New Perspectives on Alternative Investments
For the Institute and Faculty of Actuaries
Today's speakers and topics are as follows:

- Ian Kitchenham, *BlackRock Alternative Investors*
  - Defining “alternative” investments

- Ted Logan, *Hedge Fund Solutions*
  - Measuring performance and the importance of selection

- Mark Long, *Real Estate*
  - Investment features across a broad asset class

- Sverker Akerblom, *Renewable Power Group*
  - Providing secure income from an alternative source
What are alternative investments?

1. Not “traditional”, i.e. stocks, bonds or cash
   - Returns not directly linked to returns available from a publicly traded asset

2. Asset(s) where the return is, at least partially, a function of factors that are not easily observable
   - Examples can include ‘illiquidity premium’ or ‘alpha skill’

3. A different way of investing in “traditional” assets
   - For example, hedge funds and traditional long-only equity investors may both trade publicly available shares but hedge funds can look to make profits when share prices fall by short selling
Alternatives cover a broad range of investments

**Commodities**
- Energy
- Metals
- Agriculture
- Other Softs

**Hedge Funds**
- Relative Value
- Event Driven
- Fundamental L/S
- Direct Sourcing
- Global Macro / Directional Trading

**Real Estate**
- Core
- Value-Add
- Opportunistic
- Mezzanine Debt

**Private Equity**
- Buyout
- Distressed
- Venture Capital
- Growth Capital
- Mezzanine

**Infrastructure**
- Core
- Value Add
- Debt
- Renewables

**Short-Term Opportunities**

**Intermediate-Term Opportunities**

**Long-Term Opportunities**

For professional clients / qualified investors only
Institutional investors are expected to increase allocations across alternative asset classes.

Alternatives Industry AUM ($tn)

Alternatives industry is about $6 trillion and expected to grow at 12% annually.

Why are investors allocating to alternatives?

We believe investors are finding new appeal in alternatives as a necessary source of investment returns in a low yield, low growth, high volatility environment...

- **Low correlation** with traditional asset classes to combat persistent volatility
- **Diversified income to combat low yield** as clients seek new opportunities outside traditional assets
- **Illiquidity premium** opportunities to capture

...and investors are overcoming the myths and concerns of alternative investing

- **Risk factor** portfolio analysis and allocation brings alternatives to the core of client investments
- **Liability matching** and long term income modeling is improving
- **Transparency and infrastructure** can be provided by partnering with institutional quality managers
Alternatives can address a range of investment needs

<table>
<thead>
<tr>
<th>Client need</th>
<th>Asset characteristic</th>
<th>Hedge Funds</th>
<th>Illiquid Credit</th>
<th>Private Equity</th>
<th>Infrastructure</th>
<th>Real Estate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>Contracted Cash Flows</td>
<td></td>
<td>✅</td>
<td></td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Growth</td>
<td>High Target Returns</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Inflation Protection</td>
<td>Inflation-linked Cash Flows</td>
<td></td>
<td></td>
<td></td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Diversification</td>
<td>Low Correlation</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Reduce Volatility</td>
<td>Low Volatility</td>
<td>✓</td>
<td></td>
<td></td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

- However, alternatives are not heterogeneous and one size does not fit all

Source: BlackRock Strategic Product Management, from Towers Watson survey, client interviews, BLK team materials, Deutsche Bank survey, CitiBank, Pyramis Survey

Investing in alternative assets may involve higher risks and fees than traditional investments and is not suitable for all investors. They may engage in leverage or speculative investment techniques that may magnify potential losses or gains.
Identifying a suitable allocation can be challenging

Risk factor modelling provides a common language...

...that allows efficient portfolio construction at a scheme-wide level

Example Secure Income asset Risk Contribution by Macro Factor

Example Secure Income asset Risk Contribution by Factor

Asset allocation: Example Pension Scheme

Risk decomposition: Example Pension Scheme
Hedge Funds
The challenges facing pension plans today

Problem

- Market and liability risk volatility
- Low return/yield makes achieving objectives difficult
- Effective diversification is challenging due to high correlation in traditional asset classes
- Increased requirements for governance and transparency

Questions

- Can I generate returns with a different profile than traditional equity and fixed income?
- What risks do I need/need to avoid?
- How can I do this in a cost-efficient way?

