# Equities philosophy and process documentation

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# Summary

*Our beliefs about markets*

Our approach to equity investment seeks to exploit the persistent inefficiencies that we believe equity markets exhibit. At the heart of these inefficiencies are the behavioural biases of investors. We do not expect these biases to alter to any great degree as they reflect human nature, and therefore anticipate that market inefficiencies will persist into the future.

## Our investment style

Our beliefs about markets lead us to look for three characteristics when investing in companies – growth, business momentum and consistency. This investment style is applied across all our equity teams and implemented in a bottom up approach to portfolio construction.

## Where we are seeking to add value

We seek to add value through superior stock selection under an investment style that is consistently applied. This drives the way we generate ideas, do our research and make buy and sell decisions.

## Where we believe that we have competitive advantage

When we compare our investment philosophy and process to the larger global asset managers, we believe that we have competitive advantage in the following areas:-

* Unique style that seeks to exploit persistent behavioural biases of other investors.
* Current team has successfully applied the style in the past.
* Awareness of potential behavioural biases in our decision making.
* Commitment to applying the style.
* Commonality of approach within and across research teams enhances the value of our research and the generation of ideas.
* Realism about the limitations of valuation techniques as a driver of buy and sell decisions.
* Use of FIS-defined stock categories gives fuller understanding of portfolio risks.

# Our beliefs and investment style

## How our beliefs about markets link to our investment philosophy and the style characteristics we seek

## 

# Growth

Belief - The key long-term driver of a company’s stock price is normally the growth in profit per share. Where this growth is expected to be above average, the stock price is often held back by irrational profit taking. This provides the potential for superior future returns.

Style characteristic - We seek to invest in companies that we expect to sustain above average growth in profit per share.

# Business momentum

Belief - As evidence of substantial change in a company’s prospects appears, market participants are generally slow to fully incorporate the new information into their expectations.

Style characteristic - We seek to invest in companies where the outlook for the business is improving.

# Consistency

Belief - Market participants are generally over-optimistic in their profit per share expectations. This over-optimism is normally greater for stocks that show high variability in profit per share.

Style characteristic - We seek to invest in companies that we expect to show above average consistency in the progression of profit per share.

Active management

Belief – There are persistent inefficiencies in equity markets, caused by the behavioural biases of investors.

Our philosophy - We seek to add value through active management

*The benefits of having a defined style across and within equity teams*

A defined and common style means that there is greater clarity in what is being sought from an investment. It also means that the discussions within the firm on the merits or otherwise of a stock focus more on the genuine issues, rather than simply reflecting the different investment styles of the individuals concerned. In this respect a common style is like sharing the same language. It greatly enhances the scope for high quality discussion, debate and decision making within a team.

Having a defined style also avoids the siren call of style rotation. Style rotation can appear an appealing approach as it offers the possibility of outperformance in all market conditions. We believe that such an approach is unlikely to deliver long term outperformance. Style rotation will tend to lead to an unduly short term focus in the vain search for consistent short term outperformance.

## Why we have a defined style

We believe that our style will deliver outperformance in the future. It seeks to exploit market inefficiencies created by the behavioural biases of investors, which we believe will persist into the future. It is a style that is particularly well suited to the low inflation environment that we believe is likely to continue. There is a substantial body of academic evidence and backtesting results that support the style. This is set out in the section 3.

The current team has successfully applied the style in the past and we believe that they will continue to do so in the future.

*Does the style evolve?*

We are committed to our style, but that does not mean that the way we apply the style will not evolve. With the help of external consultants/academics, our investment professionals regularly examine how the style is being applied, how we could improve the way we operate and the usefulness of the quantitative measures that may capture our style.

## Would a change in the macroeconomic environment cause us to change our style?

Our style is not founded on a particular set of macroeconomic assumptions. It is based on our beliefs about market inefficiencies and their behavioural drivers. The style would therefore remain the same in a different macroeconomic environment, although the way we applied it would continue to evolve.

## How would the style be expected to perform in a move to a deflationary or inflationary global environment?

In a move to a deflationary environment the style would be expected to perform well as the characteristics of growth and consistency became scarcer. In addition falling bond yields will tend to increase the relative value of (longer duration) growth stocks. Additionally there is scope for the business momentum characteristic to add value if, as we would expect, the market is slow to perceive the effects of the substantial change in the macroeconomic environment at an individual company level.

