

Pension Fund Investment Sub-Committee

21 July 2014

Review of Investment Strategy

Recommendation

That the Pension Fund Investment Sub- Committee discuss the proposals in 3.1 to 3.4 based on the findings from Hymans Robertson.

1 Introduction

- 1.1 At the sub-committee meeting, Hymans Robertson presented a high level strategy paper which used Asset Liability Modelling to assess longer term objectives, future risk, cash flow and the impact on contribution rates.

2. Outcomes Following May Meeting

- 2.1 The results showed that there was some scope to reduce risk within the investment strategy. However, reductions in risk would be more compelling when the fund had a higher funding level.
- 2.2 The decision was made that no immediate de-risking would take place. However, it was acknowledged that the concept and principles around de-risking is an area that the Committee should now be considering, particularly in terms of how the Committee might formulate and implement a de-risking strategy.
- 2.3 It was also agreed that the current level of diversification within the growth assets was appropriate and hence there was no requirement to further reduce equities in favour of alternative growth assets. There was however scope to improve the efficiency of the equity mandate structure
- 2.4 Given the recommendation in 2.3 there were subsequent discussions with officers and Hymans Robertson regarding the funds equity assets.
- 2.5 **Appendix A** details the findings of these discussions and the arising two proposals for discussion at this meeting.

3. Proposals for discussion

- 3.1 The Fund currently has over £400m of equities managed by three passive managers, namely L&G, BlackRock and State Street. Hymans rate each of these managers highly, with all three managers performing in line with their respective benchmarks. However there is scope to consolidate the mandates from three to two, with the aim of simplifying the structure and also potentially reducing management fees.
- 3.2 The funds passive equities are currently invested in index funds tracking market cap weighted indices. Over recent years, the effectiveness of the market cap approach has been challenged therefore **Appendix B** details alternative forms of methods of index tracking for discussion at this meeting.
- 3.3 No changes are proposed to the funds two active equity mandates. Both Threadneedle and MFS have outperformed their respective benchmarks over 1, 3, and 5-years.
- 3.4 No changes are proposed to the split between active and passive equities, particularly given the ongoing DCLG consultation of which one of the key areas is the use of active fund management.

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Review of Asset Allocation

Introduction

This paper is addressed to the Investment Sub Committee (“the Committee”) of the Warwickshire Pension Fund (“the Fund”). It should not be released or otherwise disclosed to any third party except with our prior written consent, in which case it should be released in its entirety. We accept no liability to any other party unless we have especially accepted such liability in writing.

Background

Further to the actuarial valuation carried out as at 31 March 2013, a formal review of the Fund’s investment strategy was carried out. The review took into account up-to-date information on the Fund’s membership, clarity on the details of the new LGPS Scheme and the revised contribution strategy recommended by the Actuary.

There were two components to the review of strategy:-

- **Setting ‘high level’ strategy** – agreeing the broad level of risk and expected return from the investments.
- Agreeing the **detailed asset allocation** and manager structure – this stage considers the individual allocations to specific asset classes and considers how best they should be managed.

The findings of the investment strategy review were presented to the Committee at the May 2014 meeting. The outcomes from the discussions were as follows:

- The results showed that there was some scope to reduce risk within the investment strategy. However, reductions in risk would be more compelling when the Fund had a higher funding level.
- The decision was made that no immediate de-risking would take place. However, it was acknowledged that the concept and principles around de-risking is an area that the Committee should now be considering, particularly in terms of how the Committee might formulate and implement a de-risking strategy.
- It was also agreed that the current level of diversification within the growth assets was appropriate and hence there was no requirement to further reduce equities in favour of alternative growth assets. There was however scope to improve the efficiency of the equity mandate structure.

For completeness, we are comfortable with the current line-up of bond mandates and do not believe that any immediate change is necessary within the ‘low risk’ component of the Fund. Therefore, the remainder of this paper sets out the current asset allocation, and looks in more detail at ways to improve the efficiency of the equity manager line-up.

We are mindful of the DCLG consultation currently in progress regarding the future structure of the LGPS. One of the key areas being considered under the consultation is the appropriateness of active management. Whilst the outcome of the consultation has yet to be confirmed, we are keen to not implement any changes which may subsequently be required to be unwound.

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Current Asset Allocation

The table below sets out the current asset allocation including the allocations to private equity and infrastructure.

Asset class	Current Benchmark (showing current private equity investment) %	New Target (assumes full 4% private equity and infrastructure allocations) %
Equities	56.5	49.5
UK	26.5	21.0
Overseas Equities	30.0	28.5
Private Equity	1.0	4.0
Total Equity	57.5	53.5
Property	10.0	10.0
Infrastructure	-	4.0
Hedge Funds	5.0	5.0
Multi-Asset Absolute Return	5.0	5.0
Total 'return-seeking' assets	77.5	77.5
Bonds	22.5	22.5
Gilts	2.5	2.5
Index-Linked Gilts	5.0	5.0
Corporate Bonds	10.0	10.0
Absolute Return	5.0	5.0
Total	100.0	100.0

We note the following key points from the above table:

- The infrastructure mandates are currently unfunded. We expect Standard Life to begin calling capital in Q3 2014.
- The private equity allocation is partially funded. Harbourvest will continue to make capital calls as opportunities arise.
- Currently, the Fund is overweight to quoted equities. However, this position is primarily offset by the underweight allocation to infrastructure and private equity, which will reduce over time as outlined above.

