



Welcome to

'The benefits of diversification – lessons from 2008'

On Friday 4 December 2009 at 8.15am

The RSA, 8 John Adam Street, London WC2N 6EZ

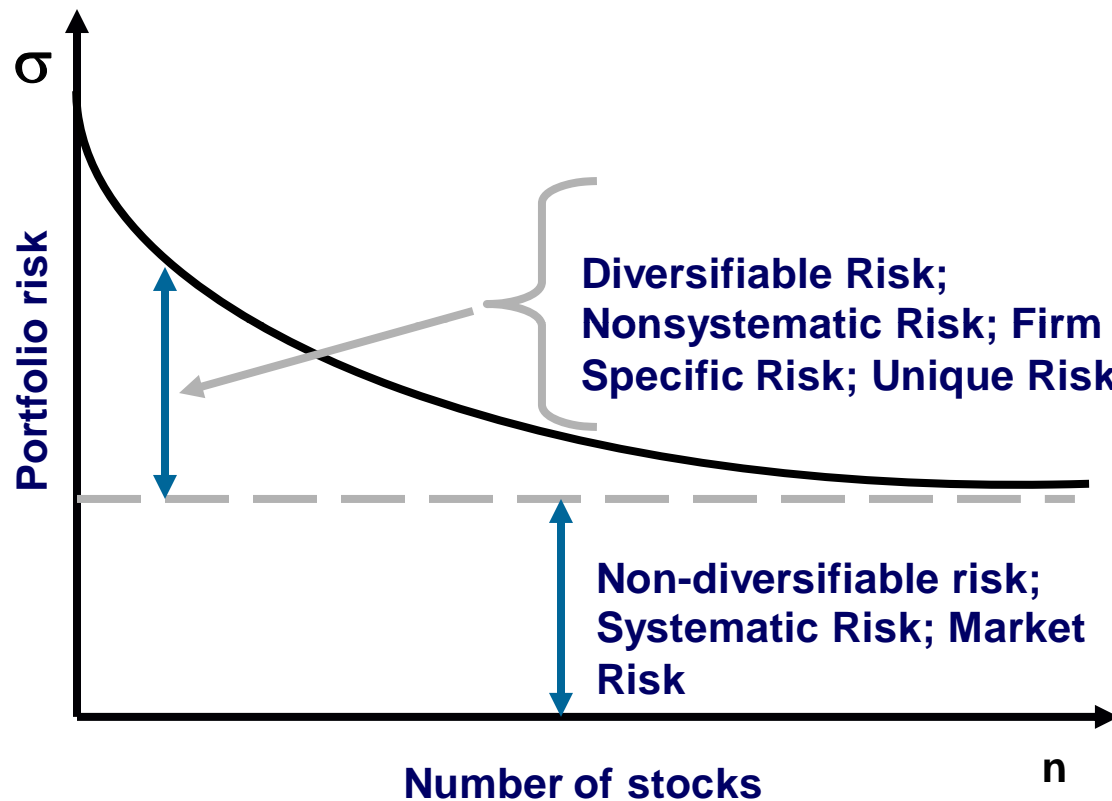


How many eggs should you put in your alternative investment basket ?

By: **Andrew Clare (& Nick Motson*)**
Cass Business School and Fathom

*Clare, A. and Motson, N., (2008), *How many eggs should you put in your alternative investment basket?*, Cass Business School working paper

The textbook result



- Every undergraduate student of finance knows this result, its source and its implications



Plugging the gap

- What trustees want: "*equity-like returns but with bond-like volatility*"
- Holding too few alternatives could leave the investors with unwanted, diversifiable risk. Holding too many could increase the costs
- Related research:
 - *Evans & Archer* (1968) found that 8 – 10 stocks were sufficient to leave investors with only undiversifiable risk
 - *Statman* (1987) found that the number was closer to 30-40 stocks
 - *L'Habitant and Learned* (2002) found that investors needed to hold five to ten hedge funds to eliminate undiversifiable risk
- Our paper asks: *How many do you need to reduce diversifiable risks to a minimum?* This is important because the costs of managing these alternatives can be high: liquidity, tax and monitoring etc



- Start with a pool of n assets
- Drawing randomly from this pool create m portfolios of 2 to $n-1$ assets, where m is typically very large
- Using in sample data calculate the risk characteristics of the portfolios:
 - average return (mean, median)
 - standard deviation of return
 - skewness in return



The alternatives...

Set of alternative asset classes		
Alternative asset classes	Sub category	Index constructed by
Equities	Emerging equities	Thomson Financial
	Small cap	Dow Jones Wilshire
Hedge funds	FoF	CSFB Tremont
	Equity market neutral	CSFB Tremont
	Event driven	CSFB Tremont
	Fixed income arbitrage	CSFB Tremont
	Global macro	CSFB Tremont
	Long/short equity	CSFB Tremont
Commodities	Energy	Dow Jones AIG
	Agriculture	Dow Jones AIG
	Industrial metals	Dow Jones AIG
	Gold	S&P GSCI
	Timber	NBS
Commercial property	US	FTSE EPRA
	Europe	FTSE EPRA
	UK	FTSE EPRA
	Asia	FTSE EPRA
UK residential property	UK Residential	Fathom Financial Property
Bonds	High yield	Lehman Brothers
	Emerging market debt	Merrill Lynch
Currency		Barclays Capital
Managed futures		BTOP
Infrastructure		MSCI
Private equity		Thompson Financial

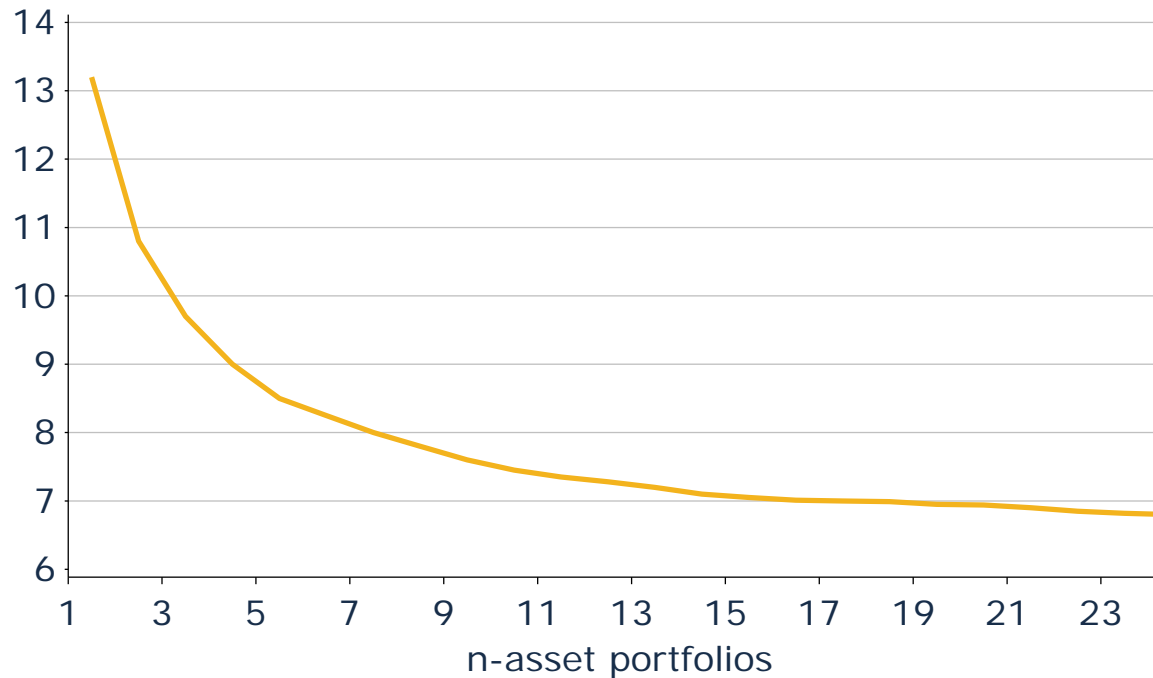
- A fairly representative mix of alternative asset classes



Portfolio standard deviation

Portfolio Standard Deviation

Percent, P.A.



