London Borough of Harrow Pension Fund

Equity Training

30 May 2013

Tony Baily
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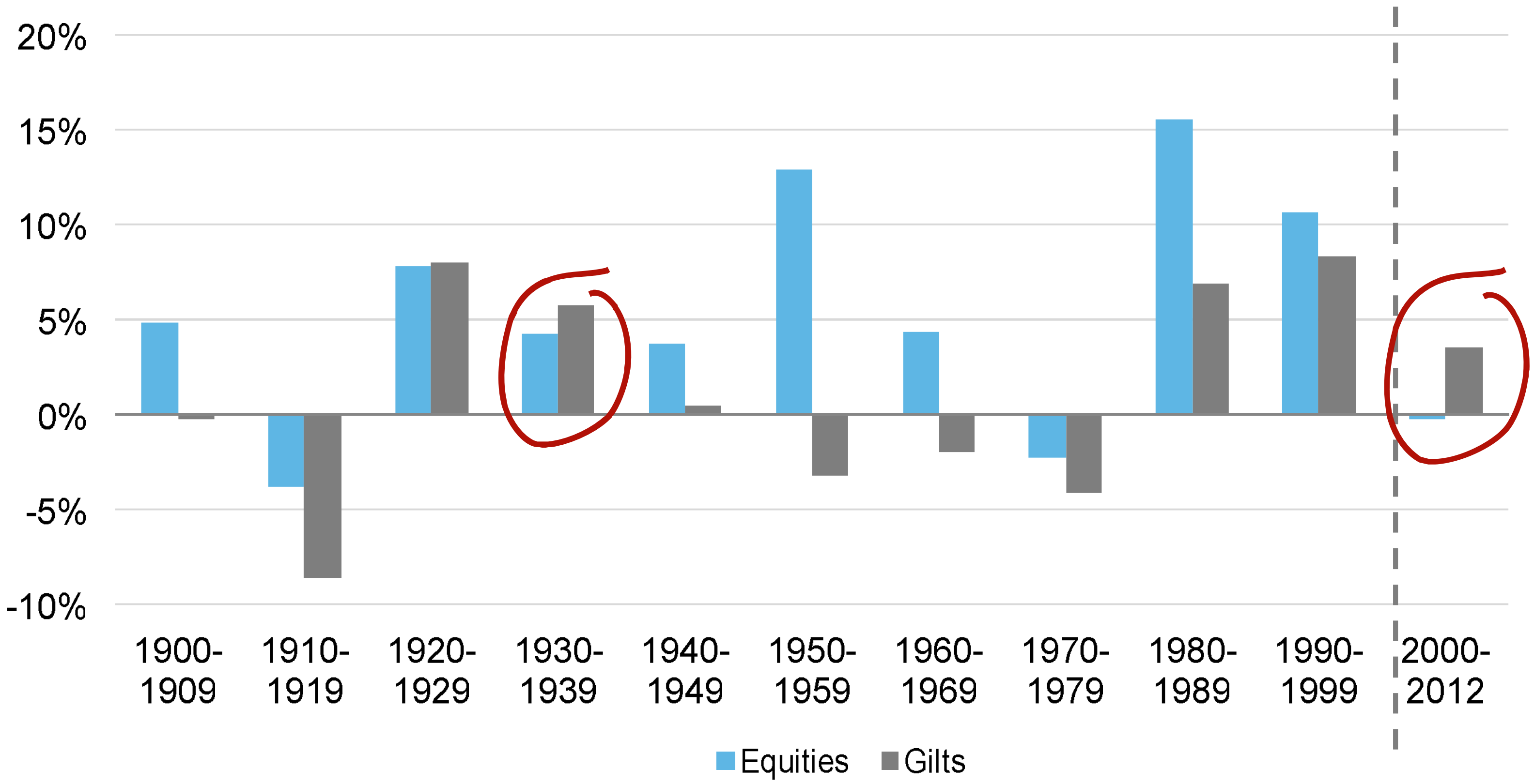
Agenda

1. Role of equities
2. Your asset allocation
3. Management approaches
4. Geographic allocation
5. Implementation
6. Next steps

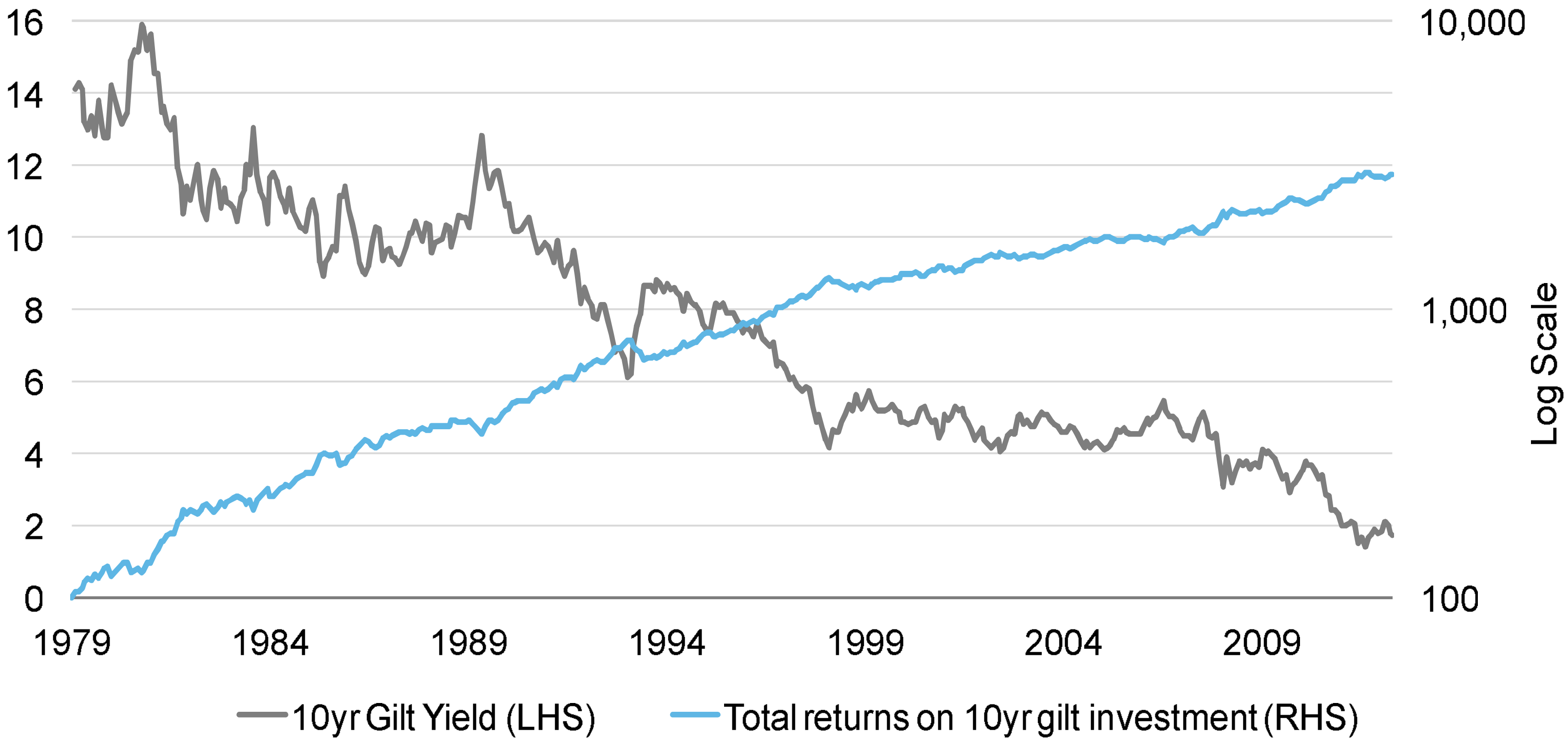
Recent equity-bond performance has been anomalous

Real equity and gilt returns over time (relative to RPI)