We are comfortable with the current target allocation of 49.5% in quoted equities and 4% allocation to private equity and infrastructure programmes. Furthermore, we do not believe that there is any need to further reduce the allocation to equity in favour of more diversification, as we consider the current mix of growth assets to be sufficiently diversified already. We believe that any benefits to be gained from further diversifying the growth assets will be outweighed by the increase in costs (both monetary and governance costs) as a result of the greater complexity.

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Current Equity Manager Arrangements

Whilst we do not advise any change to the current mix of growth assets, we do believe there is scope within the quoted equity allocation to improve the structure of these mandates. The table below shows the current equity arrangements split by active and passive management.

		Manager	Actual Allocation (%)	Long Term Benchmark Allocation (%)
Active	UK	Threadneedle	16.0	-
	Overseas	MFS	16.2	-
	Total		32.2	-
Passive	UK	State Street	7.3	-
		BlackRock	4.0	-
	Overseas	L&G	9.3	-
		BlackRock	6.9	-
	Total		27.5	-
Total			59.9	49.5

As at 31 March 2014, the Fund was circa 10% overweight (59.9% v.s. 49.5%) to its long term target allocation to quoted equities. However, a target of 8% has been allocated (split equally) between private equity and infrastructure. The funding of the private equity mandate has already begun (c.1% of total Fund assets as at 31 March); however, capital has yet to be allocated to the infrastructure mandates.

Therefore, 7% of the 'overweight' equity position represents assets that have still to be invested in private equity and Infrastructure. Excluding these mandates which have not yet been fully funded, the overweight to quoted equities is circa 3%, which is offset by small underweight positions in property, hedge funds, and absolute return funds.

The specific target allocations for individual managers going forward will be finalised in conjunction with any changes made as part of this current review.

Active Equity Mandates

We are comfortable with the Fund's current active equity managers, and would not propose that any changes are made to these mandates. Both Threadneedle and MFS have outperformed their respective benchmarks over 1-, 3-, and 5-years. The table below shows the actual v.s. benchmark performance for the period to 31 March 2014, as provided by the investment managers.

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Managers	1 Year (%)	3 Years (% p.a.)	5 Years (% p.a.)
Threadneedle			
Actual	14.2	11.9	17.4
Benchmark	8.8	8.8	16.4
Relative	+5.0	+2.8	+0.9
MFS			
Actual	8.8	13.4	18.1
Benchmark	6.2	7.0	14.1
Relative	+2.4	+6.0	+3.5

Passive Equity Mandates

The Fund currently has over £400m of equities managed by three passive managers, namely L&G, BlackRock and State Street. We rate each of these managers highly, with all three managers performing in line with their respective benchmarks. We do however believe that there is scope to consolidate the mandates from three to two, with the aim of simplifying the structure and also potentially reducing management fees. In doing so, we would also recommend that the Committee consider alternative ways to passively manage equities.

Alternative ways of passive management

The Fund's passive equity assets are all invested in index funds tracking market cap weighted indices. These passive strategies are seen as providing low cost, low governance and therefore efficient access to equity returns. However, over recent years, the effectiveness of the market cap approach has been challenged, leading to the development of different index construction methodologies, for example, equal weighting, fundamentally weighted indices, risk efficient indices and low volatility indices.

Of these alternatives, our preferred approach is for assets to be managed passively against a fundamentally weighted index alongside traditional 'market cap' based funds. The remainder of this paper therefore considers the fundamental indexation approach. The training slides entitled "Alternative approaches to passive management" dated July 2014, provide some further details on the other approaches and will form the basis of a presentation at the forthcoming meeting.

Why consider an alternative to market cap weighted indices?

Market capitalisation weighted indices are the well-established default measure for the performance of equity markets and have been so for many years. For the overwhelming majority of equity managers these indices are their primary benchmark which they either track, in the case of passive managers, or try to beat, in the case of active managers. The positive attributes of market cap indices, set out below, cannot be dismissed lightly:

- easy to understand;
- accurate reflection of the supply and demand from investors;
- easy to monitor and replicate (track) as it offers good liquidity and transparency;
- essentially self-rebalancing;
- comparatively easy and cheap to access.

The major criticism for this price led index construction methodology is that it has a pro cyclical nature. As a stock's price increases relative to other index constituents, so does its weight in the index and vice versa. If companies' share prices accurately reflect their underlying financial performance then market cap weighted indices are behaving efficiently. However, stock prices are very erratic, driven by short term news and investors' behavioural drivers. There is much evidence to suggest that, even over extended periods, the relationship between share price and underlying fundamental value breaks down.

The link between pricing and index weight means there is a tendency for capital flows to be allocated to overvalued stocks and away from undervalued stocks; this is a key flaw of cap weighted indices. Further, although we typically regard the market index as style neutral, in fact the index construction methodology produces a bias to large cap growth style companies as investors are attracted to overtly successful businesses.