Solution

- Risk-based approach to replace ‘performance chasing’ as basis for asset allocation decisions
Hedge Funds diversify by risks, not returns

- Risks are the input, returns are the output
- Hedge funds seek to generate different returns via a different set of risks than traditional, long-only investments
- Idiosyncratic risks (alpha) are difficult to replicate
Selection can enhance portfolio alpha

- Hedge funds do offer alpha
- Highest return ≠ highest alpha
- Selecting the right managers can enhance the alpha

**Contribution to Hedge Fund Index Performance by Risk Type (2013 to end Nov)**

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Equity Hedge</th>
<th>Event Driven</th>
<th>Macro</th>
<th>Relative Value</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>90%</td>
<td>17.8%</td>
<td>15.2%</td>
<td>19.6%</td>
<td>14.4%</td>
<td>17.6%</td>
</tr>
<tr>
<td>75%</td>
<td>9.2%</td>
<td>9.8%</td>
<td>10.5%</td>
<td>8.3%</td>
<td>9.1%</td>
</tr>
<tr>
<td>50%</td>
<td>1.7%</td>
<td>4.3%</td>
<td>2.0%</td>
<td>4.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>25%</td>
<td>-6.7%</td>
<td>-0.5%</td>
<td>-4.3%</td>
<td>-0.6%</td>
<td>-4.1%</td>
</tr>
<tr>
<td>10%</td>
<td>-16.1%</td>
<td>-7.4%</td>
<td>-12.0%</td>
<td>-6.0%</td>
<td>-12.2%</td>
</tr>
</tbody>
</table>

**Dispersion of Hedge Fund Manager Alpha (2013 to end Nov)**

Source: HFR, Inc., BlackRock
Real Estate
Broad range of Real Estate strategies and vehicles

$12 trillion market of distinct strategies\(^1\)

<table>
<thead>
<tr>
<th>Equity</th>
<th>Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4.2\text{ tn}$&lt;br&gt;Opportunistic</td>
<td>$5.8\text{ tn}$&lt;br&gt;High-yield / Mezzanine Senior whole loans / First mortgages</td>
</tr>
<tr>
<td>$900\text{ bn}$&lt;br&gt;Value-added</td>
<td>$1.5\text{ tn}$&lt;br&gt;Core</td>
</tr>
<tr>
<td>$900\text{ bn}$&lt;br&gt;Core</td>
<td>$1.5\text{ tn}$&lt;br&gt;Value-added</td>
</tr>
<tr>
<td>$900\text{ bn}$&lt;br&gt;Real estate securities</td>
<td>$1.5\text{ tn}$&lt;br&gt;Opportunistic</td>
</tr>
</tbody>
</table>

Performance attributes vary\(^2\)

<table>
<thead>
<tr>
<th>Client needs</th>
<th>Real estate investment strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential returns</td>
<td>![Potential returns Chart]</td>
</tr>
<tr>
<td>% of return from income</td>
<td>![% of return from income Chart]</td>
</tr>
<tr>
<td>Liquidity</td>
<td>![Liquidity Chart]</td>
</tr>
<tr>
<td>Diversification properties</td>
<td>![Diversification properties Chart]</td>
</tr>
<tr>
<td>Volatility</td>
<td>![Volatility Chart]</td>
</tr>
<tr>
<td>Inflation hedging</td>
<td>![Inflation hedging Chart]</td>
</tr>
</tbody>
</table>

1. DTZ Research, BlackRock; as of December 2013
2. BlackRock
Income and diversification

Property delivers a higher level of income

Property offers strong diversification benefits

1 IPD UK Monthly Index March 2013
2 IPD UK Annual Index Dec 2013
Characteristics of underlying real estate equity investments

**+**

- Diversification benefits
- Real asset – inflation hedging
- High level of income
- Asset-Liability matching

**-**

- Smoothing
- Heterogeneity
- Illiquidity
- Lack of divisibility
- Management intensive
## Types of Real Estate Investments: Equity