In a move to a substantially more inflationary environment the reverse is true for the growth and consistency characteristics of the style, which are likely to underperform. However there is still the opportunity for the business momentum characteristic to add value if, as we would expect, the market is slow to perceive the effects of the substantial change in the macroeconomic environment at an individual company level.

## Where we believe that we have competitive advantage

* Unique style that seeks to exploit persistent behavioural biases of other investors.
* Current team has successfully applied the style in the past.
* Commitment to applying the style.
* Commonality of approach across and within research teams.

1. **Ideas generation**

The generation of new ideas is the starting point for further research that may drive a buy or a sell decision. The main sources of new ideas are discussion within each research team and across research teams, database analysis and news flow.

*Discussion within the research team and across research teams*

Ideas from this source are particularly likely to be generated on themes that are affecting one sector and that apply across other sectors or into other regions.

These are regular discussions within the research teams that aim to pick up on such themes.

We have a global equity managers meeting on a monthly basis which focuses on such global themes across the research teams. This is in addition to the informal discussions that occur between analysts across research teams, which is aided by the networking of our research documentation.

*Database analysis*

Database analysis is used to highlight where a stock has the style characteristics that we are looking for. It is especially useful where the outlook for a company may be changing substantially but where there is little direct news flow. It can prove a useful catalyst for discussion and debate – giving information with which to challenge the individual analyst as to whether there may be substantial change occurring in the prospects of one of the companies that they cover.

# *The variables we use for database analysis*

The major variable used is earnings estimate revisions, which is a potential indicator of changing business momentum. The main source of this currently is IBES.

Earnings surprise and relative price performance may also be used as potential indicators of changes in business momentum. Prospective eps growth and historic eps consistency may also be used as potential indicators of the growth and consistency characteristics of our style. Again IBES is the main data source.

# *News flow*

This is likely to generate further research where it was of an important nature that indicated the possibility of substantial change in the outlook for a company. Sources include the companies themselves, news services and market contacts.

# *Where we believe we have competitive advantage*

* Common style means that database analysis is an effective catalyst for discussion and debate within the research teams.
* Common style increases the scope for transferring ideas within research teams and across research teams.

1. **Research**

*What we are trying to achieve through research*

Our research is focussed on considering, debating and communicating the answers to two questions:

1. How well does the stock fit our investment style?
2. What is our assessment of the balance of risks to market expectations?

*What we are not trying to achieve*

As with our style, we are not trying to be all things to all people. We identify the following as areas where we do not seek to gain competitive advantage in our research process compared to the larger global asset managers:

* We are not attempting to do a greater quantity of primary research.
* We are not seeking to research every aspect of a company’s operations at a more detailed level.
* We are not seeking to research a larger number of companies.
* We are not attempting to build more elaborate financial models.
* We are not trying to produce a bigger paper mountain of internal research documentation.

*Who does the research*

We believe that it is more effective to combine the roles of fund manager and analyst.

All managers with portfolio responsibilities also have some direct research responsibility. Research responsibilities are allocated on a sector basis (except in the Asia where it is done on a country basis). It is the specialist for each stock that does the initial analysis, which is presented to the rest of the team for discussion and debate.

*The main sources of information we use*

1. Meeting the company. This provides us with important insights into the development of their business and the quality of the management. We find that having a defined investment style enhances the benefits we derive for meeting companies by providing a clearer focus to the discussion.
2. Company report, accounts, website and other company published material.
3. Sell side. The main use of the sell side is in providing written research, access to their analysts, financial models and bespoke work that we request. We use the First Call service to network sell side research.
4. Financial information and analysis systems (e.g. IBES, Datastream).
5. Other media sources including the financial press, specialist publications and company news services.

# *How we assess the style fit*

This involves looking at each of the growth, business momentum and consistency characteristics of the stock compared to the research universe as a whole. The style fit is then assessed into one of five levels and this feeds into the stock rating.

## Growth

We are looking primarily at the expected ‘long term’ growth rate of the appropriate measure of profit per share. The long term growth rate is a prospective one (typically looking 5 years forward) and seeks to look through any cyclical influences or recovery element.

An assessment of the long term growth prospects will generally include considering the factors below.