What are fundamentally weighted indices?

Fundamental weighting is a method of index construction that breaks the link between a stock's price and its weighting within an index. The intention is to remove the influence of future investor expectations by taking price out of the weighting calculation. Instead, the weighting of a company depends on a number of past and present financial factors taken from statutory financial accounting data.

In a fundamentally weighted index, the weight of each stock is determined by reference to directly observable, historic valuation measures / characteristics of the company. The aim is for a company's index weighting to be more representative of its economic footprint.

Clearly, there will still be a relationship between a company's size and these fundamental characteristics (larger companies tend to have higher revenues, they typically generate more cash, pay more dividends and employ more people). Importantly, however, the fundamental characteristics are all backward looking and thus reflective of the intrinsic "worth" of the company. There is some differentiation in the composition and time frame over which fundamental index providers assemble their value setting data. Nevertheless, the common feature is that the volatility associated with market sentiment and investor expectations of future profitability, which are automatically built into price-based indices, are eliminated.

Since fundamental indices are not price weighted, movements in share prices create drifts in actual index weights which require periodic re-balancing back to fundamentally determined weights. Rebalancing has a cost, so the trade-off between frequency of re-balancing (and thus cost) versus a pure, fundamental index tracking portfolio, needs to be considered.

Pros of fundamental indexation

- Fundamental indexation provides an element of diversification to market cap passive, for example:
 - a degree of protection against excessive, speculative over or under valuation of stocks;
 - an offset to the large cap growth bias of cap weighted indices;
- It provides the potential to outperform market cap indices over longer periods due to:
 - exploitation of the value premium;
 - the discipline of contrarian rebalancing;
- Access is straightforward, transparent and liquid;
- Governance requirements are low.

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Cons of fundamental indexation

- Fundamental indices' performance may deviate markedly from that of market cap indices over shorter periods even though long run volatility will be similar; historically observed excess return may take several years to accrue;
- Fundamental indices and fundamental index tracking managers will not adapt their rules to changing market conditions; the mandate is effectively passive once the decision to follow a fundamental index approach is taken;
- There is a value bias, the environment for which may be hostile under certain macroeconomic conditions;
- There is higher transition cost drag than market cap indices and scale may eventually erode excess returns, though we believe this to be some considerable way off;
- Rebalancing exercises tend to be contrarian and may, therefore, be "uncomfortable" at times; for example, an increasing allocation to out of favour financial stocks has been a recent feature;
- At this stage, passive fundamental indexation is slightly higher cost and does not offer the same flexibility in terms of liquidity (transition etc) as passive market cap.
- More effective at a global level e.g. emerging markets, where pricing inefficiencies may prevail more.

Recommendations

In light of the results of the strategy modelling, and the more detailed analysis of the Fund's equity mandates, we propose the following recommendations:

- The composition of the overall mix of growth assets is sufficiently well diversified. As a result, we recommend making **no further changes to the current mix of growth assets**.
- We are comfortable with the current mix of 'low risk' assets given the Fund's liabilities. We therefore recommend that **no further changes be made to the 'low risk' assets in the immediate future**.
- In light of the ongoing DCLG consultation, and potential outcomes from it, we recommend that the **split between active and passive equities remains unchanged for the immediate future**.
- Within the Fund's passive equity allocation, we recommend that the Fund **introduces an allocation to fundamental indexation at a global equity level**, to be managed by one of the existing passive equity managers. We recommend leaving the passive UK equities to track a market cap index.
- In conjunction with the above change, the aim is to **consolidate the Fund's passive equity assets with two managers**.

We look forward to discussing these issues at the forthcoming meeting.

Prepared by:-

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June 2014

For and on behalf of Hymans Robertson LLP

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General Risk Warning

Please note the value of investments, and income from them, may fall as well as rise. This includes equities, government or corporate bonds, and property, whether held directly or in a pooled or collective investment vehicle. Further, investments in developing or emerging markets may be more volatile and less marketable than in mature markets. Exchange rates may also affect the value of an investment. As a result, an investor may not get back the amount originally invested. Past performance is not necessarily a guide to future performance.

Alternative approaches to passive management



Warwickshire Pension Fund

- Paul Potter
- July 2014

Your current equity managers

		Manager	Valuation (£m)	Actual Allocation (%)
Active Equities	UK	Threadneedle	237.4	16.0
	Global	MFS	239.8	16.2
Total Active			477.2	32.2
Passive Equities	UK	State Street	108.7	7.3
		BlackRock	59.7	4.0
	Overseas	L&G	138.4	9.3
		BlackRock	102.3	6.9
Total Passive			409.1	27.5
Total Equities			886.3	59.9

Totals may not sum due to rounding.

Stock market indices

- Define the investment universe
- Set by strict rules
 - What's in, what's out ?
 - Weighting of each company ?
 - Frequency of rebalancing ?
- Used to measure
 - 'Market' return
 - Risk taken relative to the index (by active managers)
- Standard historical approach uses market capitalisation
- **Knowledge of index crucial for passive mandates**

Market capitalisation – industry benchmark of choice (currently)

- Three share universe (Companies A, B and C)
- Consider the ABC market cap index...