Source: Barclays, Aon Hewitt

Bond returns have been boosted by high historic yields and secular downtrend in yields



Source: Datastream

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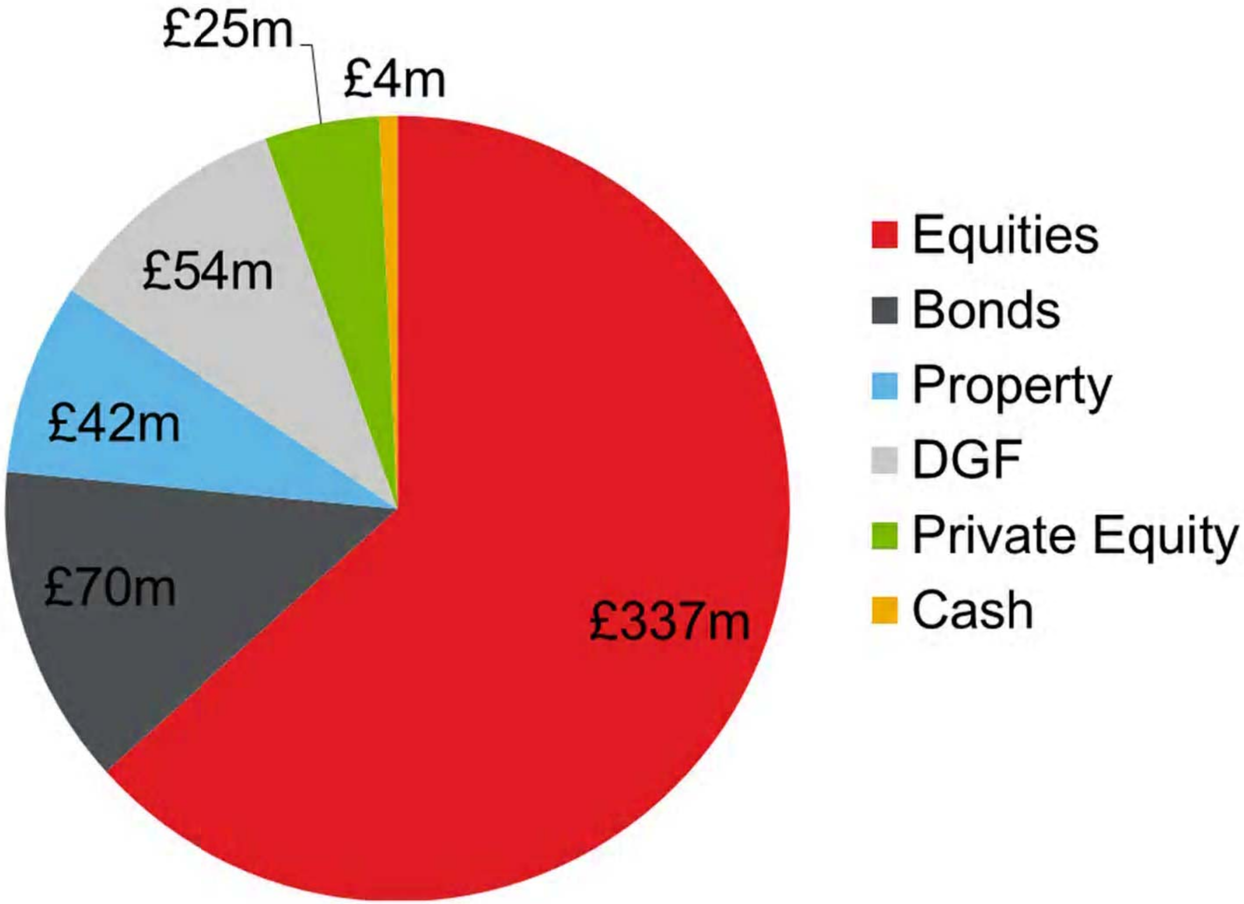
Current asset allocation



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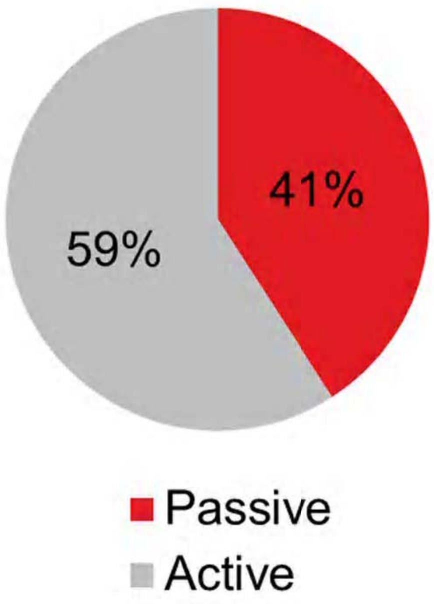
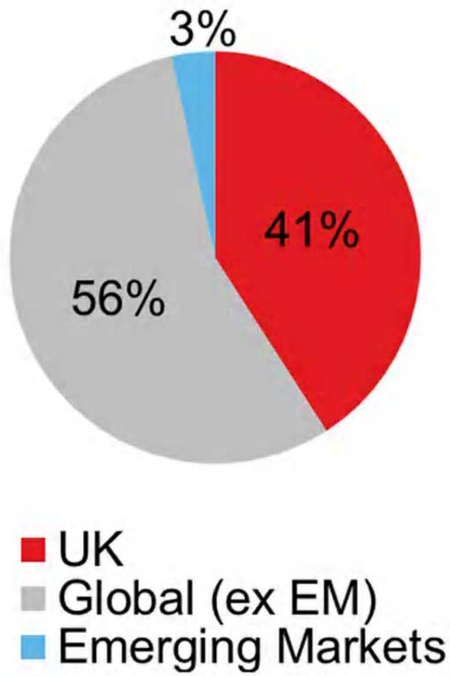
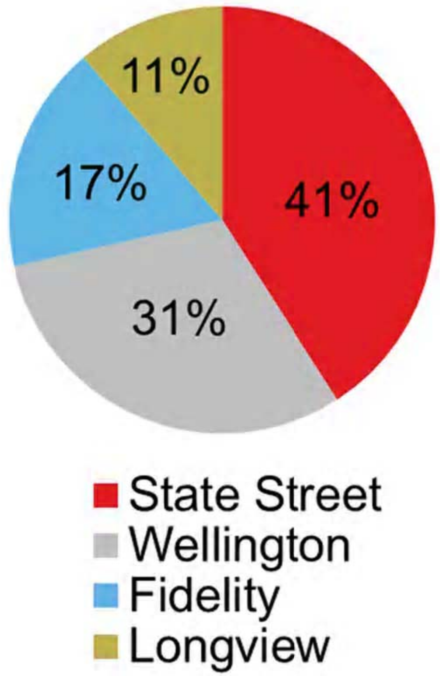
Current equity allocation

Estimated return over 10 years: 8.8% p.a.

