uplifts (e.g. rent reviewed every 10-15 years).



Institute  
and Faculty  
of Actuaries

# Infrastructure Debt (PFI)

|                                         |                                          |
|-----------------------------------------|------------------------------------------|
| Maturity Profile                        | 15 years +                               |
| Liquid Alternative                      | BBB Long-Dated Sterling Corporate Credit |
| Expected Spread / Rate                  | 275bps                                   |
| Approx. Premium over Liquid Alternative | 50bps                                    |

| Social Infrastructure | Economic Infrastructure |
|-----------------------|-------------------------|
| Schools               | Toll Bridges            |
| Libraries             | Airports                |
| Hospitals             | Railway Track           |
| Care Homes            | Power Stations          |
| Police Stations       | Waterworks              |

## Description

- PFI investors provide funding for infrastructure projects and manage them over the long term.
- Counterparties are generally government-backed, providing additional security.

## Inflation Linkage

- Common practice is for income streams to be linked to RPI.
- Wide variety of target returns available depending on place in capital structure.
- Contracts can be very long-dated in nature.



# Index-Linked Utility and PFI Swaps

|                                          |                                    |
|------------------------------------------|------------------------------------|
| Maturity Profile ( <b>sample</b> )       | 25 years                           |
| Liquid Alternative                       | Corporate Bond of Relevant Utility |
| Expected Spread / Rate ( <b>sample</b> ) | 320bps                             |
| Approx. Premium ( <b>sample</b> )        | 150bps                             |

## Description

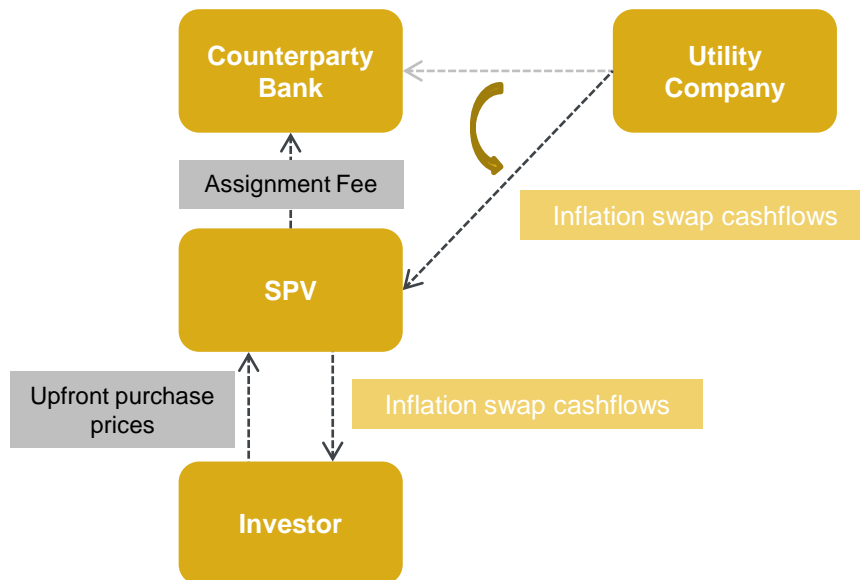
- Inflation swaps have often been entered into by utility companies seeking lower financing costs.
- The cost to banks of holding such swaps is increasing along with new bank capital requirements.
- Banks are therefore looking for opportunities to sell inflation-linked exposures to suitable investors (e.g. pension funds).

## Inflation Linkage

- Nature of inflation linkage varies depending on individual transaction
- Inflation-linked cashflows can be exchanged at maturity or periodically
- Exposure exists to utility company's credit risk (e.g. if deal is not collateralised)
- High operational complexity



Institute  
and Faculty  
of Actuaries



# Conclusion

*A **wider choice of assets** than inflation-linked bonds and swaps is available to pension schemes seeking inflation protection.*

*“Traditional” inflation-linked assets can require investors to pay large sums for **unwanted liquidity**.*

*Non-traditional inflation linked assets can combine inflation protection with additional **credit** and **liquidity** premia.*



# Contacts



**David Bennett**  
**Head of Investment Consulting**  
 Direct Line: 020 3326 7147  
 david.bennett@redington.co.uk

## Disclaimer

For professional investors only. Not suitable for private customers.

The information herein was obtained from various sources. We do not guarantee every aspect of its accuracy. The information is for your private information and is for discussion purposes only. A variety of market factors and assumptions may affect this analysis, and this analysis does not reflect all possible loss scenarios. There is no certainty that the parameters and assumptions used in this analysis can be duplicated with actual trades. Any historical exchange rates, interest rates or other reference rates or prices which

appear above are not necessarily indicative of future exchange rates, interest rates, or other reference rates or prices. Neither the information, recommendations or opinions expressed herein constitutes an offer to buy or sell any securities, futures, options, or investment products on your behalf. Unless otherwise stated, any pricing information in this document is indicative only, is subject to change and is not an offer to transact. Where relevant, the price quoted is exclusive of tax and delivery costs. Any reference to the terms of executed transactions should be treated as preliminary and subject to further due diligence.

This presentation may not be copied, modified or provided by you, the Recipient, to any other party without Redington Limited's prior written permission. It may also not be disclosed by the Recipient to any other party without Redington Limited's prior written permission except as may be required by law. "7 Steps to Full Funding" is a trade mark of Redington Limited.

Redington Limited is an investment consultant company regulated by the Financial Conduct Authority. The company does not advise on all implications of the transactions described herein. This information is for discussion purposes and prior to undertaking any trade, you should

also discuss with your professional, tax, accounting and / or other relevant advisers how such particular trade(s) affect you. All analysis (whether in respect of tax, accounting, law or of any other nature), should be treated as illustrative only and not relied upon as accurate.

Registered Office: 13-15 Mallow Street, London EC1Y 8RD. Redington Limited (reg no 6660006) is registered in England and Wales.

©Redington Limited 2013. All rights reserved.



Institute  
and Faculty  
of Actuaries