Company	Number of shares issued	Current share price	Market Capitalisation	Index weight
A	100	£1.00	£100	25%
B	200	£0.50	£100	25%
C	250	£0.80	£200	50%
Totals			£400	100%

Note: The table includes visual annotations for Company A. A red arrow points from the 'Number of shares issued' (100) to the 'Current share price' (£1.00) with a blue 'X' symbol, indicating multiplication. Another red arrow points from the 'Current share price' (£1.00) to the 'Market Capitalisation' (£100) with a blue '=' symbol, indicating equality.

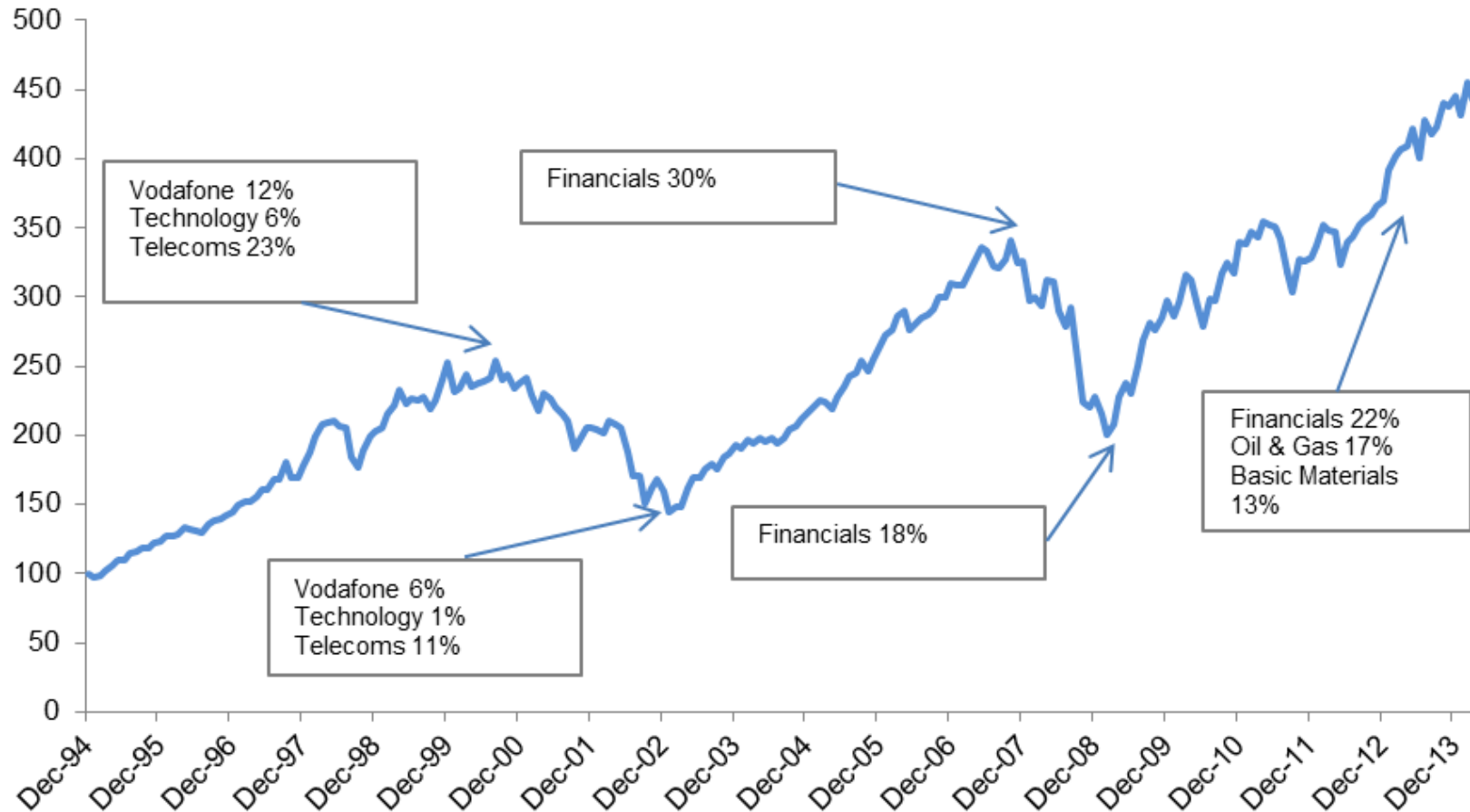
Market capitalisation – changes to weightings

- Price changes drive weightings in index
- Portfolio rebalances along with benchmark

Company	Number of shares issued	Current share price	Market Capitalisation	Index weight
A	100	£2.00	£200	40%
B	200	£0.50	£100	20%
C	250	£0.80	£200	40%
Totals			£500	100%

Diagrammatic annotations: A blue 'X' is placed between the number of shares (100) and the current share price (£2.00) for Company A, with a red arrow pointing from the shares to the price. A blue '=' is placed between the current share price (£2.00) and the market capitalisation (£200) for Company A, with a red arrow pointing from the price to the market capitalisation.