Estimated annual volatility: 21.8%







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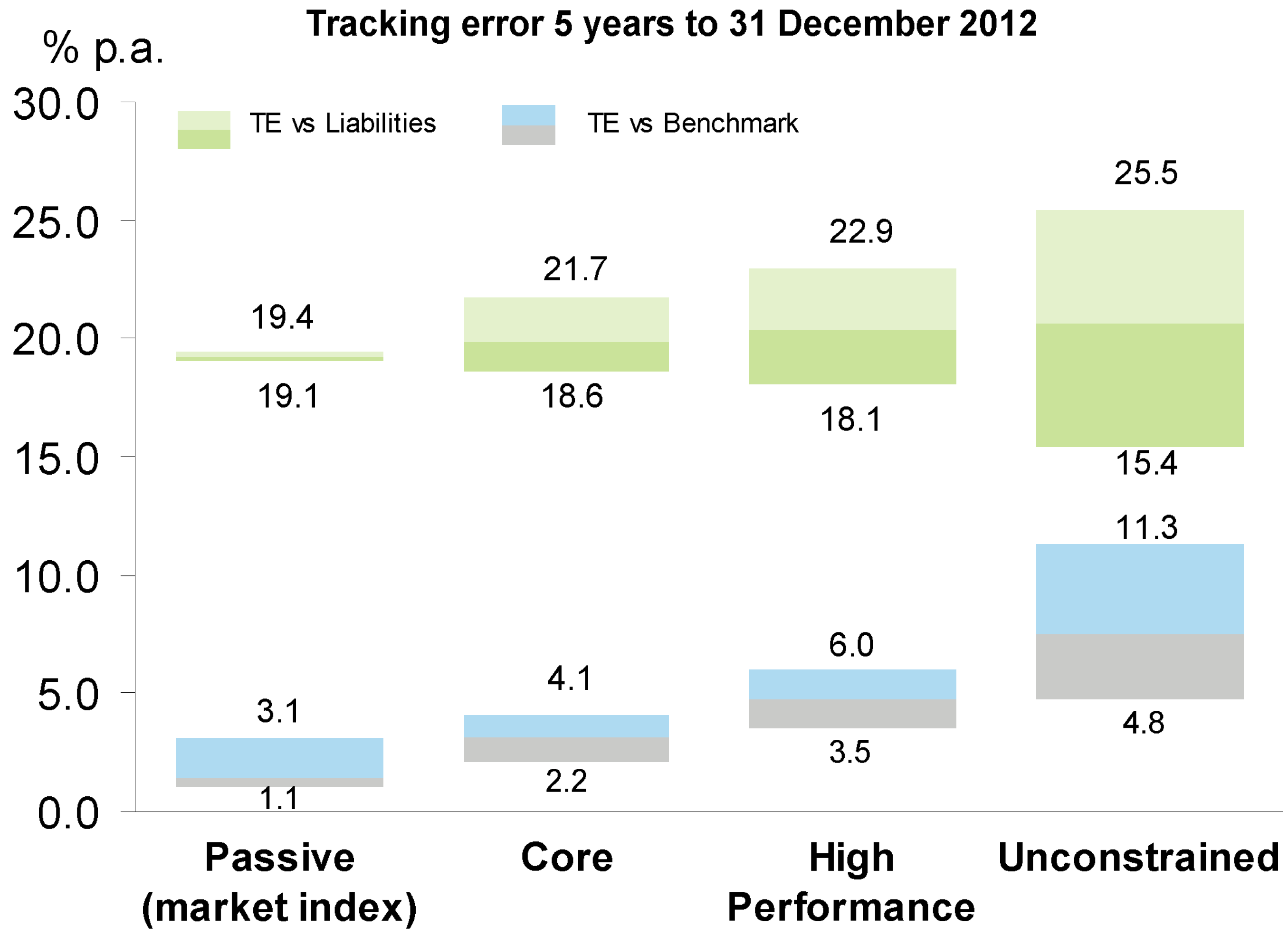
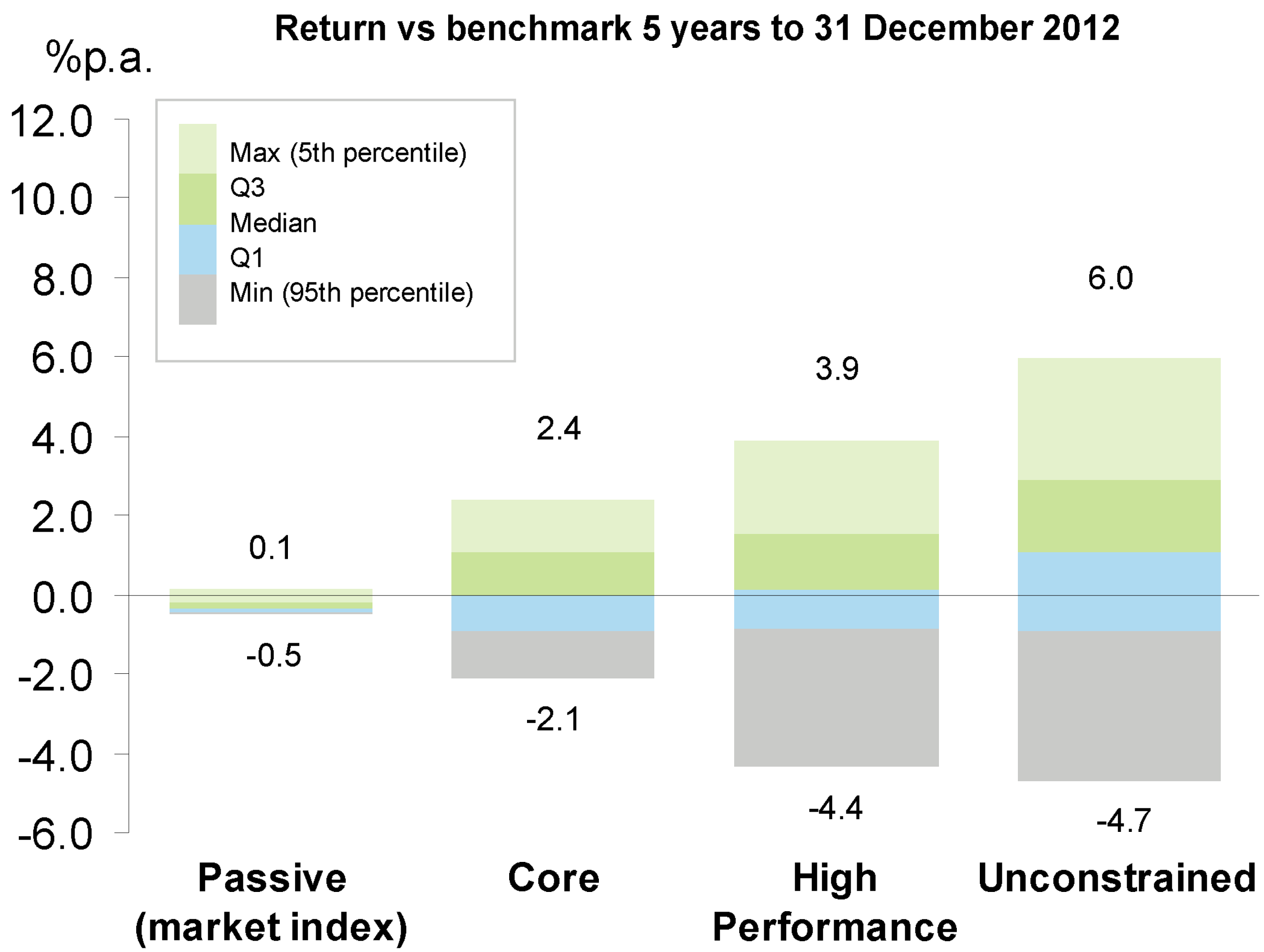
Comparing management approaches

Passive	Aim to match market cap index returns			
Alternative Indexation	Aim to match alternative index returns			
Traditional Active	Aim to outperform index by + 1%	Fees 5 to 200 bp		
High Performance	Aim to outperform index by ≥ + 2%			
Unconstrained	Managers focus on absolute returns			

Is passive really low risk?



Does it work in practice?