Source: Reuters EcoWin / Fathom / Cass

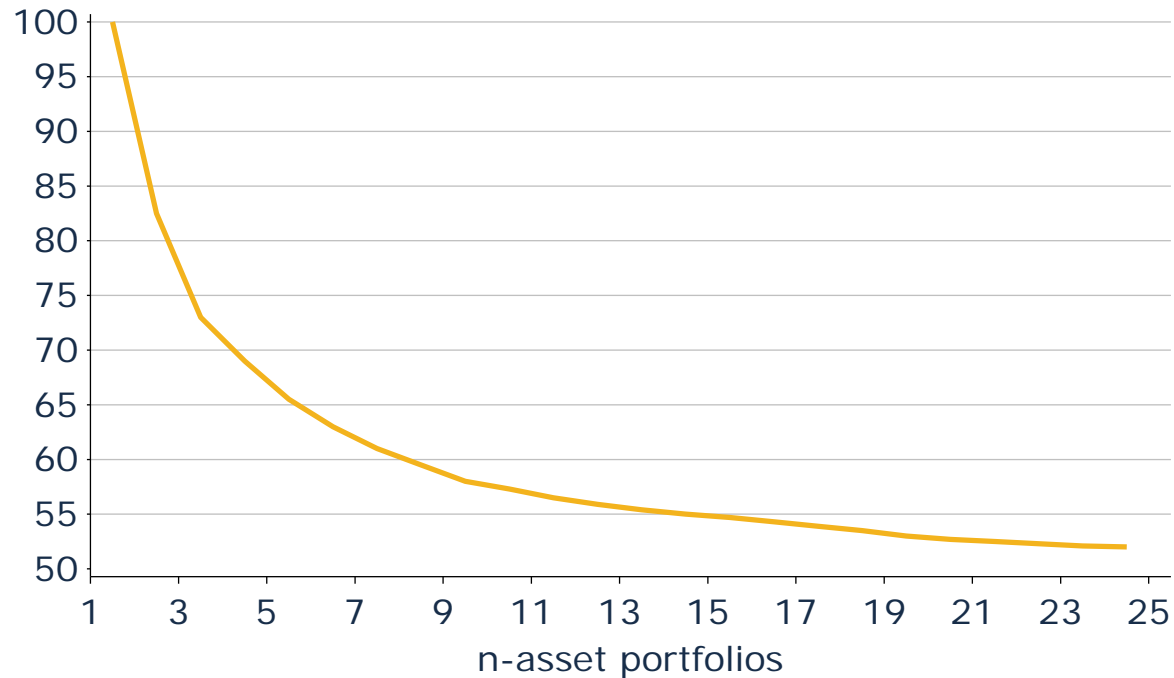
- The classic 'L-shaped' curve



Change in portfolio standard deviation

Change in portfolio standard deviation

Marginal change in portfolio standard deviation, per cent



Source: Reuters EcoWin / Fathom / Cass

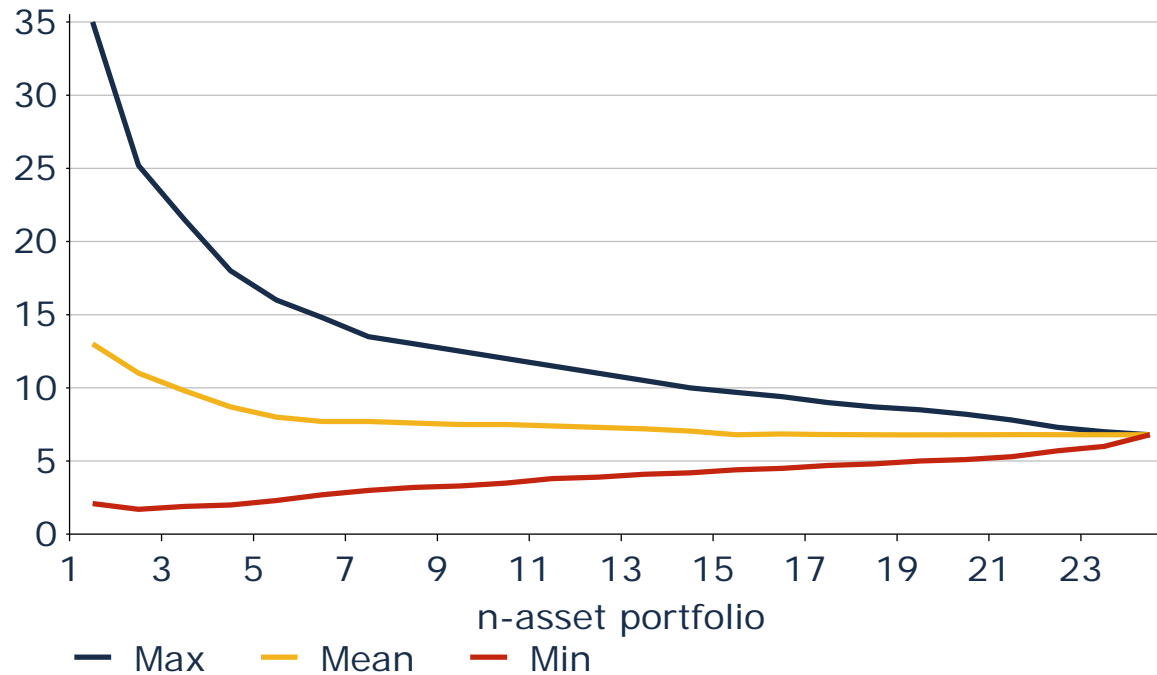
- Most of reduction in volatility achieved by 8 asset classes



Portfolio standard deviation

Portfolio standard deviation

Per cent P.A.