Market capitalisation indices – chasing bubbles



➤ Weighting sensitive to price, price/earnings ratios etc

Market cap. weighted indices

- Likely to remain the default for equity access and benchmarking
 - transparent and objective
 - simple
 - liquid and relatively cheap to track
- ... but challenges are emerging
 - excessive price speculation
 - continuing high volatility
 - rising allocations to passive equity

Three topical alternatives to market cap weighted indices

- Fundamental indices (e.g. RAFI, GWA)
 - weights based on real measures of a company's size
 - value tilt; 'contrarian' (sell high, buy low) rebalancing effect
- Low volatility / minimum variance indices (e.g. MSCI Minimum Volatility index)
 - weights based on constructing a lower / lowest risk stock portfolio
- Equally weighted indices
 - each stock has an equal weighting

Passive alternative index options

Index type	For	Against	Conclusion
Fundamental	<p>Provides diversified, value tilted equity exposure.</p> <p>Rebalances from outperformers to underperformers</p> <p>Readily understandable and intuitively appealing.</p> <p>Good performance record versus market cap weighting</p>	<p>Slightly higher fees over market cap (e.g. 0.06% p.a. - licensing fee paid to RAFI).</p> <p>More rebalancing = higher transaction costs (RAFI c.0.08% p.a. vs. market cap c.0.02% p.a.)</p> <p>No long term reduction in volatility.</p>	<p>Suitable alongside market capitalisation index investment.</p> <p>Arguably an alternate to active value manager.</p> <p>✓</p>
Minimum variance	<p>Supporting evidence of reduction in risk without reduction in return over historical period considered.</p> <p>Less 'naive' approach, considers correlations and risk factors.</p>	<p>Arguably more active than passive – potentially concentrated portfolios</p> <p>High tracking error vs. m. cap</p> <p>Turnover can be high.</p>	<p>Typically complex and methodology more subjective.</p> <p>✗</p>
Equal weighted	<p>Avoids concentration issues.</p> <p>Simple and objective.</p> <p>Forms basis of several empirical studies.</p>	<p>Significant turnover and rebalancing costs.</p> <p>Higher weight to (riskier?) small cap stocks. Liquidity issues → universe limited.</p>	<p>Appealing but arbitrary and practical constraints.</p> <p>✗</p>

Fundamental equity indices

- Link broken between a company's share price and its index weighting
 - Removes influence of future emotive investor expectations
 - Rebalances away from 'excess speculation' and hence bubbles (e.g. TMT bubble in late '90s)
- Weightings anchored by fundamental measures
 - Sales
 - Cashflow
 - Book value
 - Dividends

Like for like comparison: rules

Fundamental Index

Individual stock weights determined by share of:

- Sales
- Book value
- Cash flow
- Dividends

.... or some other combination of fundamental valuation measures

Market Cap Index

Individual stock weights determined by:

Issued shares x share price

Price determined by:

- shares in issue
- investor assessment of historical performance
- investor expectations of future returns

Like for like comparison: characteristics

Fundamental Index

- Value tilt (reflects 'back to basics' link with fundamental valuation measures)
- Rebalancing required
- Rebalancing turnover (c.15% p.a.; trading cost 0.06% - 0.10% p.a.)
- Modest tilt to small cap
- Volatility similar to market cap over long periods

Market Cap Index

- Style neutral (arguably behavioural tilt to large cap growth)
- Turnover c.2-3% p.a. (constituent change with trading cost c. 0.02% p.a.)
- Automatically rebalances

Like for like comparison: regional split

Fundamental Index

North America	43.9
Europe (ex-UK)	20.9
UK	9.3
Japan	10.2
Asia (ex-Japan)	6.5
Emerging Markets	9.2

Market Cap Index

North America	52.7
Europe (ex-UK)	17.1
UK	7.7
Japan	7.3
Asia (ex-Japan)	4.5
Emerging Markets	10.7

At 31 March 2014 Update.

Source: RAFI, MSCI World All Countries

Like for like comparison: sector split

Fundamental Index

Basic Materials	8.6
Consumer Goods	11.2
Consumer Services	9.2
Energy	12.5
Financial	24.8
Health Care	6.4
Industrial	10.7
Technology	5.8
Telecoms	5.6
Utilities	5.4

Market Cap Index

Basic Materials	5.6
Consumer Goods	13.9
Consumer Services	10.6
Energy	9.6
Financial	22.0
Health Care	8.6
Industrial	12.0
Technology	9.1
Telecoms	4.9
Utilities	3.8

At 31 March 2014 Update.