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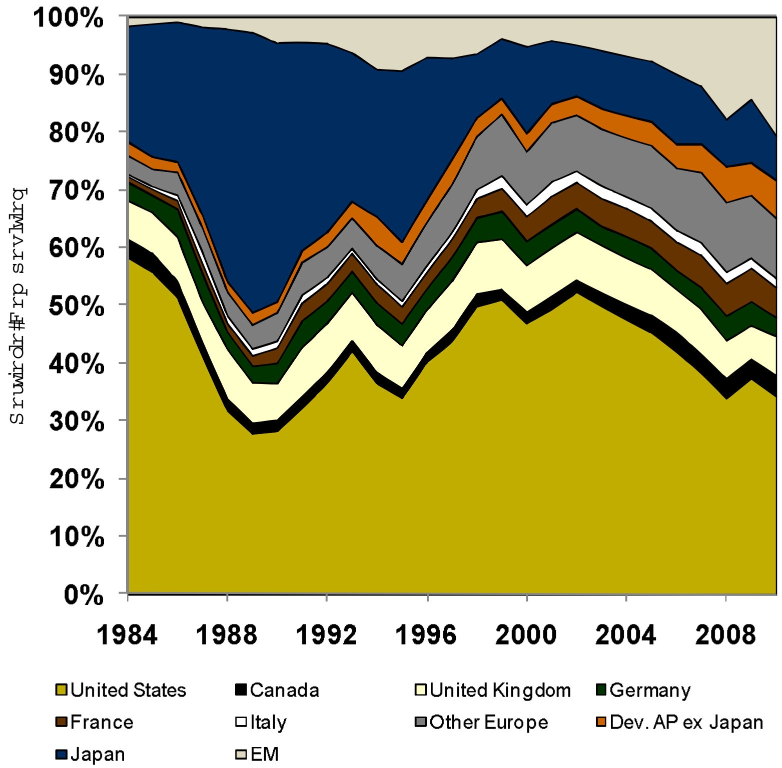
Alternative indexation – the challenge

- Cap weighted indices have long been the standard approach

- But markets can be prone to bubbles!

- Is there a more appropriate approach?
  - Unconstrained investing
  - Alternative indexation



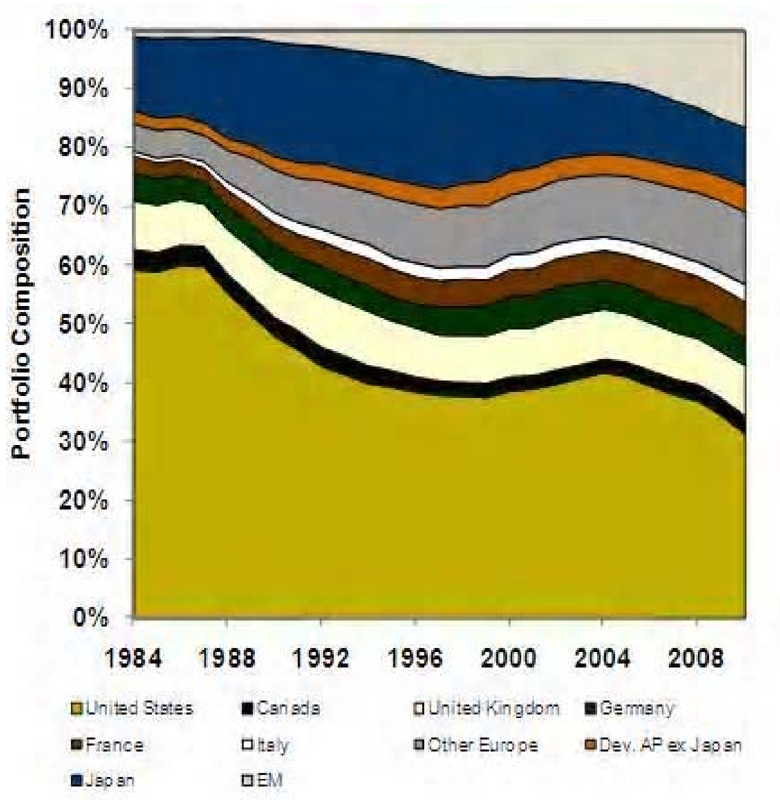
Source: Research Affiliates, LLC.
Based on data from CRSP, Compustat, Datastream, and Worldscope.
Country Weights: All World 3000

Alternative indexation – what is it?

- Weight stocks by factors other than market cap

- Improve portfolio diversification
  – Equal weighting

- Seek returns from alternative risk factors
  – Low volatility
  – Value



Source: Research Affiliates, LLC.
Based on data from CRSP, Compustat, Datastream, and Worldscope.
Rolling 12-Month Averages: 1984–2010

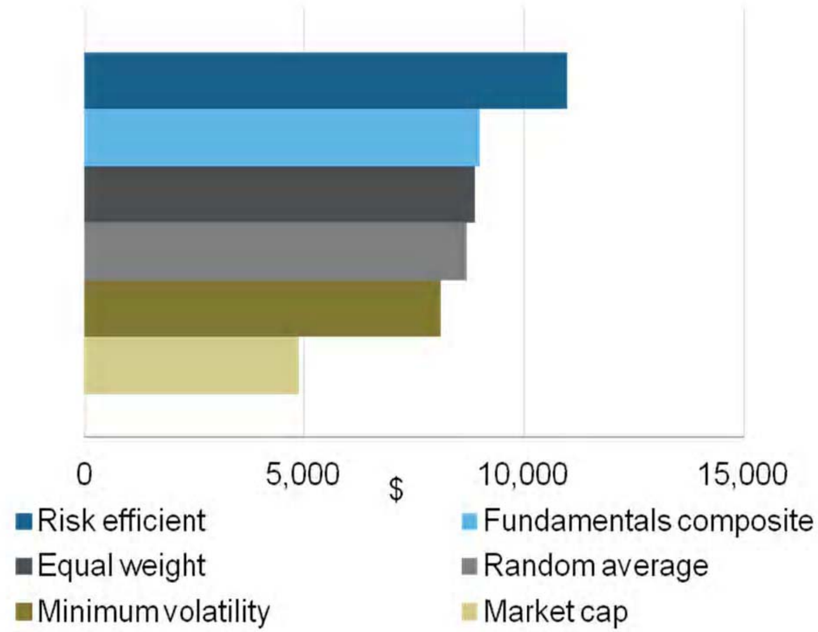
Alternative indexation – the opportunity

- The majority of schemes still need returns from equity markets

- We are working closely with Cass Business School
  – Identifying alternative approaches
  – And the markets they work best in

- Alternative Indexation can deliver better risk-adjusted returns, but often with less liquidity and higher turnover

- Proceeds at end of 2011 of $100 invested in 1968 in US stocks using different weighting methods



Source: "An evaluation of alternative equity indices, Part 1: Heuristic and optimised weighting schemes", and "An evaluation of alternative equity indices, Part 2: Fundamental weighting schemes", by Clare, A., N. Motson, & S. Thomas, Cass Business School, March 2013

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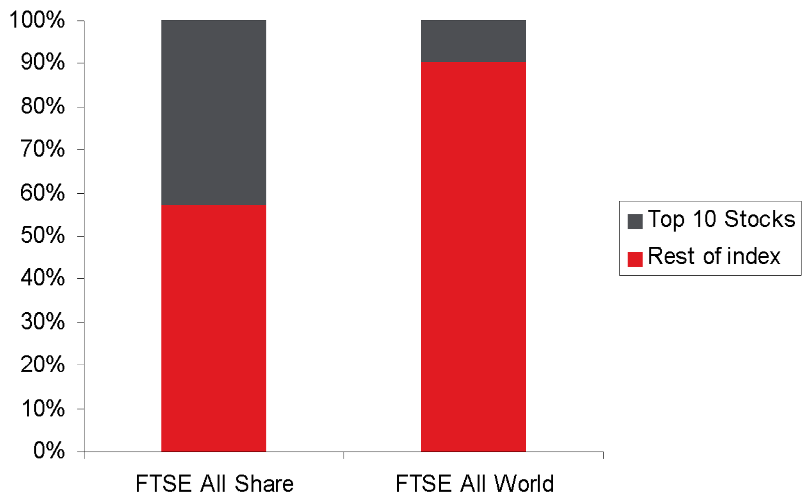
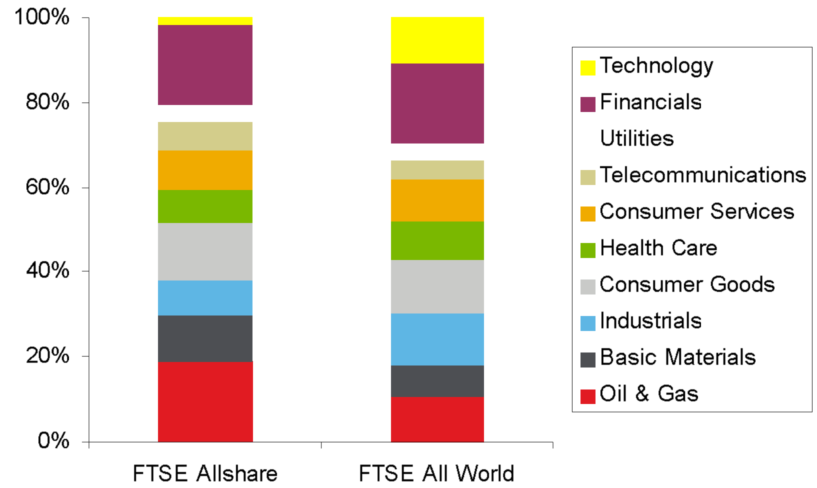
Global versus UK investment