* Competitive position within industry
* Long term growth prospects for the industry
* Management’s ability to deliver future growth
* Historic record of generating profits growth and shareholder value
* Expected organic sales growth
* Scope for margin expansion

## Business momentum

# We are looking at whether recent developments indicate a sustainable improvement or deterioration in the company’s prospects. Although the focus is on developments over a relatively short time period (typically the last six months), it is the relevance of these developments to the company’s longer term prospects that is key.

# An assessment of the business momentum will generally include the factors below.

# Changes in competitive position

# Changes in industry prospects

* Recent results
* Estimate revisions
* Effect of changes in the macroeconomic environment
* Change in return on invested capital

# *Consistency*

# We are looking at how stable the future profits progression is likely to be, typically looking forward over at the next 5 years. Although the assessment is a forward looking one, consideration is given to the variability of profits in the past, seen in the light of the changes that may have taken place in the business.

# An assessment of the consistency of the stock will generally include the factors below.

* Economic sensitivity
* Level of pricing power
* Scope for major changes in competitive position
* Earnings visibility
* Free cash flow generation
* Interest cover
* Balance sheet strength
* Historic earnings stability

# *How we assess the balance of risks to market expectations*

This involves judging whether the balance of risks to market expectations for the stock is on the upside (positive outcomes) or on the downside. This focuses primarily in the risks to market expectations for both the short and long term profit progression.

At this point in the process that the scope for the individual analyst to add value is significant. Assessing the balance of risks to market expectations is inevitably one that relies heavily on individual judgement. However there is still a clear structure in place for making this judgement.

The main source for understanding the market’s short term expectations are IBES and market contacts. For understanding the market’s longer term expectations valuation data is the main source.

Where a stock has improving business momentum the assessment of the balance of risks to short term market expectations is more likely to be on the upside than on the downside. This aligns with our belief that market participants are generally slow to

fully incorporate evidence of change into their expectations.

The checklist of questions that the analyst considers when forming their judgement is set out in Appendix A. The assessment of balance of risks to market expectations is made on one of five levels and feeds into the stock rating.

## Stock ratings

The analyst’s assessments of the style fit and the balance of risks to market expectations are fed into the stock ratings. This is done via the matrix set out in Appendix B. The stock ratings represent a quantification of how attractive the stock is to us.

We have recently set up a process for measuring each of the following variables, style fit, balance of risks and stock rating. We are looking for this to give us additional information on the drivers of our performance.

*Documenting our research*

The main form of documentation is the FIS one page research note (see Appendix C for an example). This is not an attempt at a comprehensive research piece but rather seeks to document how well the stock fits our style and the basis of the analyst’s view of the balance of risks to market expectations.

The FIS one page notes are stored on the “CoRes” system and networked globally across the FIS research teams. Whilst the format of the FIS one page research note is a fixed one, where the individual analyst considers that a detailed or free format note is appropriate this can be done additionally and stored on the CoRes system. Notes covering key points from meetings with companies are also stored on the CoRes system.

## Where we believe we have competitive advantage

* Common style enhances the value of each analyst’s research within the research teams.
* Common style and global networking of standard research documentation enhances value of research across research teams.
* Defined style enhances the benefit obtained from meeting companies

1. **Buy and sell decisions**

This section focuses on the drivers of individual buy or sell decisions, excluding those that are driven by cashflow or portfolio risk control considerations.

## The main drivers of our buy and sell decisions

Buy or sell decisions are driven by change. For us that change is in our assessment of how well the stock fits our style and/or our assessment of the balance of risks to market expectations.

## Changes in style fit

These are driven by changes in the growth, business momentum and consistency characteristics of a stock. These occur when new information indicates a significant change in the expected future profit progression for a company.

## Changes in our assessment of the balance of risks to market expectations

These also may be driven by a significant change in the expected future profit progression. We believe that market participants are generally slow to fully incorporate new information into their expectations. We are therefore more likely to judge the balance of risks to market expectations to be on the upside when there is a positive change in the expected future profit progression and vice versa.

Changes in valuation can also drive a change in our assessment of the balance of risks to market expectations. A stock’s valuation is an important indicator of the market’s long term expectations for the profit progression of the company.

## How our use of valuation is different to most other investors

We believe that we are more aware than most other investors of the limitations of applying a static valuation framework in a world where the pace of change in corporate prospects is a rapid one. We believe that investors tend to underestimate the scope for companies to change, and to overestimate the extent to which valuations revert to mean.

For these reasons we do not set valuation based price targets, and would expect that changes in valuation are less likely to be drivers of buy or sell decisions for us than for most other investors.