<table>
<thead>
<tr>
<th>Core</th>
<th>Value Added</th>
<th>Opportunistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Traditional property types</td>
<td>• Asset Repositioning and refurbishment</td>
<td>• Full scale development and redevelopment projects</td>
</tr>
<tr>
<td>• Fully leased / minimal leasing risk</td>
<td>• Leasing risk</td>
<td>• Often low income distribution</td>
</tr>
<tr>
<td>• Minimal development risk</td>
<td>• Prime &amp; secondary markets</td>
<td>• Back-end loaded return</td>
</tr>
<tr>
<td>• Well diversified</td>
<td>• Listed securities (REITs)</td>
<td>• Typically High Leverage</td>
</tr>
<tr>
<td>• Balanced alternative strategies</td>
<td>• No specific diversification requirement</td>
<td></td>
</tr>
<tr>
<td><strong>Multi-asset diversifier</strong></td>
<td><strong>Diversification plus alpha</strong></td>
<td><strong>Alpha generation</strong></td>
</tr>
<tr>
<td><strong>Stable Income</strong></td>
<td><strong>Income and Growth</strong></td>
<td><strong>Income &amp; capital growth</strong></td>
</tr>
<tr>
<td>Open-end funds &amp; Separate Accounts</td>
<td></td>
<td>Open-end, Closed-end funds &amp; Separate Accounts</td>
</tr>
<tr>
<td><strong>Increased risk/return</strong></td>
<td></td>
<td>Closed-end funds</td>
</tr>
</tbody>
</table>

- Total return 6-8%
- 80%+ rental income
- **Multi-asset diversifier**
- **Stable Income**
- Open-end funds & Separate Accounts
- **Increased risk/return**

- Total return 8-10%
- 50-80% income
- **Diversification plus alpha**
- **Income and Growth**
- Open-end, Closed-end funds & Separate Accounts

- Total return 10%+
- >50% capital
- **Alpha generation**
- **Income & capital growth**
- Closed-end funds

For professional clients / qualified investors only
Renewable income investing
# What are Infrastructure investments?

## Investor Needs

- **Capital Preservation**
- **Stable Cash Flows**
- **Inflation Linkage**
- **Diversification Effects**

## Investor Benefits

- **A defensive** asset class that can preserve capital
- **A key return attribute of infrastructure assets is high and stable income**
- **Infrastructure assets often have implicit or explicit inflation protection**
- **Low correlation** of infrastructure investments with traditional assets

## Infrastructure Assets

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential Services</td>
<td>Energy</td>
</tr>
<tr>
<td>Capital Intensive</td>
<td>Transport</td>
</tr>
<tr>
<td>Long Life Span</td>
<td>Water/Waste</td>
</tr>
<tr>
<td>Local Monopoly</td>
<td>Communication</td>
</tr>
<tr>
<td></td>
<td>Social</td>
</tr>
</tbody>
</table>

Source: BlackRock (April 2014)

**Risk / return characteristics vary significantly between different infrastructure assets**
Renewable Power – UK Market Opportunity

Significant investment opportunity in both operational and new build renewable energy projects

UK Energy Shortfall

Material conventional plant closures:
- c.9GW of fossil plants recently closed (2012-2013), with material additional closures expected

Rising electricity prices:
- Shortfall in supply will likely lead to significant increases in UK power prices

UK Renewable Capacity & Investments

Source: UK Power Consultant (Q4 2013)

Sources
2020 Capacity: DECC UK Renewable Energy Roadmap 2011 (and 2012 update), average of central scenario range
Note: Enterprise value assumes £2m/MW for Onshore Wind, £3m/MW for Offshore Wind and £1.4m/MW for Solar PV
Renewable Power Projects – Key Economic Drivers

<table>
<thead>
<tr>
<th>Revenues</th>
<th>Example</th>
<th>Gross volume (MWh)</th>
<th>Availability and other adjustments (%)</th>
<th>Pricing (£/MWh)</th>
<th>Net Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>28,000 MWh</td>
<td></td>
<td></td>
<td>£95/MWh</td>
<td>£2.6m</td>
</tr>
</tbody>
</table>

| Operating Costs | -£0.6m | Long-term contracts | Small share of revenue |
| Tax | -£0.2m | Partly offset by capital allowances and shareholder loans | Stable tax regime |

Net Cash Flow = £1.8m

- Predictable and stable cash flows with inflation protection

Source: BlackRock (April 2014)
Portfolio Analysis – Illustrative £400m UK Portfolio

- **Technology Split**
  - 30% Onshore Wind
  - 20% Offshore Wind
  - 50% Solar PV

- **Construction Exposure**
  - 30% Operating
  - 70% Construction

- **Revenue Split**
  - 32% ROCs
  - 24% FiT
  - 9% Fixed PPA
  - 5% Power price

- **Estimated Gross Cash Yield and Net Asset Value**

**Portfolio would generate an 8%+ gross IRR, with benefit of inflation protection**
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