Source: RAFI, MSCI World All Countries

Like for like comparison: top 10 stocks

Fundamental Index

Exxon Mobil Corp.	1.2
AT&T	0.9
BP	0.8
Chevron	0.8
JP Morgan Chase	0.8
HSBC	0.7
Royal Dutch Shell	0.7
General Electric	0.7
Bank of America	0.7
Total France	0.7

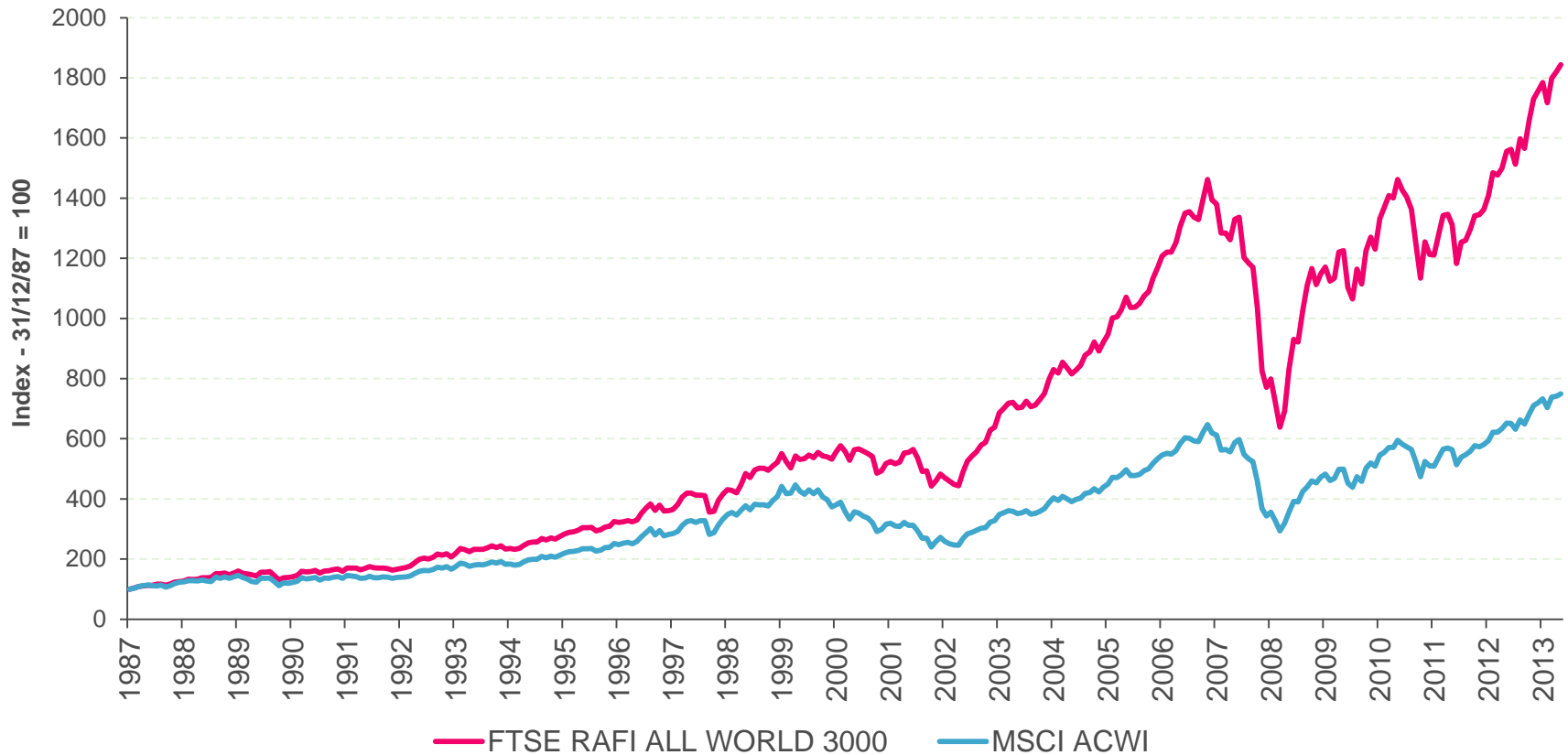
Market Cap Index

Apple	1.1
Exxon Mobil	1.0
Microsoft	0.8
Google	0.7
Johnson & Johnson	0.6
Wells Fargo & Co	0.6
General Electric	0.6
Walmart Stores	0.6
Nestle	0.6
Royal Dutch Shell	0.5

At 31 March 2014 Update.