## The role of judgement

We do not believe that a rigid framework of buy and sell disciplines is appropriate. Instead we rely on individual judgement, particularly as to whether new information indicates a sustained change in the outlook for the business. Again the use of common style is helpful here, because it enhances the transparency of individual judgements and therefore the scope for constructive discussion and debate.

*Buy decisions*

These are normally driven by new information that indicates to us that the outlook for the expected future profit progression is improving significantly.

Where a stock had a good fit to our investment style, and its relative price and valuation were falling due to factors we believed to be temporary, it may lead to our purchasing (more of) the stock. However we would check that we were not overlooking a genuine deterioration in business momentum.

## Sell decisions

There are normally driven by new information (particularly negative profit surprises) that indicates to us that the outlook for the expected future profit progression is deteriorating significantly.

A rising relative price and valuation in an otherwise attractive stock could trigger a sale where the valuation became so demanding that we believed that the balance of risks to market expectations was on the downside. However where the company had positive business momentum, we would check that we were not underestimating the rate of improvement of the company’s prospects.

Where we believe we have competitive advantage:

* Common style enhances the scope for constructive discussion and debate on stock decisions
* Realism about the limitations of valuation techniques as a driver of buy and sell decisions

**Portfolio construction and monitoring**

## Key features

* Our approach to portfolio construction is a bottom up one, seeking to find the best combination of our views on individual stocks.
* There is a strong emphasis on understanding the nature of portfolio risk.
* There is substantial use of model portfolios.
* We seek to combine full debate on the composition of the model portfolio with clear responsibility for the final decision.
* Actual portfolios have very high overlaps to the relevant model portfolio.

## How we would construct a portfolio from scratch

The process set out below is based on the assumptions that there are no comparable existing portfolios, that there is a clear benchmark and that the client has specified a target level for risk in terms of expected tracking error.

The first step is to use the stock ratings from the research process as an input to the Barra optimiser to produce a first cut of the portfolio. *[Note: would this better as the final step, even for the exercise of constructing a portfolio from scratch?]*

We would then use our judgement to look at the resultant exposures, and adjust the stock weights where we believed that the optimised portfolio did not accurately reflect our views, or was missing an important aggregate exposure. This is necessary because, like human judgement, any optimiser is far from perfect in the model of future market behaviour that it employs.

In applying our judgement, we focus on stock load differences, sector load differences, country load differences (where applicable). FIS stock category weights (see below), Barra risk index exposures, and any other aggregate exposure that we consider appropriate.

We would then progress with the iterative process of looking at the revised portfolio to test whether we were happy with the resultant exposures and risk profile, and if necessary making further adjustments.

## FIS stock categories

We use 4 stock categories, which are compiled by our research teams on a stock by stock basis. The categorisation is done based on the expected growth and consistency characteristics of each stock, using both data and judgement.

|  |  |  |
| --- | --- | --- |
| **FIS Stock Category** | **Growth Characteristics** | **Consistency Characteristics** |
| Growth | Above average | Above average |
| Cyclical/Volatile Growth | Above average | Average or below average |
| Defensive | Average or below average | Above average |
| Other | Average or below average | Average or below average |

We recognise that, as with all methods of trying to quantify risk, these categories are far from perfect, and that there is a significant subjective element to their compilation. Nevertheless our experience is that stocks in each category often show similar performance characteristics as market conditions change. This means that the FIS stock categories help give us a fuller understanding of the risks in the portfolios.

## Monitoring on existing model portfolio

The ongoing monitoring process focuses on a variety of portfolio exposures. This reflects our belief that no one measure can fully capture the complex nature of portfolio risk. The main elements of the monitoring process are:

* Overall portfolio risk. Is this consistent with our aims for this model portfolio? Barra tracking error is the quantitative measure we use to summarise risk to a single number. We use it as a guide, not a rigid target. We take great care to understand better the inevitable limitations of the Barra risk model. Our experience is that – much like investors – risk models are particularly likely to struggle to deal with a world that is changing rapidly.
* Stock load differences. Are they appropriate given the relative attractiveness of each stock?
* Sector load differences. Is there an aggregate exposure that we are uncomfortable with?
* FIS stock categories. Is there an aggregate exposure that we are uncomfortable with?
* Barra risk index exposures. Is the portfolio ‘footprint’ in line with what we would normally expect under our style (particularly a positive ‘success’ number and a negative ‘value’ number)? Are there any other risk index exposures that we are uncomfortable with?
* Are there any other aggregate exposures on the portfolio that we feel uncomfortable with (e.g. to a particular region, currency or theme).
* Barra optimiser. An optimisation exercise is done using the stock ratings from the research process. This will normally include an allowance for the transaction costs of changing from the current model portfolio. This is used to ask questions as to whether we could represent our stock views more effectively for a given level of risk. It is not used to provide ‘the answer’.