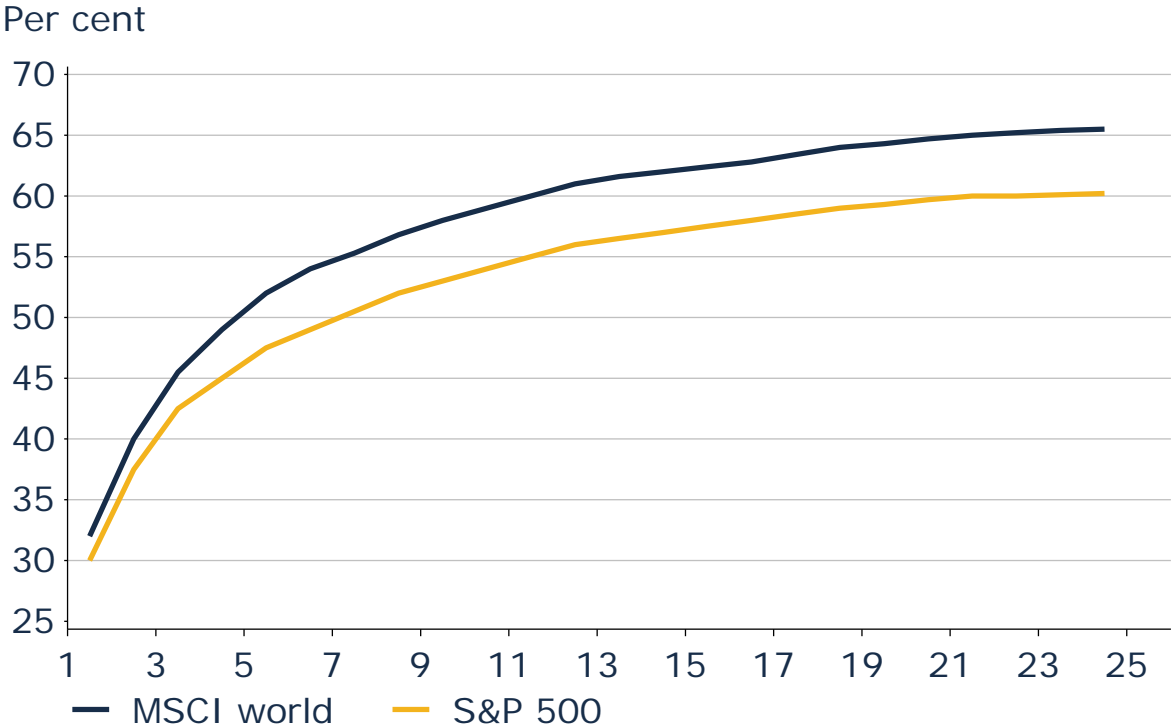
Source: Reuters EcoWin / Fathom / Cass

- But the SD spread is quite wide at 8 asset classes



Correlation with equities

Correlation Coefficient



Source: Reuters EcoWin / Fathom / Cass

- As the alternatives portfolio increases, the correlation rises too



So how many do you need?

- Our research shows that choosing a minimum of 8-10 alternative asset classes – randomly – would give investors most of the diversification benefits they need
- This is important because the costs of managing these alternatives can be high
 - liquidity
 - tax
 - monitoring etc





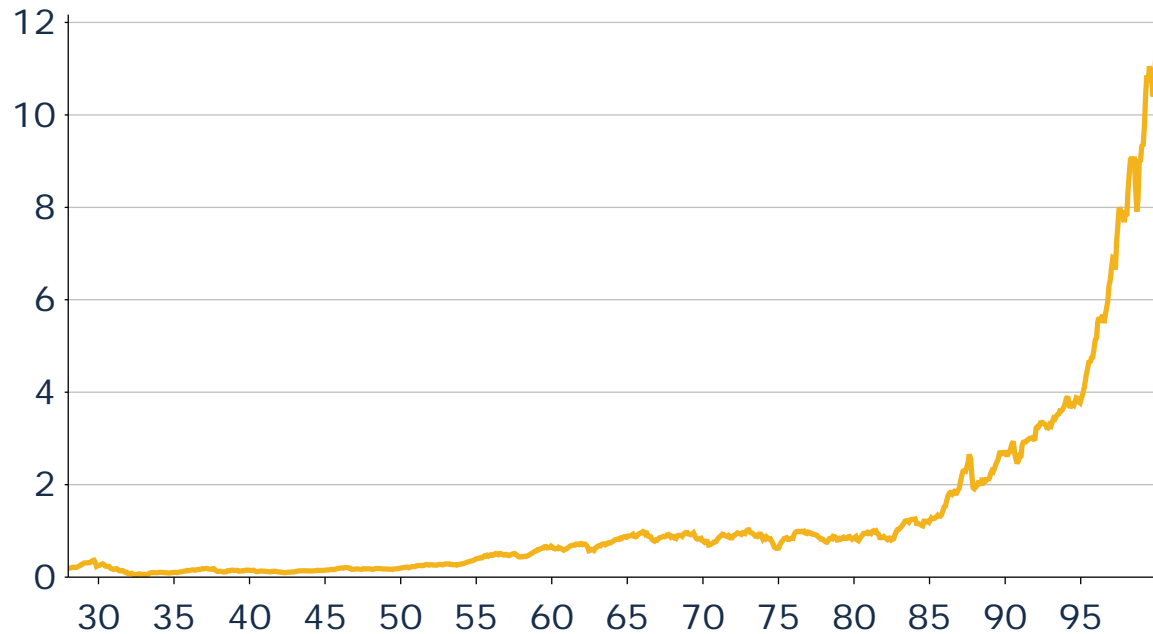
Diversification in practice

By: **Liad Meidar**, Managing Partner, Gatemore Capital Management
Mark Hodgson, Managing Director, Gatemore Capital Management

Institutions have been hooked on equities

Dow Jones industrial average

Index, thousands



Source: Reuters EcoWin / Pertrac

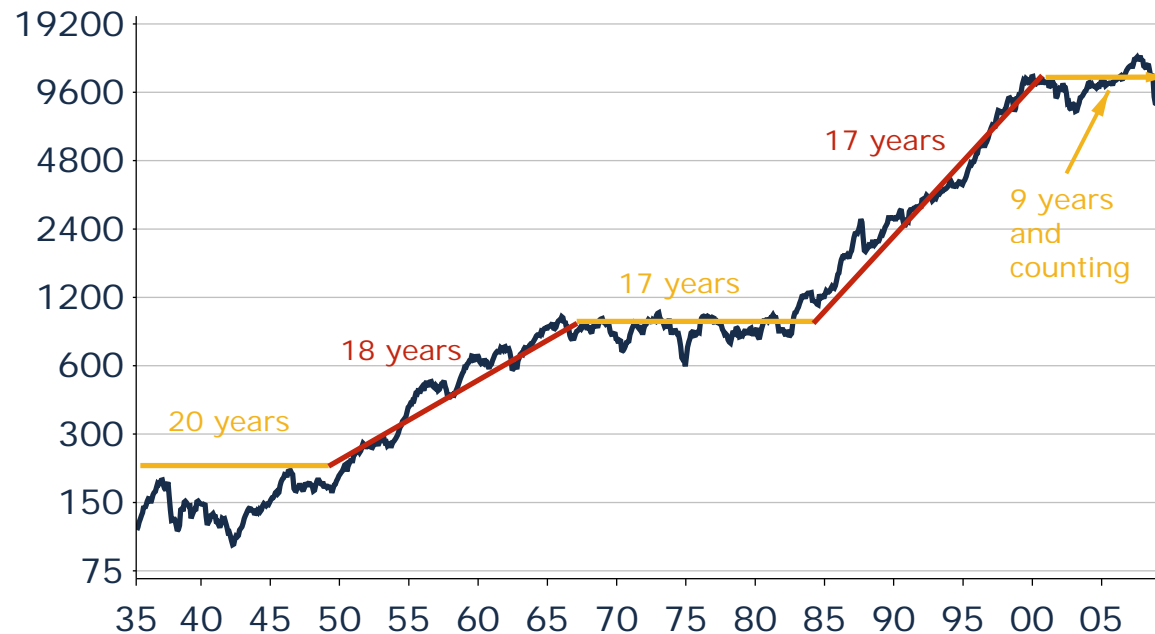
- In the 1980's and 1990's institutions became hooked on equities
- This became almost self fulfilling



