Investment Strategy for Pensions Actuaries
A Multi Asset Class Approach

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Agenda

Where Does Diversified Investing Fit?

The Case for Diversification

Diversified Growth Investing

Case Study: Schroder Retirement Benefit Scheme

Summary
Where Does Diversified Investing Fit?

Defined Benefit Schemes

- Asset growth requirements
- Liabilities linked to inflation
- Control funding level and contribution rates

Target medium-term real growth

- Real return above liabilities

Whilst controlling risk/volatility

- Less risk than equities
- Smoother, more consistent returns

<table>
<thead>
<tr>
<th>Myners Principles for Institutional Investment</th>
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<tr>
<td><strong>Clear Objectives</strong></td>
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<tr>
<td>- The Trustees’ best judgement of what is necessary to meet the fund’s <strong>liabilities</strong></td>
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<td>- Trustees’ appetite for <strong>risk</strong></td>
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<td><strong>Focus on Asset Allocation</strong></td>
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<td>- Strategic decisions should be made in order to meet the objectives</td>
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<td>- Consider a full range of investments, not excluding any major asset class</td>
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<td><strong>Appropriate Benchmarks</strong></td>
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<td>- Are index benchmarks appropriate</td>
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<td>- Is active or passive management appropriate for each asset class</td>
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<td>- Managers should be given the freedom to pursue active strategies</td>
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UK and Global Equities Since 1997

High relationship (correlation) between UK and world equities

Globalisation has increased the linkage between economies and markets

Source: Russell Mellon Caps 30 December 2006

Returns are in Sterling

Schroders
Which Other Asset Classes Should We Be Looking At?

**Commodities**
A physical substance such as oil or gold, which can be traded on an exchange (usually through forwards or futures).

**Private Equity**
Securities that are not listed on a stock exchange and hence are generally illiquid and thought of as long term investments. Typical examples are management buy-outs and new start-up companies.

**Currency Funds**
Pooled funds investing in currencies and short term money market instruments.

**Hedge Funds (Absolute Return)**
An alternative investment fund investing in a variety of instruments, possibly including short selling, leverage, derivatives, commodities and currencies with the goal of generating high absolute returns.

**Emerging Market Debt**
Debt issued by an economy in the early stages of growth or development (an emerging market) – generally issued by the government.

**High Yield Strategies**
A strategy that invests in higher yielding securities, which are mainly sub-investment grade fixed interest bonds.
Building Blocks for Diversification
Alternative indices since 1997

Annual return and correlation to UK equities

Source: Datastream/ Lehman Live/ Bloomberg
Returns in Sterling

Note: Property and Hedge Fund return excludes December 2006
Generic Portfolio of Alternative Assets
Equally weighted portfolio – A ‘blunt’ instrument to investigate diversification

- **Emerging Market Equity**: Company shares listed on the stock markets of developing countries.
- **Emerging Market Debt**: Bonds issued by the governments of developing countries.
- **Global High Yield Bonds**: Bonds issued by companies and other organisations that have a lower credit rating.
- **Property**: UK property (offices, industrial and retail).
- **Commodities**: Energy, metals and agriculture.
- **Hedge Funds**: An alternative investment fund investing in a variety of instruments which can use aggressive strategies in order to achieve an absolute positive return.
- **Private Equity**: Shares in companies that are not listed on a recognised exchange.

Source: Schroders
Downside Risk: Peak to Trough Analysis
Combining equities and alternative assets

Source: Schroder, data from January 1997. Returns are in Sterling

Note
(i) A portfolio comprising of 50% equities, and the remainder split 1/7 Property, Emerging Market Equity, Emerging Market Debt, Global High Yield Bonds, Commodities, Hedge Funds and Private Equity
Growth of Assets Versus Liabilities
Alternatives could replace some equity exposure

Note:
Liability proxy – FTSE Actuaries Over 5 Years Index-Linked Gilts
Equity portfolio – 55% UK Equities, 45% Overseas Equities
Diversified portfolio – 50% Equities, 50% Diversified assets (equal weightings)

Source: Schroders. Returns are in Sterling and gross of fees
The Concept of Diversified Growth Investing

Market Return (Beta)

Improve the risk / return profile by including less correlated asset classes alongside core equity investments

Active Return (Alpha)

Active risk can further diversify the portfolio, in addition to adding return

Portfolio Construction

Establish the optimal mix of funds and asset classes based on current investment views (separation of market exposure and active management decisions)

Asset Allocation

Identify attractive markets and manage risk through the investment cycle
Diversified Growth Strategies

Expected performance comparison with an equity portfolio

This forecast is the result of statistical modelling, based on a number of assumptions. There is no assurance or guarantee that the forecast will be achieved and it should not be considered as a prediction of actual returns that may be realised in the future from the portfolio. Our assumptions may change materially with changes in underlying assumptions that may occur, among other things, as economic and market conditions change.

Source: Schroders. Expected returns are in Sterling.
Financial Markets and the Economic Cycle

Asset classes behave differently through the various stages of the market cycle.

Key: Preferred asset class by stage of cycle.

Graph for illustration purposes only.

