De-risking - Not as simple as it seems

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Charting a course

Outline

I. **Bizarre things we do**
   I. Dynamic Asset Allocation

II. **What this means for de-risking (LDI)**
   I. Not a mechanical process
   II. Path dependant with three dimensions

III. **Scheme specific goals**
   I. Buy-out or self sufficiency or…

Dynamic asset allocation

Dynamic asset allocation

- **Today's model re-visited**
- **Our risk appetite never changes!**
- **Asset/Liability modelling**
- **Forecasting**
- **Dynamic asset allocation**
  - Risk appetite = fn(ex-ante risk premia, wealth)
  - Corner solutions

The old best practice model

Institutional best practice used to be characterised by the following five stage process

- Conduct an asset/liability study based on very long-run equilibrium return assumptions
- Choose a strategic benchmark
- Create an implementation plan with a mix of active and passive managers
- Select and fund investment managers
- Monitor performance

Repeat every three to five years

We may have moved a little since then, but we are still benchmark, rather than liability focussed

Two key weaknesses

80:20 rule round the wrong way!

- Majority of governance spent on controlling risks to benchmark – small
- Risks from benchmark to liability only managed intermittently – large

Forecasted returns nearly useless!

- Equilibrium returns to infinity barely change
- Error term swamps the forecast

Expect the unexpected

Forecast and actual total real returns on the S&P 500

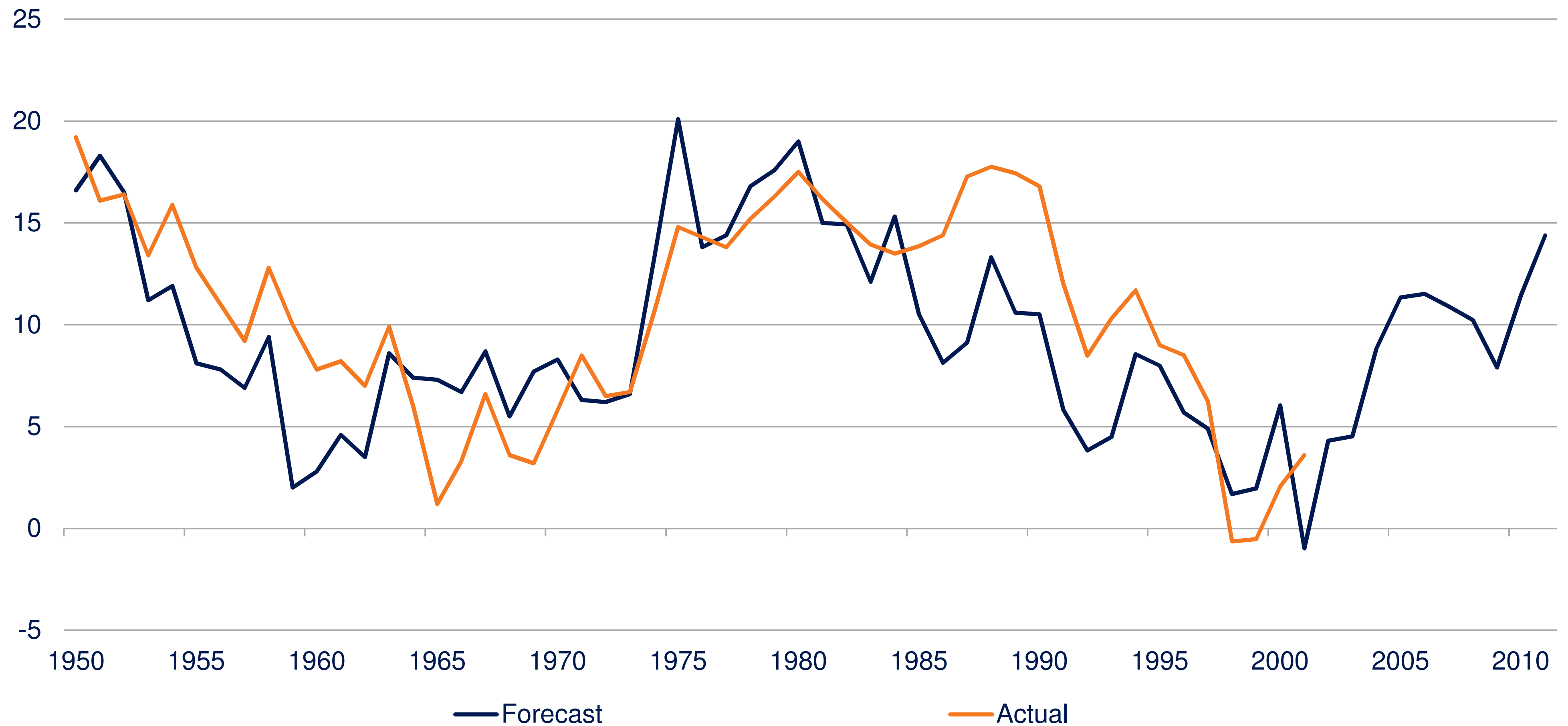
	Forecast	Actual
1970s	7.2%	-0.1%
1980s	7.6%	12.6%
1990s	5.1%	14.8%
2000s	2.7%	-2.1%
1970–2010	7.2%	6.5%