- Why invest globally?
  - UK equities are not necessarily UK businesses, many are multinationals. Around two thirds of UK quoted company profit comes from overseas
  - May provide better stock or sector diversification
  - If stronger returns are expected overseas
- No strong argument for UK over overseas equities
  - Previously thought that UK equities provide a better match for sterling liabilities
  - But equities are usually held as a return seeking asset
  - The decision should instead be based on expected return
  - We expect overseas equities to deliver a higher return per unit of risk and so represent a more efficient investment



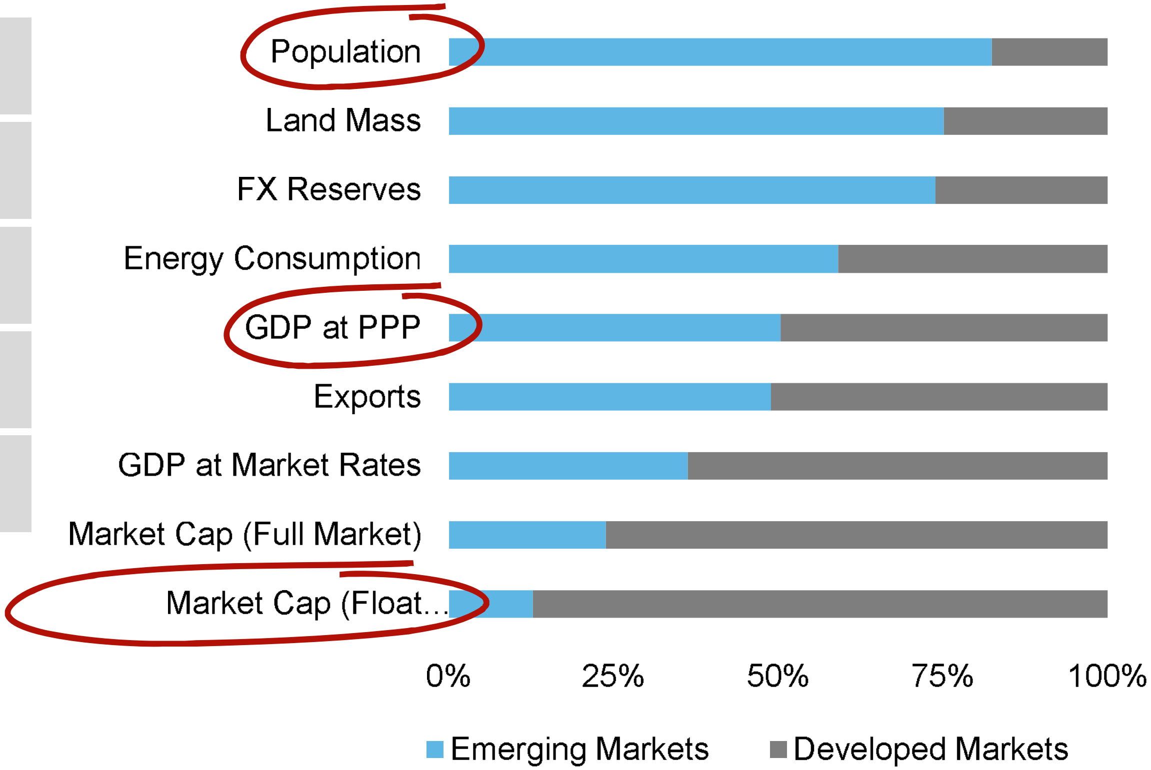


Emerging markets versus developed markets

- Developed markets are struggling…

- Growth potential
- Demographics
- Resource rich
- Fiscal position
- Improving governance

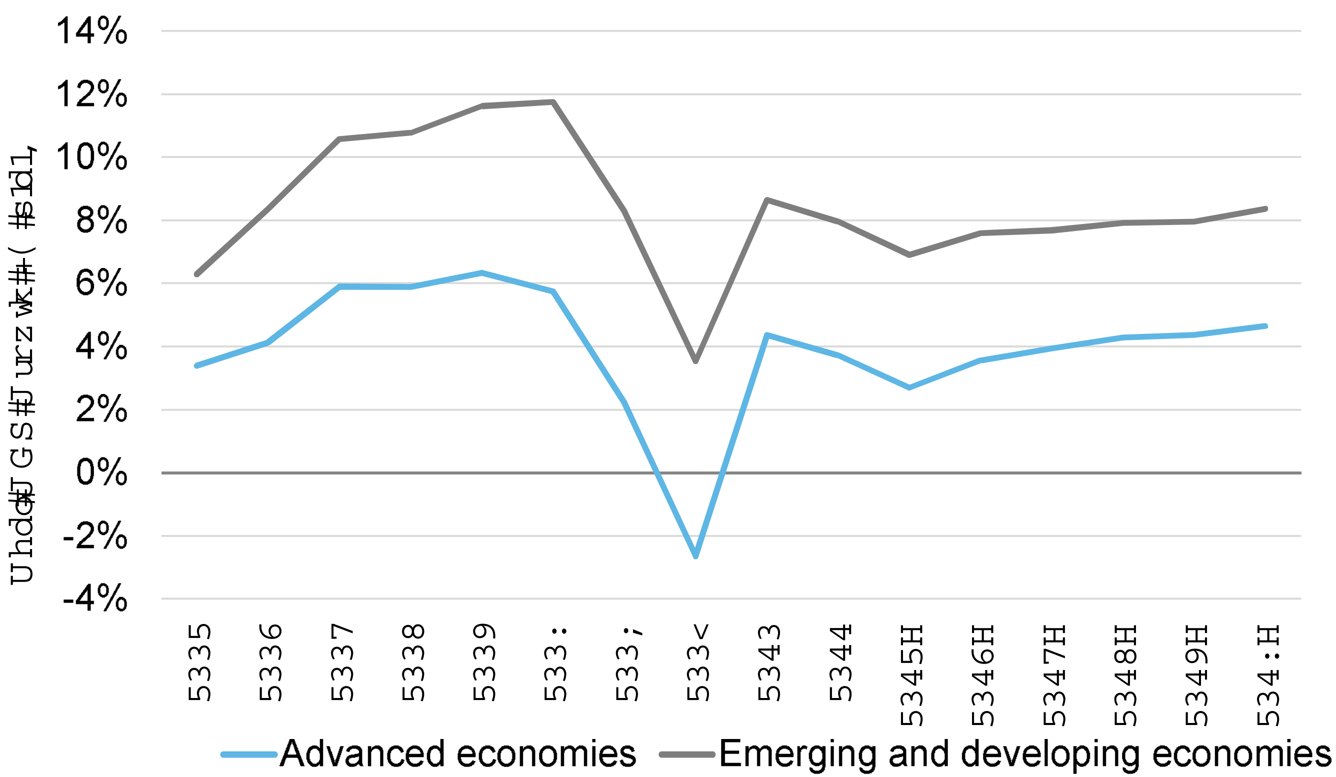
- …the global balance is changing



Source: BofA Merrill Lynch, BP, CIA World Factbook, IMF World Economic Outlook Market cap, FX reserves and population as at 6/11/12; GDP as at 30/4/12, export and energy as at 2011