Source: Schroders
Portfolio Construction
Active management where it works

History shows that some benchmarks are much harder to beat than others

Use of investor skill - hedge fund and currency management

Examples of active management in Schroder Diversified Growth Strategies

Active management in US small and mid caps (inefficient market)

European High Alpha Fund (inefficient market)

Active currency management (inefficient market)
Example - Diversified Growth Strategy

Allocation
- Global Equity 47%
- Property 12%
- Hedge Fund of Funds 10%
- Active Currency 5%
- High Yield Bonds 8%
- Emerging Market Debt 5%
- Private Equity 3%
- Commodities 5%
- Infrastructure 5%

Fund Holdings
- Specialist UK Equity 7%
- UK Smaller Company Equities 1%
- High Alpha European Equities 13%
- Core European Fund 4%
- US Smaller Company Equities 3%
- Japanese Smaller Company Equities 1%
- Asia Equity 3%
- Passive Equity* 5%
- Core Global Equity 3%
- Unconstrained Global Equity 7%
- UK Property 7%
- Global Property Security 5%
- Hedge Fund of Funds 10%
- Active Currency 5%
- Private Equity 3%
- Infrastructure 5%
- High Yield Bonds 8%
- Emerging Market Debt 5%
- Passive Commodities 5%

Source: Schroders, for illustration only
* Net position from futures position
Broadening the Sources of Return and Managing Risk

**Estimated Return 5.8% p.a. in excess of RPI**

- Schroder Alpha: 0.4%
- External Alpha: 0.8%
- Equity Beta: 2.3%
- Credit Exposure: 0.5%
- Property Exposure: 0.4%
- Other Alternatives Exposure: 0.8%

**Estimated Volatility 10.1% p.a.**

- Equity: 59.1%
- Credit: 9.3%
- Property: 6.4%
- Other Alternatives: 9.3%
- External Alpha: 6.9%

Based on analysis of the Schroder Diversified Growth Fund

Source: Schroders Multi-Asset Risk Technology (SMART). This is based upon a neutral asset allocation
Case Study: The Schroder Retirement Benefits Scheme
Investment Strategy Framework

Clear objectives

Total assets

Growth Portfolio - Return focussed assets

- Wider growth portfolios beyond equities
- Less constrained investing
- Potential Broader diversifiers
  - Private Equity
  - Property
  - High Yield Bonds and Emerging Market Debt
  - Hedge Fund strategies
  - Commodities
  - Separation of active management and market exposure

Liability Portfolio - Liability focussed assets

- Remove unrewarded risks
- Better fixed income
- Interest rate and inflation risk management
  - Interest rate swaps
  - Inflation swaps
- Fund Manager Added value (alpha)
The Schroder Retirement Benefits Scheme

<table>
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<tr>
<th>Schroders</th>
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<tr>
<td><strong>Size</strong></td>
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<td><strong>Type</strong></td>
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<td><strong>Coverage</strong></td>
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<td><strong>Open/ closed</strong></td>
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<td><strong>FRS 17 Funding</strong></td>
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<td><strong>Liability breakdown (Jan 2004)</strong></td>
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The Challenges

Our staff are **living longer**

Our plan sponsor’s **time horizon** has shortened

The returns on the Scheme’s assets are not sufficiently linked to future **interest rates and inflation**

**Timing** of revised pension fund strategy implementation

**What can we do?**

Nothing, luckily! Insure in the future?

Reduce risk by matching part of the liability

Introduce other asset classes for greater diversification, and seek to focus on and separate managers’ skill from the market exposure

Use rigorous market and investment analysis
Agreeing Objectives

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<th>Major Priorities</th>
<th>Schroders</th>
<th>Trustees</th>
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<td>Minimise long term contributions</td>
<td>2nd</td>
<td></td>
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<tr>
<td>Maintain Funding Level</td>
<td></td>
<td>1st</td>
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<tr>
<td>Avoid sharp 1 year decline in Funding Level</td>
<td></td>
<td>1st</td>
</tr>
<tr>
<td>Have fixed level of contributions</td>
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<td>2nd</td>
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- Company’s willingness and ability to contribute provides opportunity to reconcile preferences
- £35 million contribution agreed to fully fund pension deficit

Agreed risk preference: minimise long run contributions subject to no more than 5% chance of a 10% decline in funding level in any individual year
Investment Strategies – Risk and Return vs Liabilities

Source: Schroders
Implemented Investment Strategy

Fund Allocation

Liability Matched: 35%
Growth Portfolio: 65%

Total Fund

Expected Return: 3.0% p.a.*
Expected Risk: 5.9% p.a.*
Manager Skill (alpha) exposure

‘Unconstrained’ Equities

High ‘alpha’ benchmark mandated equities

Private Equity

Active High Yield/ Emerging Market Debt management

Property

Hedge Funds

Active Currency

Active asset allocation and portfolio construction
Evolution of the Investment Strategy

Source: Schroders
Diversified Growth Investing

Summary

Diversified Growth Investing exploits three sources of return

— Market return – inclusion of many lowly correlated assets

— Active return – specialist management within markets

— Asset allocation – actively position portfolios for return and downside risk purposes

This approach is geared towards achieving the long term performance objectives of real growth

Not necessarily benchmark driven

Risk and Reward balanced in portfolio construction
Important Information

Past performance is not a guide to future returns. The value of investments can fall as well as rise as a result of market movements. Investments in smaller companies may be less liquid than in larger companies and price swings may therefore be greater than in larger company funds. Exchange rate changes may cause the value of overseas investments to rise or fall. Less developed markets are generally less well regulated than the UK, they may be less liquid and may have less reliable custody arrangements. Investors should be aware that investments in emerging markets involve a high degree of risk and should be seen as long term in nature. The Portfolio will invest in some higher-yielding bonds (non-investment grade). The risk of default is higher with non-investment grade bonds than with investment grade bonds. Higher yielding bonds may also have an increased potential to erode your capital sum than lower yielding bonds. The Portfolio will invest in Property Funds and Property Investment Companies. It may be difficult to deal in these investments because the underlying properties may not be readily saleable which may affect liquidity.

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