Source: Schroders, Shiller/Yale, Global Investment Returns year book, DataStream
Method: Actual returns were calculated by taking the total change in the real total return index and annualising. The forecasts are based on the Gordon Growth model

Forecasting

Occam's Razor – reversion to the mean

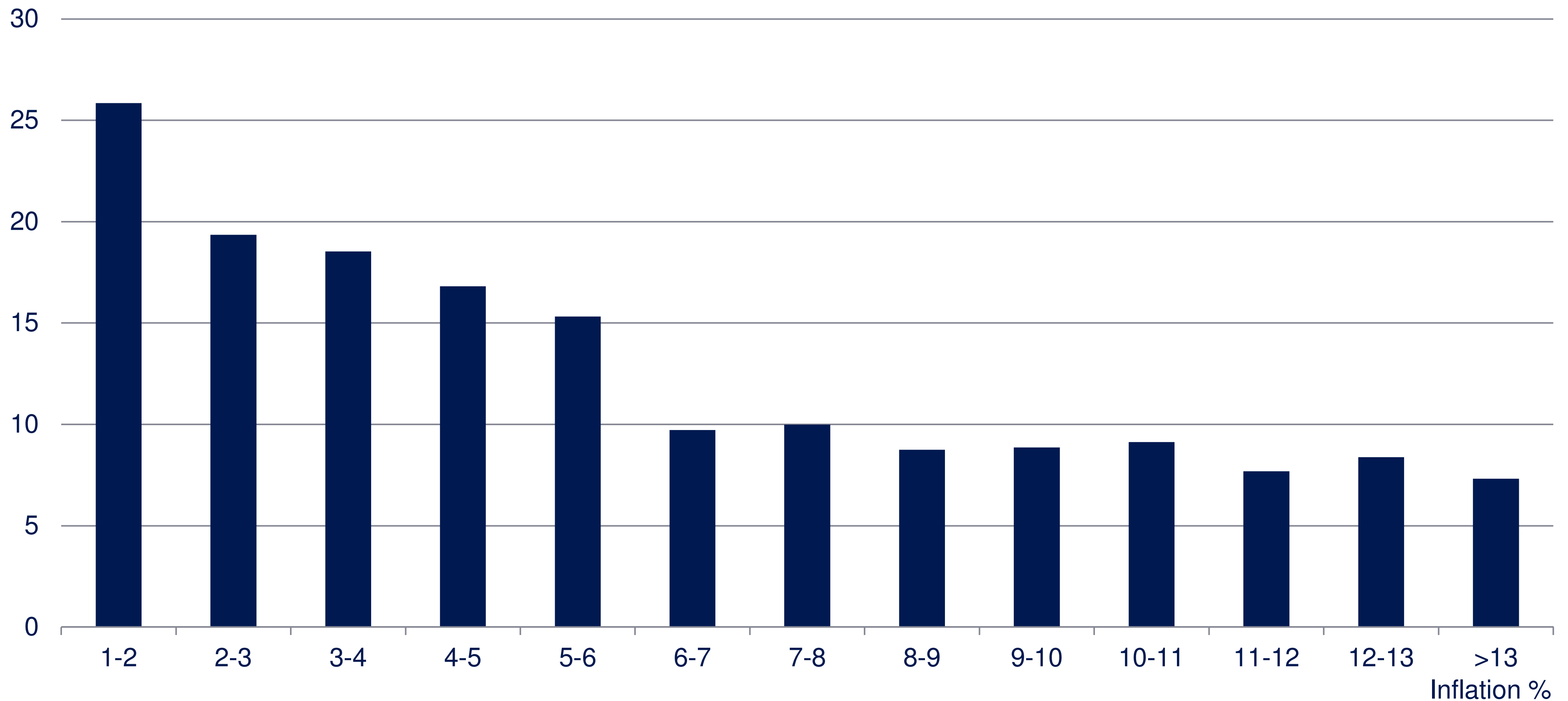
Rolling ten year returns (% annualised)



Source: Bogle (1995), Schroders, Datastream

Forecasting (continued)

US median P/E ratios within inflation bands: 1968 to 2012



Note: Based on trailing price-earnings ratios of the S&P 500
Source: Schroders, Thomson Datastream, 22 March 2012

Governance and utility

Should our risk appetite really be static in the presence of

- Changing funding ratios?
- Changing risk premia?