Emerging markets versus developed markets

- Real GDP growth over time



Growing domestic demand

Return expectations 1% p.a. above developed world

Note: Values from 2012 onwards are IMF projections
Source: IMF

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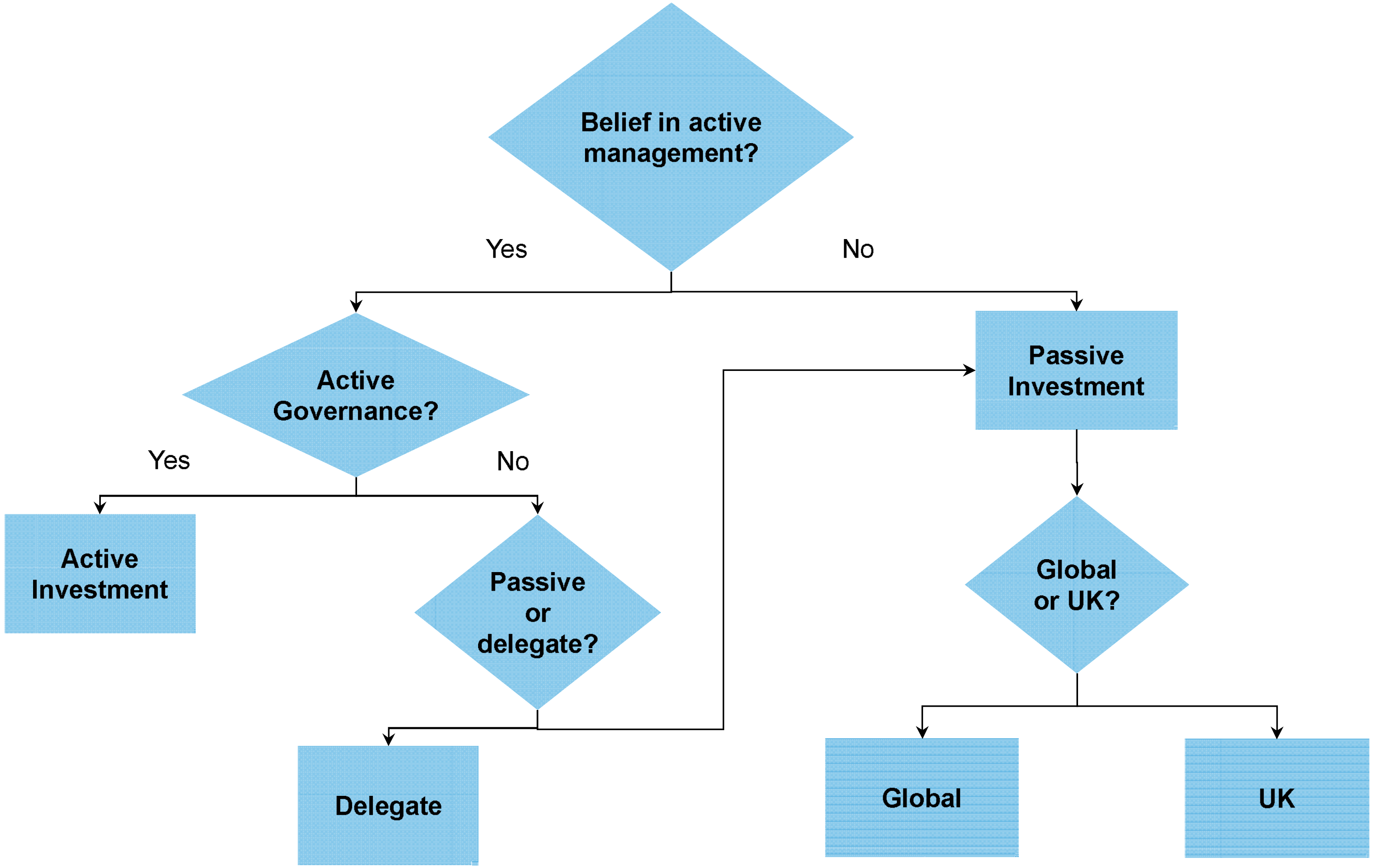
Investment beliefs and governance framework

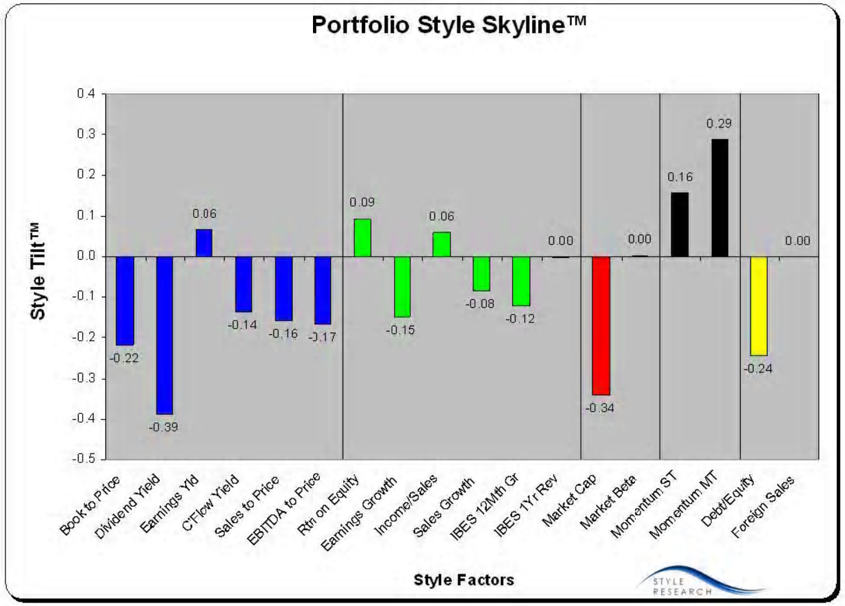


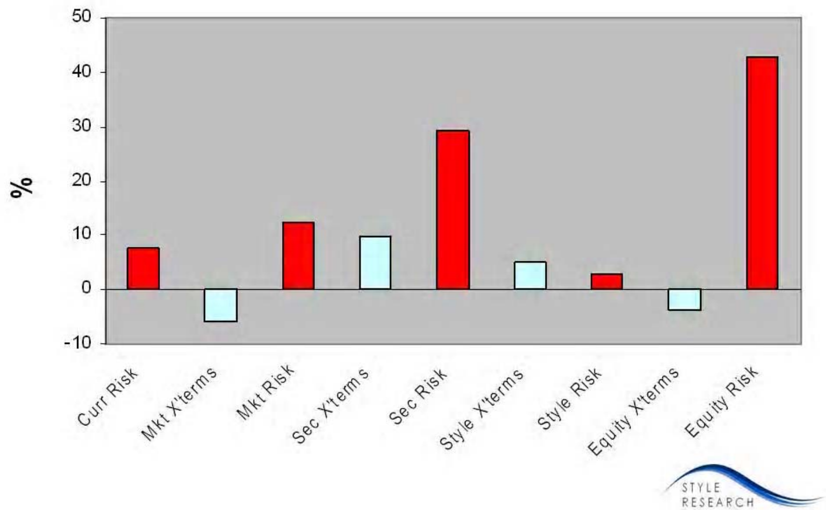
Manager allocation

All the equity managers should complement each other to ensure good diversification. We would normally suggest managers that intuitively would complement Longview.