Over the century equities have followed a stair step pattern

Dow Jones industrial average

Index, logs



Source: Reuters EcoWin / Pertrac

- Equities can disappoint for long periods
- We are 9 years into the current flat step



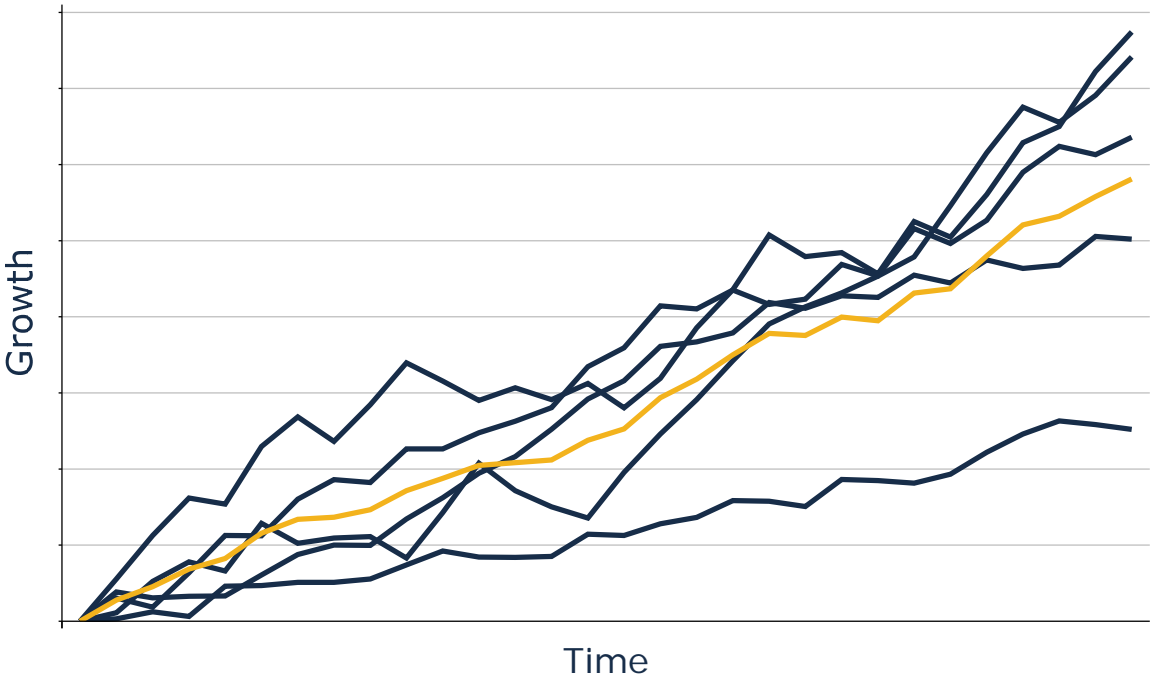
There are no silver bullets

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	H1 2009
Private Equity 35.4%	Commodities 42.4%	Absolute Return 5.2%	Commodities 13.7%	Property 26.9%	Property 27.3%	Commodities 35.8%	Private Equity 28.4%	Private Equity 19.9%	Bonds 4.3%	Absolute Return 7.0%
Equities 30.1%	Property 22.1%	Bonds 4.7%	Bonds 9.6%	Private Equity 23.8%	Private Equity 24.3%	Property 28.4%	Property 23.0%	Commodities 14.3%	Commodities (11.0%)	Bonds (0.8%)
Commodities 27.3%	Bonds 9.5%	Property 4.3%	Absolute Return 5.0%	Equities 20.4%	Absolute Return 12.4%	Private Equity 27.6%	Absolute Return 12.8%	Absolute Return 12.6%	Equities (18.2%)	Private Equity (3.2%)
Absolute Return 23.4%	Absolute Return 4.0%	Private Equity (10.8%)	Property (7.0%)	Absolute Return 17.7%	Equities 8.2%	Equities 24.5%	Equities 6.5%	Equities 9.5%	Absolute Return (18.3%)	Equities (5.0%)
Property 8.1%	Private Equity 3.1%	Equities (14.0%)	Private Equity (7.7%)	Commodities 11.8%	Bonds 6.8%	Absolute Return 8.9%	Bonds 0.7%	Bonds 3.3%	Private Equity (23.3%)	Property (7.8%)
Bonds (0.8%)	Equities (4.1%)	Commodities (17.2%)	Equities (26.8%)	Bonds 4.0%	Commodities 1.4%	Bonds 8.3%	Commodities (10.5%)	Property (8.8%)	Property (27.5%)	Commodities (8.7%)