Funding ratios generally have an inverse relationship with risk premia

- Funding ratios rise when risky assets outperform liabilities (bonds)
- When risky assets outperform (P/E rising) future returns fall

Strength of sponsor covenant may determine utility function

Dynamic asset allocation

What is it?

Dynamic asset allocation is NOT tactical asset allocation

Dynamic asset allocation is about the tails of over- or under-valuation

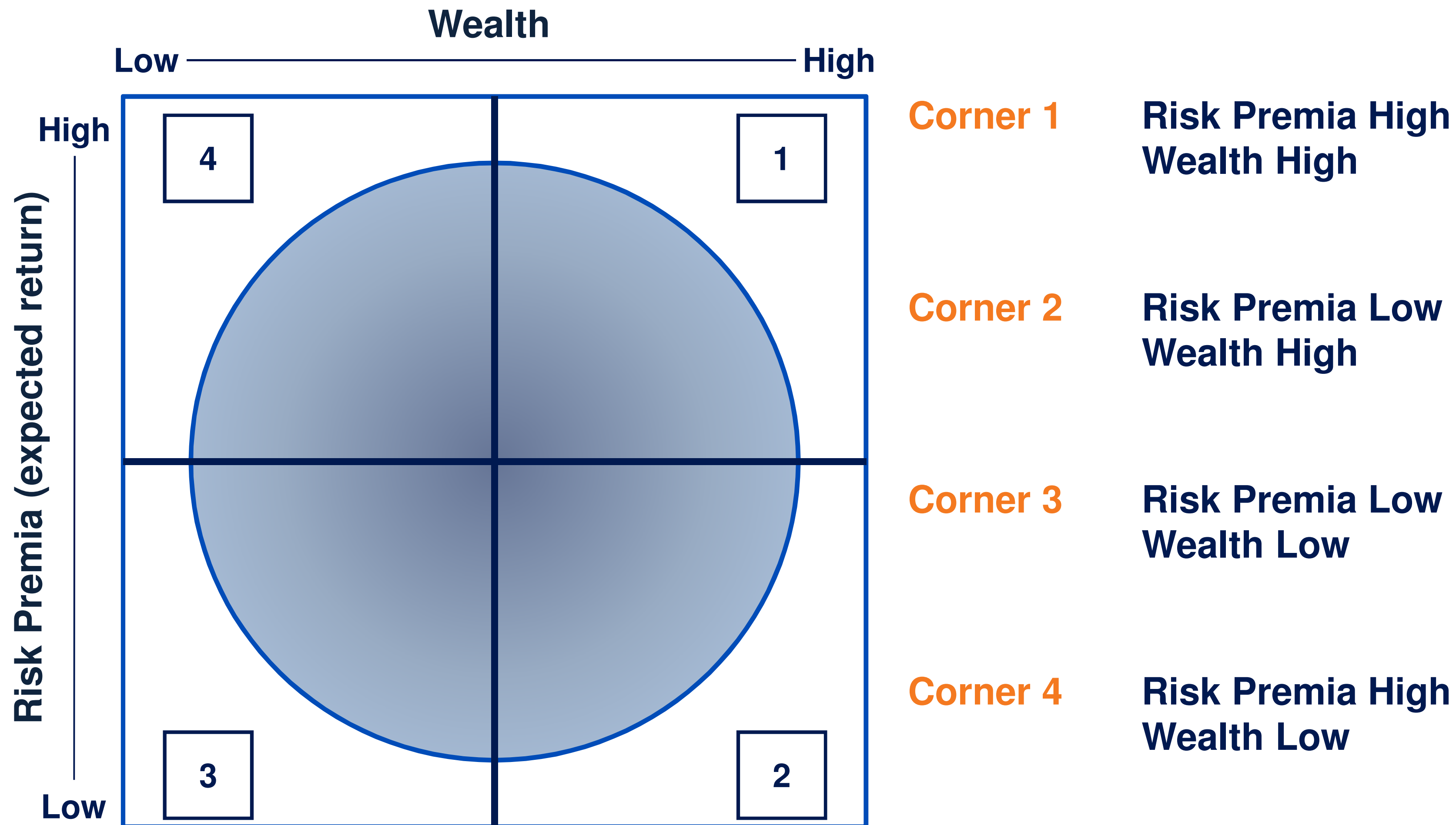
- Japanese equities late 1980s
- Technology Media and Telecom stocks late 1990s
- Credit late 2008
- Government bond duration 2013

