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](image)

### Results of Recent Index-Linked Gilt Auctions

<table>
<thead>
<tr>
<th>Auction Date</th>
<th>Maturity</th>
<th>Issuance (£m)</th>
<th>Yield</th>
<th>Times Covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>May-13</td>
<td>2044</td>
<td>1172</td>
<td>-0.23%</td>
<td>1.84</td>
</tr>
<tr>
<td>Apr-13</td>
<td>2029</td>
<td>1385</td>
<td>-0.64%</td>
<td>1.51</td>
</tr>
<tr>
<td>Apr-13</td>
<td>2024</td>
<td>1624</td>
<td>-1.26%</td>
<td>1.86</td>
</tr>
<tr>
<td>Mar-13</td>
<td>2044</td>
<td>990</td>
<td>-0.03%</td>
<td>2.02</td>
</tr>
<tr>
<td>Feb-13</td>
<td>2024</td>
<td>1104</td>
<td>-0.84%</td>
<td>1.97</td>
</tr>
</tbody>
</table>

Source: Bloomberg, PPF, Redington
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.

### 10 Largest UK Inflation-Linked Bond Issuers

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

Source: UK Debt Management Office
The Need for an Alternative: Inflation Swaps

- The total capacity of the RPI swap market is estimated to be c. £100bn notional\(^1\)
- 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

\(^1\) Source: Barclays Research

Inflation Swap Market Dynamics:

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

Demand:
- Pension Funds
- Insurers
- Retail Banks
“Inflation-Linked Assets”: The Available Universe

 Implicit Inflation Linkage
 Higher Return Target

 Explicit Inflation Linkage
 Higher Return Target
 Illiquidity Pickup

 Explicit Inflation Linkage
 Lower Return Target

 EM Linkers

 REITs

 Gold

 Soft Commodities

 Long Lease Property

 Ground Rents

 Utility Swaps

 Infrastructure Debt

 Index-Linked Gilts

 Inflation Swaps

 Index-Linked Corporates

 Network Rail

 Implicit Inflation Linkage
 Higher Return Target

 Explicit Inflation Linkage
 Higher Return Target
 Illiquidity Pickup

 Explicit Inflation Linkage
 Lower Return Target
Alternative Assets:
The Available Universe

- **Higher-Rated**
  - “Shorter-Dated”
  - “Liability Matching”
  - Infrastructure
  - Aircraft Finance
  - CRE Debt
  - Direct Lending
  - Ground Rents
  - Distressed Debt
  - Long Leases

- **Lower-Rated**
  - ""
“Inflation-Linked Assets”: Liability Matching

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

- Index-Linked Liability cash-flows
- ’Matching Asset’ cash-flows

Index-Linked liabilities, Duration 20 years

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

Matching Asset, Duration 10 years

Deficit
“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:

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

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

Collateral (£20Mn)
- Initial Margin
- Variation Margin
- Prudence Margin (Asset Manager)

**Collateral Drag**

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

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

## Maturity Profile
- 20 years +

## Liquid Alternative
- 20-Year Tesco Bond

## Expected Spread / Rate
- 285bps

## Approx. Premium over Liquid Alternative
- 100bps

## 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

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).

<table>
<thead>
<tr>
<th>Maturity Profile</th>
<th>99 – 999 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Alternative</td>
<td>BBB Long-Dated Sterling Corporate Credit</td>
</tr>
<tr>
<td>Expected Spread / Rate</td>
<td>300bps</td>
</tr>
<tr>
<td>Approx. Premium over Liquid Alternative</td>
<td>75bps</td>
</tr>
</tbody>
</table>

Ground rents rank higher than any claim on the leasehold including mortgage repayments.
**Infrastructure Debt (PFI)**

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>- PFI investors provide funding for infrastructure projects and manage them over the long term.</td>
</tr>
<tr>
<td>- Counterparties are generally government-backed, providing additional security.</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Maturity Profile</th>
<th>15 years +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Alternative</td>
<td>BBB Long-Dated Sterling Corporate Credit</td>
</tr>
<tr>
<td>Expected Spread / Rate</td>
<td>275bps</td>
</tr>
<tr>
<td>Approx. Premium over Liquid Alternative</td>
<td>50bps</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Infrastructure</th>
<th>Economic Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>Toll Bridges</td>
</tr>
<tr>
<td>Libraries</td>
<td>Airports</td>
</tr>
<tr>
<td>Hospitals</td>
<td>Railway Track</td>
</tr>
<tr>
<td>Care Homes</td>
<td>Power Stations</td>
</tr>
<tr>
<td>Police Stations</td>
<td>Waterworks</td>
</tr>
</tbody>
</table>
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).

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
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

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