Where the above analysis, or a change in stock views, leads to a revised model portfolio, there is an iterative process of checking the resultant exposures, and if necessary making further adjustments.

*Debating and owning the model portfolio decisions*

Decisions are debated amongst the team of fund managers whose portfolios are driven off the particular model portfolio. Others join the discussion where they have an input eg as sector specialist.

In debating model portfolio decisions, we find that the existence of a common style and approach helps to clarify any genuine areas of disagreement and improve the quality of the discussion.

There is frequently broad agreement on decisions. However there are also times where no consensus can be reached. In the latter case it is the senior manager designated as the ‘owner’ of the model portfolio who makes the final decision.

## Managing the actual portfolios

Where the mandate gives scope to follow one of the model portfolios, the actual portfolio will seek to run a very high level of overlap to that model. Minimum required levels of overlap are typically 90%, but with the aim of the overlap being significantly higher than this.

The part of the portfolio that does not overlap to the model will generally reflect legacy positions, or the timing of cashflows. It is not there to give the individual fund manager scope to take stock positions that do not align with the house view.

Where the mandate is such that a model portfolio cannot be followed, the portfolio construction still seeks to find the best combination of our stock views, balanced to reflect the specific requirements of the individual client.

*Formal controls on portfolios*

We see risk as having many facets, not all of which lend themselves to formal controls. However we do apply formal controls in key areas and an example of the current portfolio controls for the pan European team is set out in Appendix D. These are not necessarily fixed over time, and are reviewed if necessary (e.g. on substantial change in the structure of the benchmark).

## Review groups

There is a regular quarterly cycle of formal Review Groups. This is used to monitor all the portfolios that we manage. These meetings are attended by members of the portfolio team in question, the CIO and other senior members of the fund management team. The meetings are open to all members of the investment team. This structure ensures that all the portfolios are subject to review by a wide group of managers.

## Performance monitoring

Performance figures are typically calculated and distributed monthly, and quarterly figures are formally monitored at the Review Groups. Whilst we look at the shorter term numbers, our main focus is on how they affect the 3 and 5 year performance figures.

In addition to conventional performance analysis, we use the BARRA performance software to help us understand better the source of our relative performance, in particular the question of how well we have performed within our investment style.

Where we believe that we have competitive advantage

* Common style enhances the quality of debate on portfolio construction
* Use of FIS stock categories gives fuller understanding of portfolio risks
* Very high level of commonality between comparable portfolios.

**Appendix A – Checklist for assessing balance of risks to market expectations**

Short term profit expectations (next 12 months)

* How important do you consider that results over the next year to be for the stock price performance?
* Has the stock surprised on the upside or downside in its recent history? If so, do you believe that the market is underestimating the chances of another surprise in the same direction?
* Do you think that the published short term forecasts reflect genuine market expectations?
* Do you consider that the market is failing to fully take on board the effect of recent changes on the company short term profitability?
* Do you consider that the market is failing to fully discount the relevance for this company of changes in other related companies or in the macroeconomic environment?
* Is there a specific aspect of the company’s performance where you believe that short term market expectations are out of line?

Long term expectations for the profit progression (looking out at least 5 years)

* Do you believe that the market is underestimating or overestimating the long term growth potential for this stock?
* Do you consider that the market is failing to fully take on board the long term impact on the outlook for the company of recent changes?
* Do you consider the valuation to be clearly out of line with the long term prospects for the business? If so, why (eg technical position, excessive focus on the short term, irrational exuberance)?
* Do you believe that other investors are focussing on inappropriate valuation methodologies, or overestimating the likelihood of reversion to mean for this stock’s valuation?
* Where there is little visibility or predictability to the future profit progression, do you consider that market expectations are being pushed artificially high by the sell side?
* Is there a specific aspect of the company’s prospects where you believe that long term market expectations are out of line?