Dynamic asset allocation predicated on the belief that

Risk appetite = fn(ex-ante risk premia, wealth)

Risk preferences

Exploring the corners



Corner 1 — **Risk Premia High, Wealth High**

Corner 2 — **Risk Premia Low, Wealth High**

Corner 3 — **Risk Premia Low, Wealth Low**

Corner 4 — **Risk Premia High, Wealth Low**

Source: Schroders, for illustration only

Corners 2 and 3 – when risk premia are low

Risk appetite 'should' be low irrespective of wealth

But

Watch out for behavioural biases

Impact of regulation/accounting on economic decisions

- Discount rates

Corner 1 – when risk premia and wealth are high

An opportunity to de-risk or to earn further wealth?

Factors to consider

- Size of the fund in relation to the sponsoring organisation
- Financial health and risk preferences of the sponsor
- Maturity of the fund
- The potential to flex contribution rates
- The age of the investor

Corner 4 – risk premia are high and wealth is low

Bottom of the bear market scenario

Regulatory/accounting environment

- Insurance/solvency rules
- Portfolio insurance/put option – implied costs
- The case of the Chubb and St Paul Insurance companies

Financial health and risk preferences of the sponsor

- British Airways
- Schroders?

A sea change

Requiring a new governance model

A highly skilled investment committee

- Key decisions made jointly
- All need to be able to contribute

Representation by all stakeholders

- Sponsor
- Trustees
- Consultant
- Lead asset manager

Detailed records

- Memories are fickle and 20:20 hindsight is a wonderful thing
- When decisions are being questioned:
  - Were the assumptions proved to be false? => Change strategy
  - Assumptions still valid? => Stay the course

The prize: A tailored strategy that responds to cyclical markets and changing risk appetite

De-risking

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What's the goal?

Examples from a certain UK plan

- **Buy-out**
  - Equivalent to about 133% funding ratio on a technical provisions basis
  - Capital cost of insurance regulatory regime
- **Self sufficiency**
  - Approximately 124% funding ratio on a technical provisions basis
- **Why self-sufficiency?**
  - Closed to new entrants and accruals
  - We are an asset manager!
  - Business and pension plan positively correlated
  - Size of scheme (C$1.5bn) in relation to firm capital
  - Surplus in DB plan can be used in DC section of the Trust

DB de-risking

A good idea, but needs careful thought

- **De-risking LDI style**
  - Hedging out the sensitivity of liabilities to nominal (and real?) interest rates
  - A glide path or one way ratchet, always increasing hedges?
- **Strategy views liabilities in isolation of assets**
- **A return to business as usual implies a sharp rise in interest/discount rates**
  - No benefit if liabilities hedged
- **Nightmare scenario of positive correlation between equities and bonds**
  - Result - Funding ratios under pressure all over again!
  - Need to consider liabilities and assets jointly
  - A well balanced portfolio may not be “fully” hedged!
- **De-risking needs to take a holistic view of pension fund**
  - Assets and liabilities simultaneously
  - Quantum of hedges and quantum and make-up of growth assets
  - Correlation assumptions

DB de-risking

A path dependant process

- **Why did my funding ratio improve?**
  - Rising interest rates or strong returns from growth assets
- **Rising interest rates**
  - Consider increasing hedges?
- **Strong returns from growth assets**
  - Consider changing the size or make-up of the growth assets
- **Consider correlation risk between liabilities and assets**
  - Active risk parity approaches can reduce correlation risk
  - Duration and inflation exposures

Conclusion

- **Strategic asset allocation model fundamentally flawed**
- **Dynamic asset allocation**
  - Acknowledges that risk appetite, at a minimum, should in some way be a function of wealth and expected returns
  - Requires a new governance model
  - And a new, non-market benchmark
- **When applied to de-risking**
  - A path dependant process
  - Acknowledges correlation risk between assets and liabilities
  - Not necessarily a one way rachet of ever increasing hedges
  - Considers the size and make up of the growth assets in combination with the liabilities
- **Attributed to Einstein:** ***"Everything should be made as simple as possible, but not simpler!"***

Thank you!

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