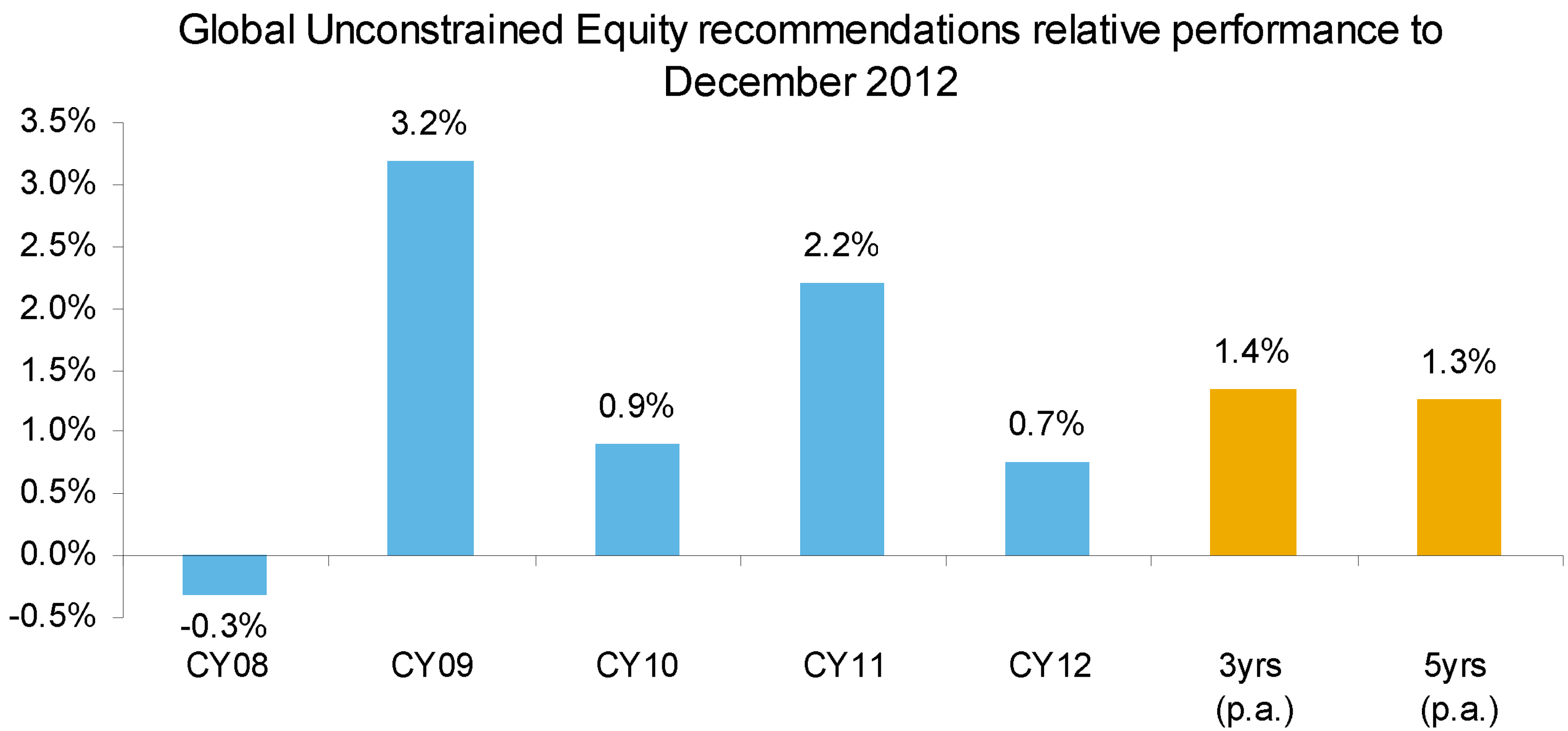
As part of a manager selection exercise we can also complete an in depth complementarity analysis to ensure that the current portfolio of any new managers complement the existing ones.

Below is a style analysis of Longview as an example of some of the output that would form our analysis.





Aon Hewitt BUY list performance



Benchmark: MSCI World untill 1 January 2011; MSCI AC World thereafter.
Source: Aon Hewitt, Fund Managers, Datastream, eVestment Alliance. Data: Gross of fees in GBP.

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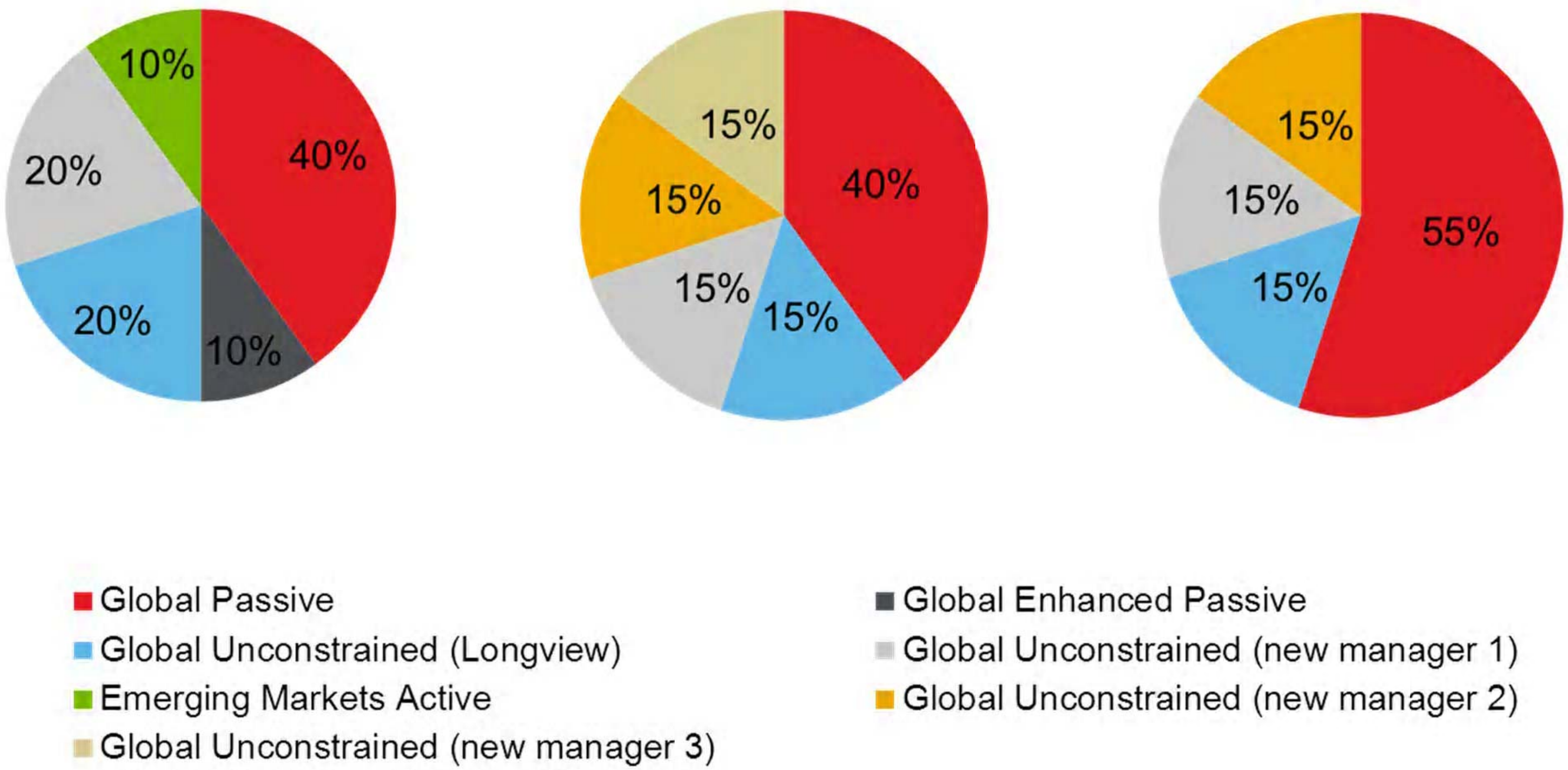
Next steps

1. Agree investment beliefs and governance framework
2. Active or passive investment
3. Geographic focus of investments
4. Complete manager searches as necessary
5. Transition assets

Possible equity strategy options



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Equity Training – Supporting Material

30 May 2013

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Reviewing equity managers – what to ask

- Limited time available for the Committee to review each manager
- Key is to focus on areas that are likely to upset the investment management process
- These can include:
  - Staff departures and arrivals
  - Inflows and outflows of client money
  - Changes to the investment process itself
  - Ownership issues
- Managers should be given a steer to cover these areas at the start of their presentations
- Once this has been done, then anything of interest to the Committee can be asked
- Short term performance can be a red herring

What are Emerging Markets?