**Appendix B – Stock rating matrix**

# Stocks are rated on a scale from 1 (extremely attractive) to 10 (extremely unattractive). The matrix for setting the ratings is shown below:-

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | **Balance of risks** | | | | |
|  |  | Substantially on the upside | Slightly on  the upside | Neutral | Slightly on  the downside | Substantially on  the downside |
|  | Very good | 1 | 2 | 3 | 4 | 5 or 6 |
|  | Good | 2 | 3 | 4 | 5 or 6 | 7 |
| **Style Fit** | Average | 3 | 4 | 5 or 6 | 7 | 8 |
|  | Poor | 4 | 5 or 6 | 7 | 8 | 9 |
|  | Very poor | 5 or 6 | 7 | 8 | 9 | 10 |

**Appendix C – The FIS one page research note**

|  |  |  |  |
| --- | --- | --- | --- |
| COMPANY |  | Date |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Analyst’s Assessment | | | Style fit |  | | | Balance of Risks | |  |
|  | | | | | | | | | |
| Analyst |  | Current rating | | |  | Previous rating | |  | |

|  |  |  |  |
| --- | --- | --- | --- |
| Sector |  | Country |  |
| FIS Category |  | Last seen |  |
| Business |  | | |
| Year End |  | Price |  |
| Next Event /Catalyst |  | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | FY - 1 | FY - 0 | FY + 1 | FY + 2 | FY + 3 |
| EPS (See 9) |  |  |  |  |  |
| Change (%) |  |  |  |  |  |
| P/E |  |  |  |  |  |

\* FIS forecast

|  |
| --- |
| Assessment of Key Drivers |
| GROWTH |
| BUSINESS MOMENTUM |
| CONSISTENCY |

|  |  |
| --- | --- |
| Main Analyst Contacts | Company Contacts |
|  |  |

**Appendix D – Stock, sector and tracking error limits**

Portfolios managed by pan European team

1. The limits apply to portfolios that:-

* hold more than 40 stocks
* are invested in predominantly larger companies
* do not have a non-standard constraint in client mandate (eg an ethical one)

1. The limits apply to load differences relative to the index benchmark. For peer group benchmarked funds the load differences are taken relative to the most comparable index, these are currently:-   
     
   UK FT All Share (currently 39 sectors)  
   Continental Europe FT S&P Europe ex UK (currently 39 sectors)  
   Pan-Europe FT S&P Europe (currently 39 sectors)

Stock limits for the model portfolios

* Any transactions that increase the load difference to over 2% require the prior approval of the Head of pan European equities.
* Transactions that increase the load difference to over 4% should only occur in exceptional circumstances. The prior approval of the CIO is required.
* Where changes in market prices have led to these limits being breached consistently over a one month period, approval from the Head of pan-European equities/CIO must then be sought to maintain the position.

1. Sector limits for the model portfolios

* Any transactions that increase the load difference to over 5% require the prior approval of the Head of pan European equities.
* Transactions that increase the load difference to over 10% should only occur in exceptional circumstances. The prior approval of the CIO is required.
* Where changes in market prices have led to these limits being breached consistently over a one month period, approval from the Head of pan European equities/CIO must then be sought to maintain the position.

1. Stock and sector limits for actual portfolios  
     
   The limits and requirements are the same as for model portfolios. However where the fund position is within 0.5% (stock) or 1% (sector) of the model portfolio position, no additional approvals are required.
2. Tracking error limits for the model portfolios

* The long term target ranges for tracking error (as measured by the appropriate BARRA risk model) are as follows:  
    
  UK diversified 2.0 - 2.5  
  UK focussed 2.75 - 3.25  
  Continental European 2.75 - 3.25  
  Pan European 2.75 - 3.25  
    
  These target ranges are for the levels of tracking error that we would expect the model portfolios to average over the longer term.
* Where the tracking error is more than 0.25% outside these ranges, the aggregate effect of transactions done in a calendar month period must not increase the expected tracking error on the portfolios, unless prior approval is given by the head of pan European equities.
* Where the tracking error is more than 1% outside these ranges, the difference must be targeted to fall below the 1% limit by the end of the following calendar month, unless prior approval to maintain the level of tracking error is given by the CIO.

1. Tracking error limits for actual portfolios  
     
   For those funds that are running off one of the above model portfolios, the same limits and requirements apply. However where the tracking error to the index on the actual portfolio is within 0.25% of the model portfolio, no additional approvals we required.