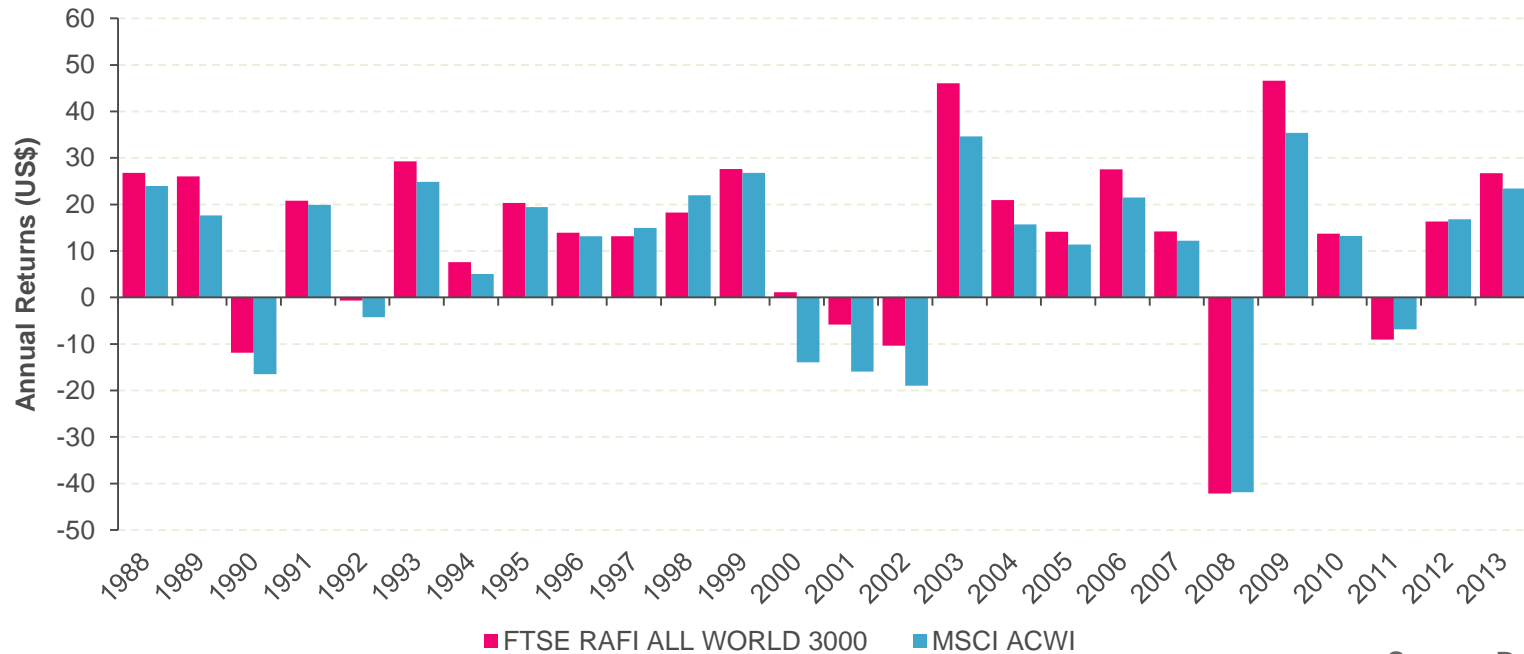
Source: RAFI, MSCI World All Countries

Like for like: cumulative performance comparison



Source: Datastream

Like for like: annual performance comparison



Source: Datastream

Returns	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
FTSE RAFI	13.1	18.3	27.6	1.1	-5.8	-10.3	46.0	20.9	14.1	27.6	14.2	-42.1	46.6	13.7	-9.1	16.3	26.7
MSCI ACWI	15.0	22.0	26.8	-13.9	-15.9	-19.0	34.6	15.8	11.4	21.5	12.2	-41.8	35.4	13.2	-6.9	16.8	23.4

Implementation – passive fundamental equity

- Methodology providers:
 - RAFI; GWA; MSCI
- Index providers:
 - FTSE; Russell; MSCI
- Pooled (index tracking) fund providers:
 - L&G, BlackRock, State Street (RAFI global funds of £1bn+)
- Fees likely to be marginally higher than market cap passive + licence fee of methodology provider (e.g. RAFI 6 basis points)
- But still low cost relative to active management

Passive fundamental equity – Pros & Cons

Pros	Cons
Diversification to market cap passive	Deviations from market cap over short term
Protect against excessive, speculative over/under valuation of stocks	No scope to changes rules i.e. passive management
Value style bias offsets large cap growth bias	Environment for value investing can be hostile
Potential to outperform over the long term?	Ongoing rebalancing and one-off implementation costs
Access is straightforward, transparent and liquid	Slightly higher fees
Governance requirements are low	Lower liquidity and flexibility than market cap

Looking forward – passive fundamental equity

- Attractive compliment to current ‘market cap’ mandates.
- Implementation possible with existing managers (L&G, BlackRock, State Street).
- Recommend that allocation is introduced within passive equity component of the Fund.