- There is no universal definition for what an Emerging Market is, and in fact index providers use different distinctions when constructing their indices. However, broad definitions and index constituents for Developed and Emerging Markets are outlined below, along with a further group known as Frontier Markets:

Developed Markets[1]

AUSTRALIA	DENMARK	GREECE	ITALY	NORWAY	SWEDEN
AUSTRIA	FINLAND	HONG KONG	JAPAN	PORTUGAL	SWITZERLAND
BELGIUM	FRANCE	IRELAND	NERTHERLANDS	SINGAPORE	UK
CANADA	GERMANY	ISRAEL	NEW ZEALAND	SPAIN	USA

Developed markets typically exhibit higher, more stable GDP per capita with well developed investment markets and political structure. Transparency amongst market participants is better than less developed markets.

Emerging Markets[1]

BRAZIL	CZECH REPUBLIC	INDONESIA	MOROCCO	RUSSIA	TURKEY
CHILE	EGYPT	KOREA	PERU	SOUTH AFRICA	
CHINA	HUNGARY	MALAYSIA	PHILIPPINES	TAIWAN	
COLOMBIA	INDIA	MEXICO	POLAND	THAILAND	

Countries that fall into this category are generally low to middle income nations which are pursuing substantial economic and political reforms and are thus becoming more integrated into the global economy.

Frontier Markets[1]

ARGENTINA	ESTONIA	LEBANON	PAKISTAN	SRI LANKA
BAHRAIN	JORADN	LITHUANIA	QATAR	TUNISIA
BANGLADESH	KAZAKHSTAN	MAURITIUS	ROMANIA	UKRAINE
BULGARIA	KENYA	NIGERIA	SERBIA	UAE
CROATIA	KUWAIT	OMAN	SLOVENIA	VIETNAM

A frontier market is an Emerging Market in a low to low middle income country, are relatively small and illiquid and have generally less information and transparency than other Emerging Markets and/or have investment restrictions in place.

1: Based on MSCI Classification

Active manager styles

- Managers will use a wide range of sources to research stocks
  - Analyst ratings and press ratings
  - Company visits
- Analysts will use a number of key ratios to analyse stocks and build portfolios
  - Price / Earnings (P/E) ratio
  - Information ratio
  - Tracking error
  - Beta
- What is the underlying philosophy? Examples include *(see appendix for further details)*:
  - Quantitative
  - Value
  - Growth
  - Small cap
  - Momentum

Investment style – Quantitative, or “Quant”

– In general, “quant” managers use more of other people’s (brokers’) views and factual information to make their investment decisions rather than their own views on stocks

– Use mathematical models to determine:

  • Attractive stocks

  • Portfolio construction

– Generally take lots of small bets to add value

Investment style - “Value”

- Assumptions
  - Market over-reacts to bad news
  - In the long-term, fundamentals prevail
- Identify “under-rated” and “out of favour” shares
  - High dividend yields
  - Low price/earnings ratios
- “Recovery” is a variant of “Value”

Investment style - "Growth"

– Assumptions:
  - Buy equities for their future earnings
  - Bias to "growth" industries
– Identify stocks with good long-term prospects
  - Low dividend yields
  - Industries / products of the future

Investment style - “Small Cap”

- Assumptions
  - Small companies have potential to grow
  - Small companies often less well researched
  - …sometimes called “the research gap”
- Usually focussed on a specific business

Investment style - “Momentum”

- Assumptions
  - Trends can be observed in market movements i.e. if markets rise one day, they are likely to continue to carry on rising the next day
  - This is because investors’ attitudes tend to be affected by recent behaviour of markets – investors get attracted to stocks that are ‘on the up’
  - Such behaviour can be exploited by managers
- Tends to be a component of quantitative approaches

Glossary

- **Active management** is where the manager aims to outperform the index by picking the best performing stocks within that index.
- **Alpha** is often used in a generic sense to indicate outperformance. Mostly it is used to describe the difference between a fund's return and a benchmark return. This may or may not be risk-adjusted.
- **Basis point (bp)** is defined as one hundredth of 1%. So 45b.p. is equivalent to 0.45%. Basis points are used for convenience when all the percentages being discussed are small. Also abbreviated as bps.
- **Beta** is an indication of the sensitivity of a stock's movements to market movements and can be interpreted as exposure to the broad stock market. A beta of 0.7 means that if the market moves 1 unit the individual stock is expected to move 0.7 units.
- **Enhanced indexation** is where a passive manager aims to enhance the return above the benchmark modestly but does not deviate significantly from the benchmark.
- **Equity risk premium** is the extra return needed to persuade investors to hold equities rather than government bonds ("risk free investments")
- **Growth stock** A fund manager will describe a stock as a 'growth stock' if they believe that the stock has good long term growth prospects. A growth stock usually has a low dividend yield and may be in an industry or product of the future. A manager who tries to outperform the benchmark by correctly identifying growth stocks is said to have a 'growth style' or 'growth bias.'
- **Information ratio** is the ratio of portfolio excess return (alpha) to risk. It is a measure of fund manager performance as it shows how much return the portfolio is receiving in compensation for the risk being taken relative to the benchmark. The formula is as follows:

  Information ratio = Average excess return/Standard deviation of excess return.

Glossary

- **Liability Driven Investing (LDI)** is a framework for measuring your assets against your liabilities and is commonly taken as referring to an actual change in asset strategy to manage the assets closer to the liabilities.
- **London Interbank Offer Rate (LIBOR)** is the interest rate banks charge each other for short term lending. It is often used as a measure of a cash return when setting benchmarks.
- **Long** in terms of investing is where the stock is bought, and therefore the manager is assuming that the stock price will rise.
- **Market capitalisation** is the total value of all the shares currently in issue in a company.
- **Passive management** is where the manager aims to track an index return by holding the entire index.
- **Price / earnings ratio** is defined as the ratio of a company's current share price compared to its per-share earnings. Currently the average P/E ratio of the stocks in the FTSE All-Share is around 18.

$$\text{P/E Ratio} = \frac{\text{Share Price}}{\text{Earings per Share (EPS)}}$$

- **Quantitative investing** is where all portfolio decisions are automated. A computer programme is used to select the stocks in the portfolio by analysing data relating to the stocks and applying a set of rules. The role of the portfolio manager is to set up the rules and other parts of the system when the process begins and then to monitor it going forward.
- **Regret risk** is the risk of taking actions that differ from the starting position or the accepted norm.

Glossary

- **Tracking error** is a measure of the volatility of relative performance. It is calculated as the standard deviation of the difference between the performance of the portfolio and the performance of the benchmark. Tracking error is often used to measure how much active risk is being taken in a portfolio. Generally, the more active risk a manager takes, the more volatile the relative performance. As an example, an equity portfolio with an outperformance objective of 1% would normally have a tracking error in the range 2-4%.
- **Value stock:** A fund manager will describe a stock as a ‘value stock’ if they believe that the current market price is less than the stock’s intrinsic value. This can occur due to negative market sentiment. A value stock usually has a low PE ratio, a high yield and a low price to book value (NAV). When investing in value stocks the fund manager is making a call that the market’s negative view is incorrect. A manager who tries to outperform the benchmark by correctly identifying value stocks is said to have a ‘value style’ or ‘value bias.’

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