Benefits of diversification

Combining five non-correlated assets provides more consistent returns



Source: Reuters EcoWin / Gatemore

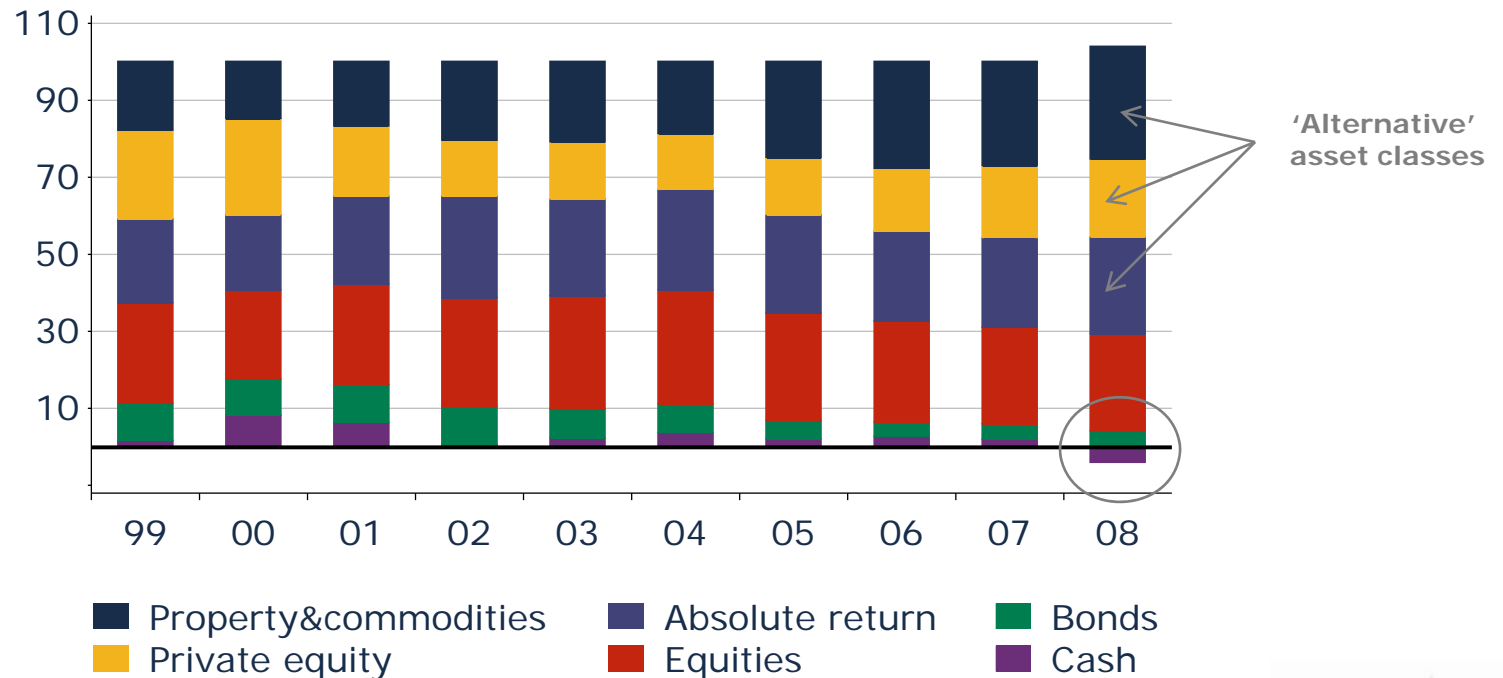
- Diversification reduces volatility



The "Yale Model"

Yale's asset allocation

FYE 30 June



Source: Reuters EcoWin / Gatemore / Pertrac

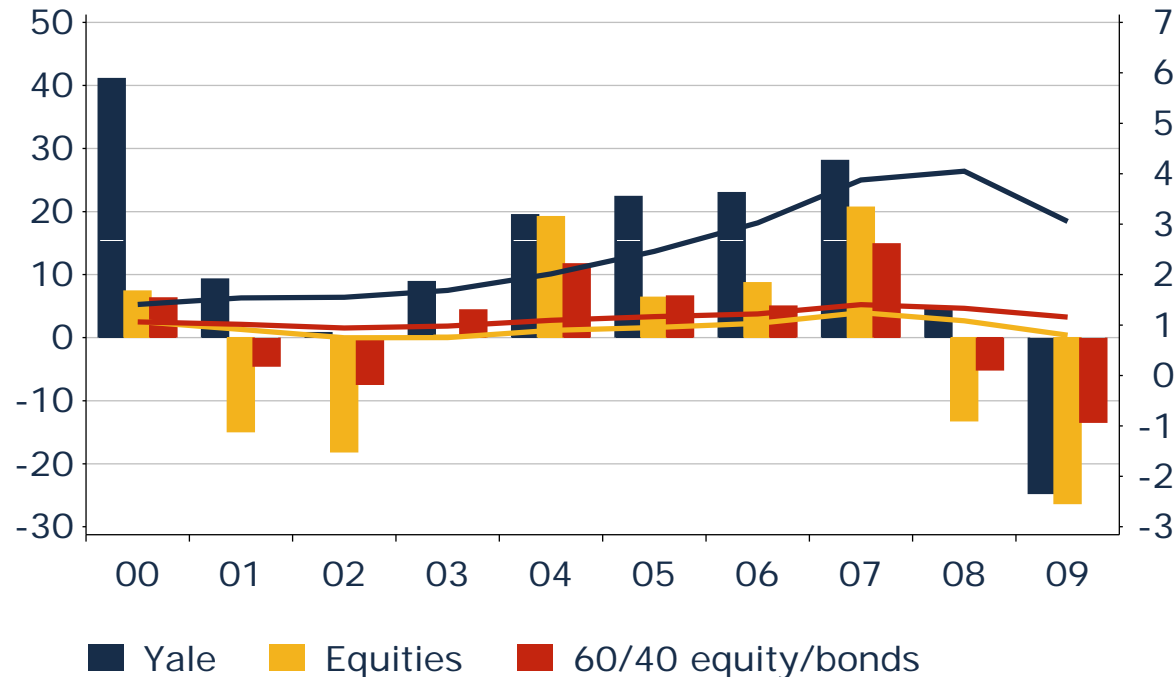
- Yale has remained well diversified
- 2008 was the year that leverage was introduced!



Yale endowment performance

Yale vs 60/40

Bars=per cent annual return, lines=growth of \$1000, thousands



Source: Reuters EcoWin / Gatemore / Pertrac

- Despite a poor 2008/9, Yale still shows strong returns
- Yale significantly out perform traditional pension fund allocations



Gatemo's key principles

1. Look forward, not back

- Build asset allocation strategies based on forward-looking viewpoints, not historical statistics
- Stay diversified at all times
- Apply same principles to manager selection

"If past history was all there was to the game, the richest people would be librarians."

Warren Buffet

2. Maintain a long-term perspective

- Target absolute (not relative returns) over the long term
- Trying to "beat the markets" in the near-term is futile
- Liquidity is key – however, only for meeting future cash flows and not as a tool for marketing timing

3. Take a value approach to every part of the portfolio

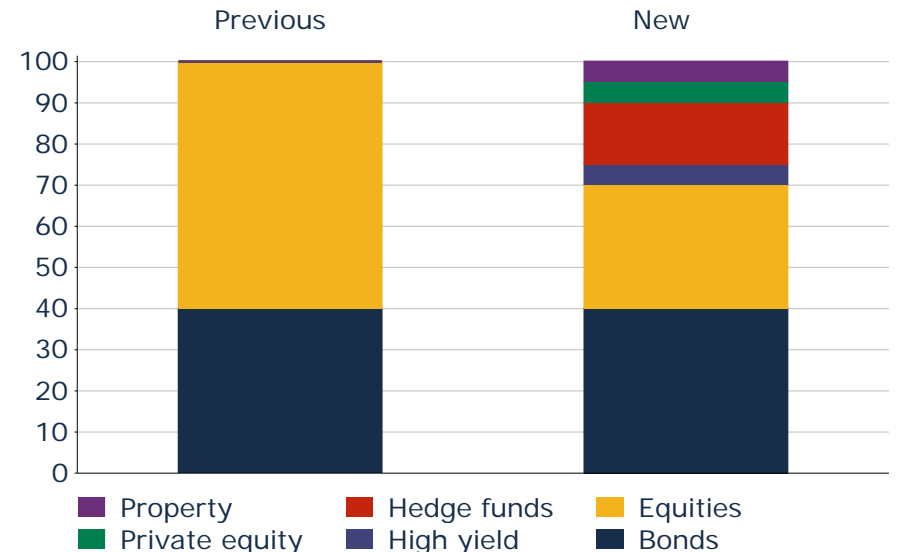
- Maintain a global perspective and avoid "home biases"
- Don't buy what you wish you already owned
- Take the same approach to currency hedging and LDI



Case study

- Gatemore engaged in 2007 with a £60m DB pension scheme
- Traditional 60/40 equity/bond split
- *Gatemore's* steps:
 - Analysed liquidity requirement and set objectives
 - Develop bespoke, well diversified asset allocation
 - Moved gradually to new strategy over 12 months
 - Developed and implemented value-orientated currency hedging policy