General Risk Warning

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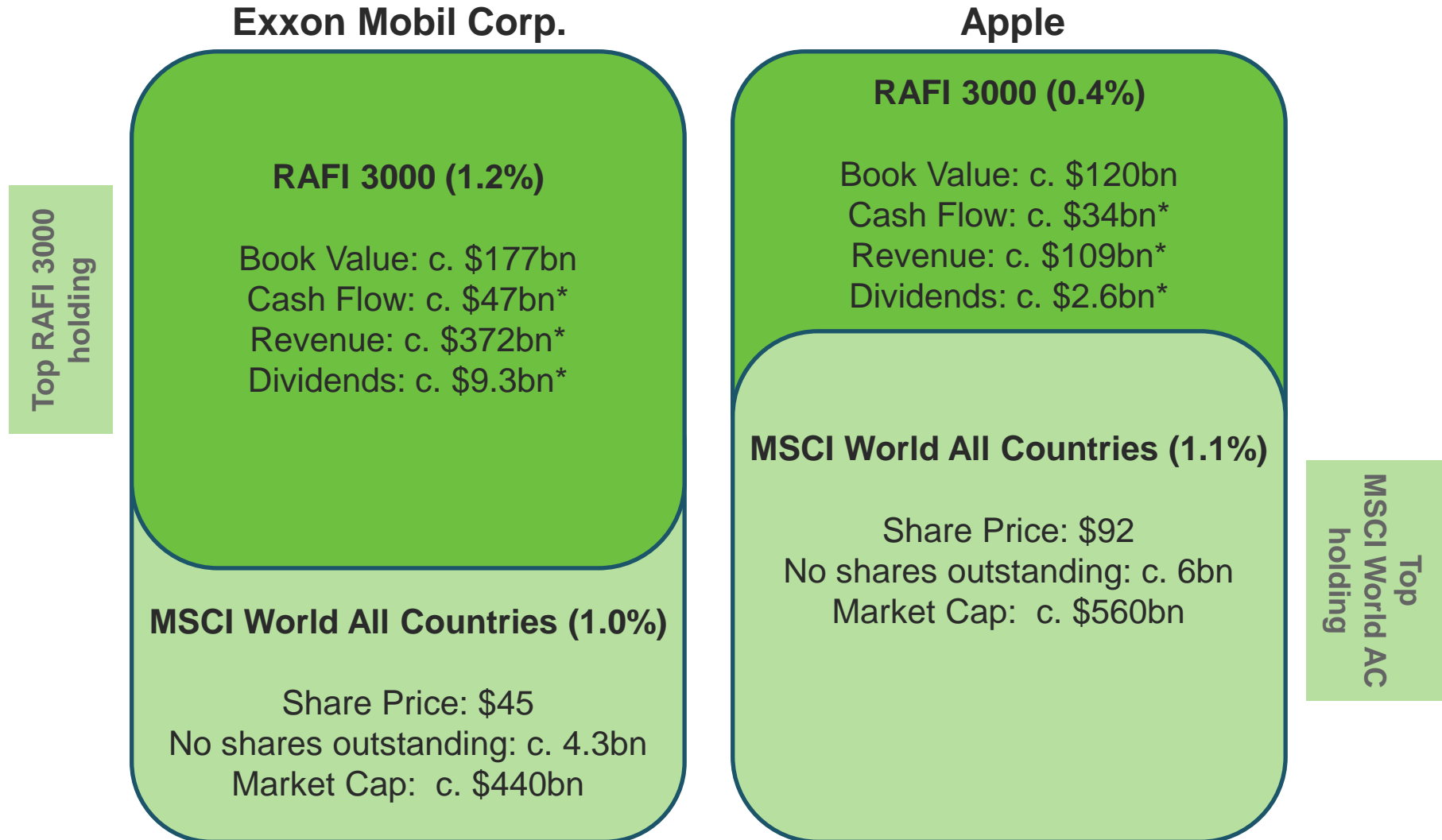
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Thank you

Any questions?

Like for like: top stock comparison



* Average over last 5 years

Like for like: top ten comparison

2008	
RAFI 3000	FTSE All-World
Exxon Mobil	Exxon Mobil
BP	Procter & Gamble
Wal-Mart Stores	Microsoft
JPMorgan Chase & Co	General Electric
Verizon Communications	AT&T
General Electric	Wal-Mart Stores
Chevron	Johnson & Johnson
HSBC	Nestle
Pfizer	Chevron
AT&T	BP

2009	
RAFI 3000	FTSE All-World
Bank of America	Exxon Mobil
ING Group CVA	Microsoft
Citigroup	HSBC
Exxon Mobil	Apple
BP	BP
HSBC	Johnson & Johnson
General Electric	Procter & Gamble
Ford Motor	Nestle
AT&T	International Bus Machns.
Vodafone Group	AT&T

2010	
RAFI 3000	FTSE All-World
Exxon Mobil	Exxon Mobil
General Electric	Apple
AT&T	Microsoft
Petrochina (H)	Nestle
ING Group CVA	General Electric
Vodafone Group	Chevron
Chevron	International Bus Machns.
BP	Procter & Gamble
Royal Dutch Shell A	HSBC
Citigroup	AT&T

2011	
RAFI 3000	FTSE All-World
Exxon Mobil	Exxon Mobil
AT&T	Apple
BP	Microsoft
Chevron	International Bus Machns.
General Electric	Chevron
Vodafone Group	Nestle
Royal Dutch Shell A	General Electric
Wal-Mart Stores	Procter & Gamble
Pfizer	Johnson & Johnson
Total	AT&T

2012	
RAFI 3000	FTSE All-World
Bank of America	Apple
Exxon Mobil	Exxon Mobil
Royal Dutch Shell	Microsoft
General Electric	Royal Dutch Shell
AT&T	General Electric
HSBC	IBM
BP	Chevron
Citigroup	Nestle
JPMorgan Chase & Co	Samsung
Chevron	BHP Billiton

2013	
RAFI 3000	FTSE All-World
Exxon Mobil Corp.	Apple
AT&T	Exxon Mobil
BP	Microsoft
Chevron	Google
JP Morgan Chase	Johnson & Johnson
HSBC	Wells Fargo & Co
Royal Dutch Shell	General Electric
General Electric	Walmart Stores
Bank of America	Nestle
Total France	Royal Dutch Shell