Asset allocations

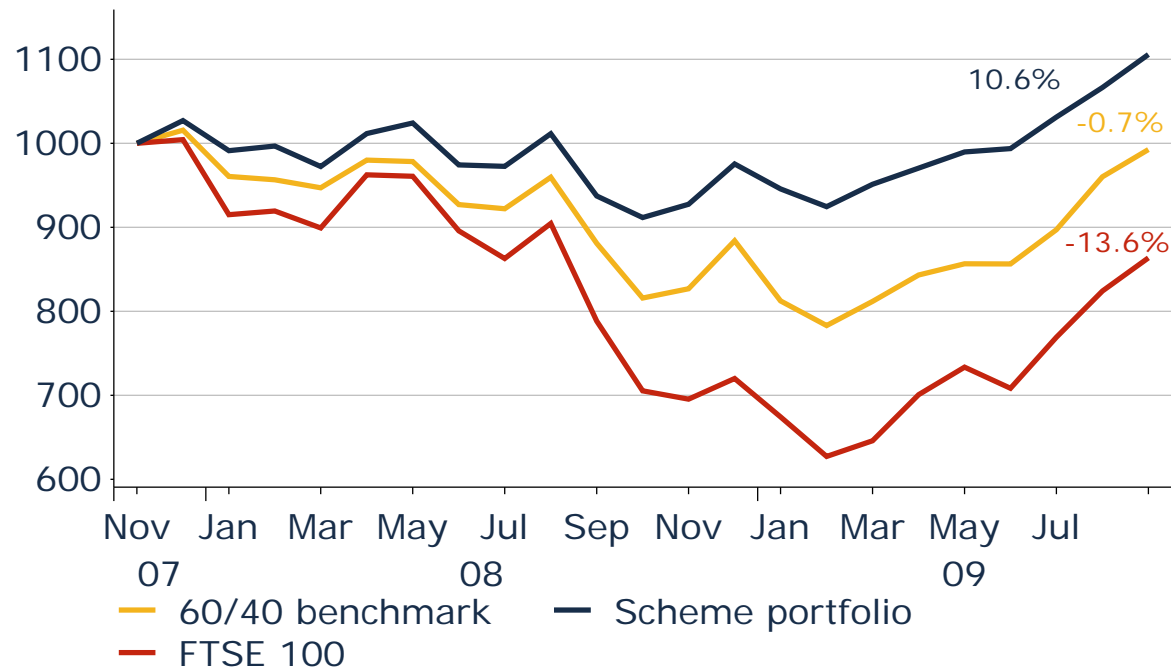


Source: Reuters EcoWin / Gatemore - client specific data



Scheme portfolio vs 60/40 benchmark

GBP



Source: Reuters EcoWin / Gatemore - client specific data

- Significantly outperformed old benchmark, without use of LDI
- Outperformed most diversified growth managers

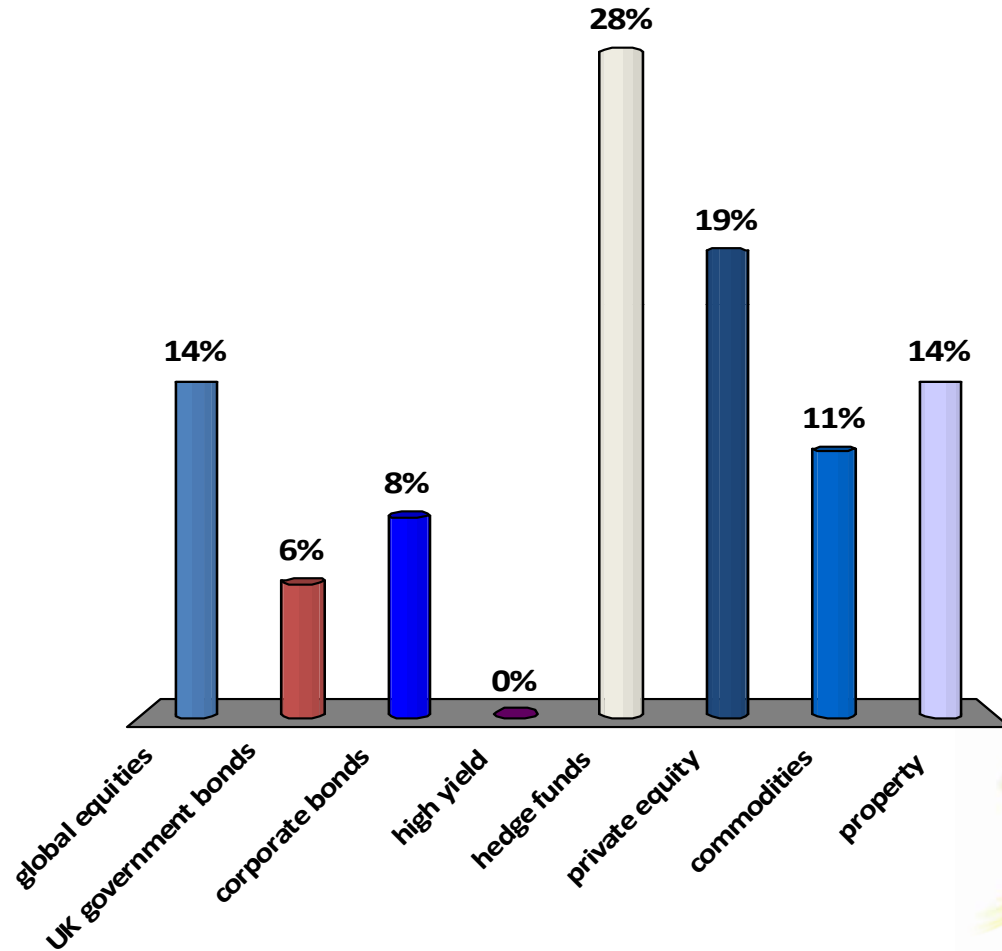




Audience poll

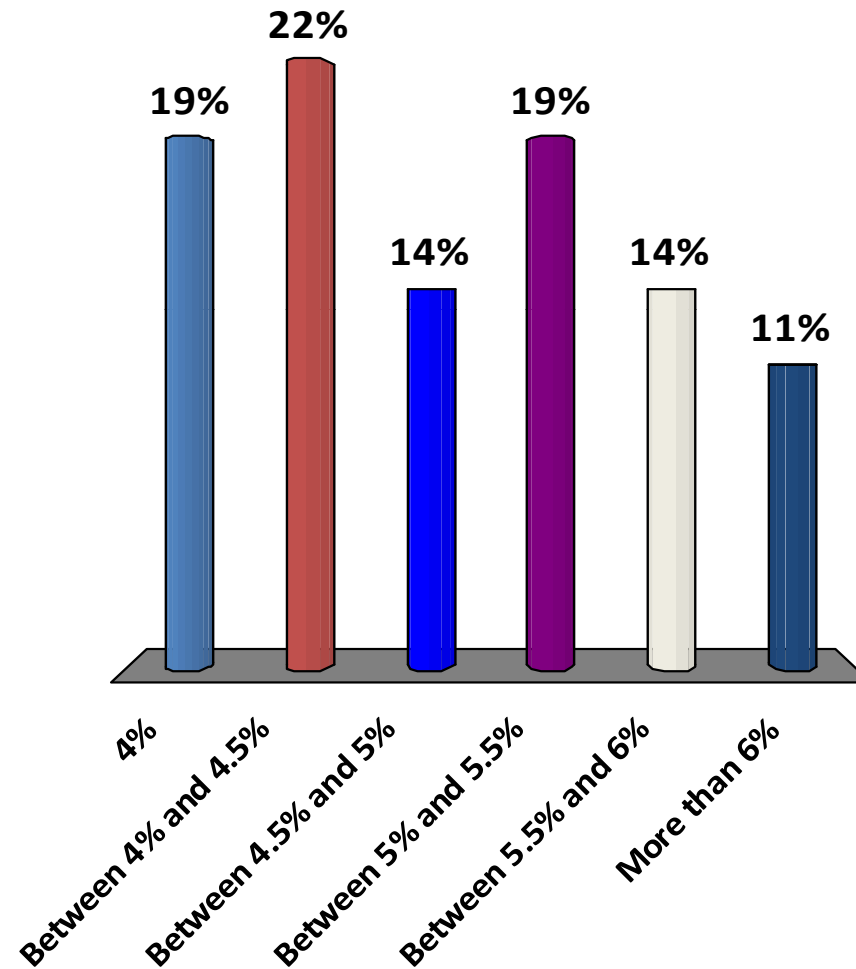
1. Which asset class will be the best performing in 2010?

- a. global equities
- b. UK government bonds
- c. corporate bonds
- d. high yield
- e. hedge funds
- f. private equity
- g. commodities
- h. property



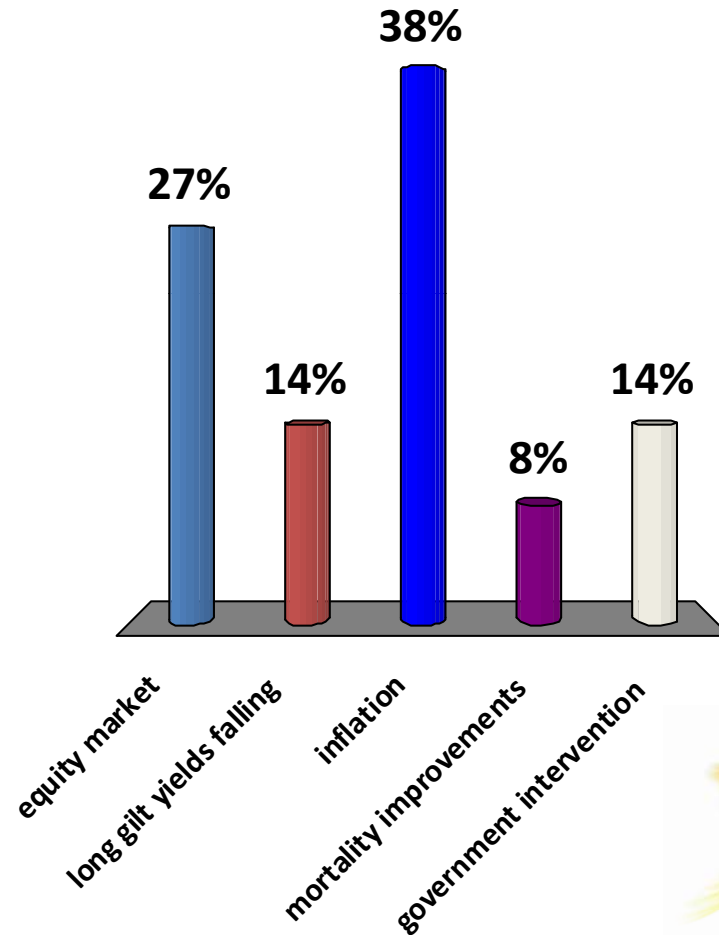
2. Where will long gilt yields be by the end of 2011?

- a. 4%
- b. Between 4% and 4.5%
- c. Between 4.5% and 5%
- d. Between 5% and 5.5%
- e. Between 5.5% and 6%
- f. More than 6%



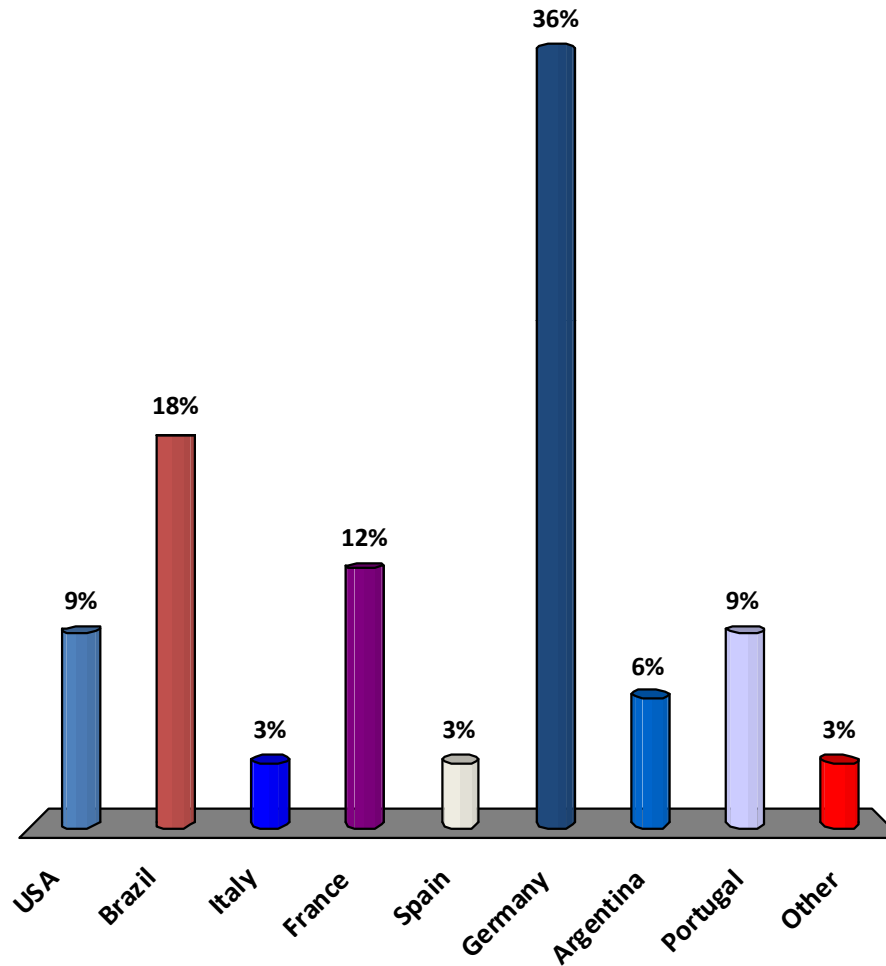
3. What is the biggest risk to funding in 2010?

- a. equity market
- b. long gilt yields falling
- c. inflation
- d. mortality improvements
- e. government intervention



4. Who do you think will knock England out of the FIFA world cup on penalties?

- a. USA
- b. Brazil
- c. Italy
- d. France
- e. Spain
- f. Germany
- g. Argentina
- h. Portugal
- i. Other





Panel discussion

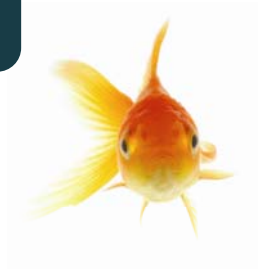
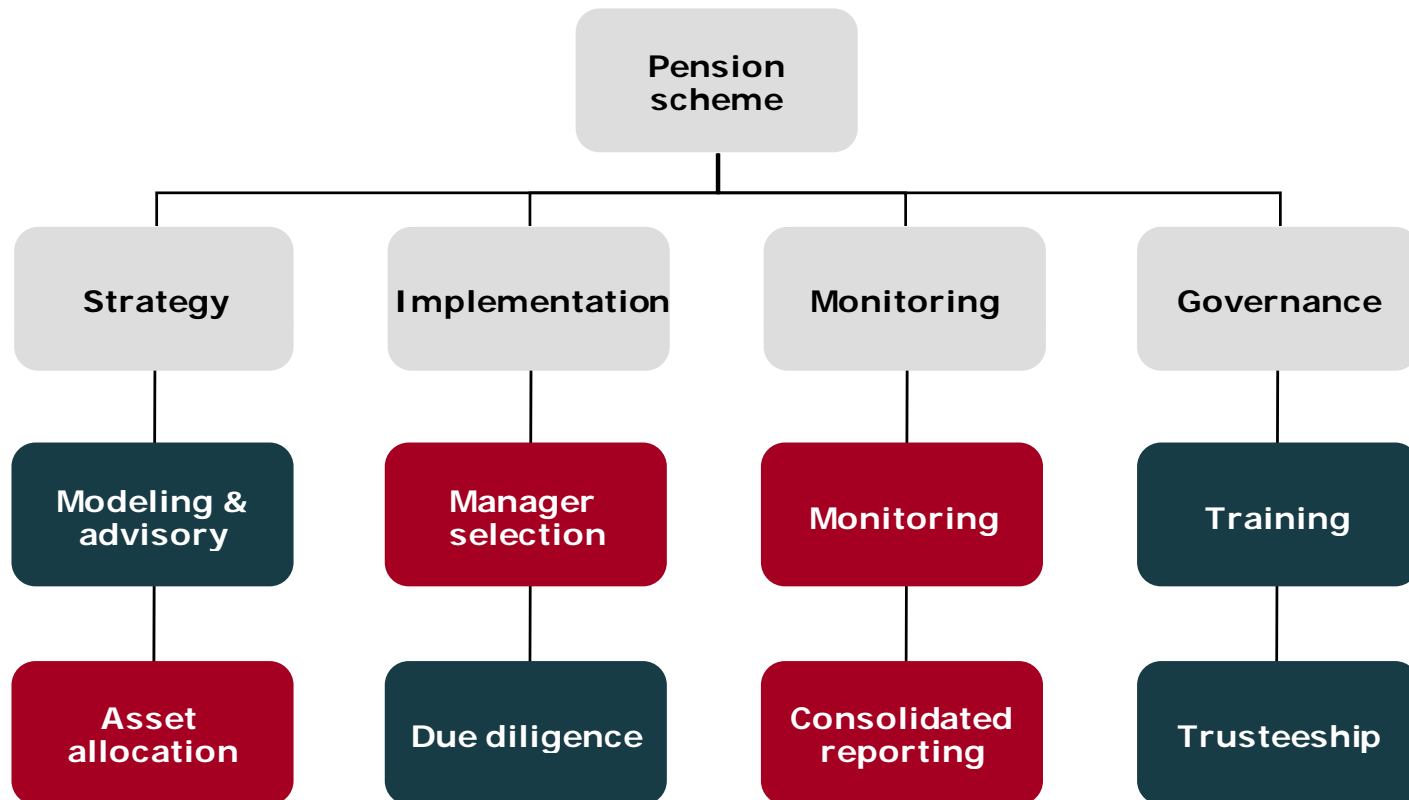
- **Professor Andrew Clare**, Professor of Asset Management, Cass Business School
- **Rebecca Driver**, Director of Research and Chief Economist, Association of British Insurers
- **Penny Green FPMI**, Chief Executive, SAUL Trustee Company
- **Mark Hodgson**, Managing Director, Gatemore Capital Management



Q&A

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How we work together





For further questions, please contact:

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Appendix 1

Biographies

About Andrew Clare Professor of Asset Management, Cass Business School Chairman, Fathom Financial Consulting

- Professor Andrew Clare Professor of Asset Management at Cass Business School and is also Chairman of Fathom Financial Consulting. He has published extensively in both academic and practitioner journals on a wide range of economic and financial market issues.
- He was a Senior Research Manager in the Monetary Analysis wing of the Bank of England where he was responsible for equity market and derivatives research. Andrew also spent three years working as the financial economist in the fund management arm of one of the UKs largest insurers.



About Rebecca Driver Director of Research, Association of British Insurers

- Rebecca is responsible for overseeing the research and evidence which underpins the ABI's lobbying strategy. She is secretary to the Insurance Industry Working Group, co-chaired by the Chancellor of the Exchequer and Aviva CEO Andrew Moss and represents the industry on the Secretary of State's Panel for Monitoring the Economy at the Department for Business, Enterprise and Regulatory Reform. She is also a director of ORIC (Operational Risk Insurance Consortium).
- Previously Rebecca worked for the Bank of England, latterly as Research Adviser to the external members of the Monetary Policy Committee (MPC). Rebecca has also worked as a Research Fellow in the Department of Economics at the University of Exeter and the University of Strathclyde and as an economist for the Economist Intelligence Unit.



About Penny Green Chief Executive, SAUL Trustee Company

- Penny Green is currently Chief Executive of SAUL Trustee Company – trustee for the non-academic staff pension scheme of the University of London. The Scheme has over 27,000 members and over £1bn in assets.
- Penny's career started as a pension administrator liaising between the members, trustees and administrators of the pension scheme at Brown & Root (now Halliburton). She then moved to Texaco, becoming the Senior Pension Administrator. In 1992, she became Deputy Chief Executive of TPAS, The Pensions Advisory Service, and a post she held for five years. After joining SAUL she remained an OPAS/TPAS adviser for some years, and continues to support SAUL staff in volunteering to be advisers. Penny has been SAUL's Chief Executive since 1998.
- Penny is a firm believer in the importance of good pension administration and of "putting something back". She is Chairman of Raising Standards of Pensions Administration, and was the first female President of the Pension Management Institute.
- In 2007 BESTrustees, one of the UK's leading independent trustee companies welcomed Penny to its team. Clive Gilchrist, BESTrustees' managing director commented, "we are delighted that we continue to attract people of Penny's calibre to our team, she has demonstrated her commitment to occupational pensions with her long involvement with the PMI and her work with the Pensions Advisory Service. She will be an invaluable addition to any trustee board".



About Liad Meidar Managing Partner, Gatemore Capital Management

- Liad Meidar co-founded Gatemore in the US and is principally responsible for overseeing Gatemore's asset allocation process and client portfolio construction. Prior to founding Gatemore, Liad was a Managing Director at Ballamor Capital Management, an investment management firm based in Wayne, Pennsylvania.
- Previously, Liad was a Principal of Felix Partners, a financial advisory firm based in New York City. Before his experience with Felix Partners, Liad was CEO of i5 Digital, a technology company incubator, and CEO of Ubarter.com, a publicly-traded, online business services company which was successfully sold to Network Commerce. Liad began his career at BT Alex. Brown, the investment banking division of Bankers Trust.
- Liad serves on the board of directors of MAG Industrial Automation Systems, a privately-held machine tool company. He received an A.B. in economics from Princeton University and completed the International Wealth and Tax Planning program at the Swiss Banking School (Zürich).

