Analytics+

Understand, visualize and deconstruct factor strategies

Factor Analysis Tool

Analytics+ is an intuitive, web-based analytical tool that allows users to visualize factor exposures and simulate performance outcomes of single and multi-factor indexes.

Users have the ability to apply and control factor and ESG exposures using any indexes from the FTSE Russell index universe. In addition, they are able to load portfolios to assess factor exposures, overlay additional exposures and analyze key performance drivers.

Leveraging FTSE Russell’s innovative “Tilt-Tilt” methodology, users can also design a variety of single and multi-factor indexes and review historical performance, factor, country, industry and ESG exposures, and the relationship to index capacity and levels of diversification.

Performance can be also attributed to systematic and idiosyncratic sources to facilitate an understanding of the sources of index performance.

1. Select Universe; 2. Import Portfolio; 3. Apply variable single and multi-factor overlays; 4. Apply ESG overlays; 5. Choose rebalancing frequency; 6. Analyse Results

Source: FTSE Russell, date as at 19 Jul 2018. Monthly performance calculated from third Friday to third Friday. The information displayed is for illustrative purposes only and represents hypothetical rather than actual index performance. Past performance is no guarantee of future results. Please see important legal disclosures at the end of the document.
Performance and Risk Analytics

The tool allows users to analyse absolute and relative performance across both FTSE Russell Benchmarks and user portfolios, and examine active factor exposure and the impact of factor allocation on index Capacity, Diversification, Industry and Country weightings.

The Summary tab shows the performance and risk attributes for the benchmark and factor portfolios. These include absolute and relative performance, up and down capture ratios, Sharpe Ratio, Maximum Drawdown, Information Ratio and Tracking Error.

Performance > Summary

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Exposure

Use the Exposure Box to view active exposures at a glance. Click on the magnifying glass icon to view historical exposure to individual factors, industries or countries.

“Show All Factors” allows users to view the history of all factor and ESG exposures as well as capacity and diversification on one page. Additional options include a toggle to view all factors relative to the selected benchmark.

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**Valuations**

The Valuation tab shows valuation statistics and fundamental ratios for the benchmark and chosen factor portfolios, viewed on an absolute or relative basis relative to the selected benchmark.

Valuation statistics include: Earnings Yield (%), Book to Price, Sales to Price, Cashflow Yield (%), Dividend Yield (%), Debt Equity, EBITDA EV(%) and Return on Equity (%).

To view historical valuation ratios, click on the magnifying glass.

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**Attribution**

Analytics+ allows users to attribute performance to factor, industry and country effects. Factor attribution is particularly relevant to understanding whether a particular index has factor exposures that are aligned with stated index objectives and the extent to which excess performance is determined by those factors.

View a more detailed breakdown of the attribution by clicking on the specific factor, industry or country bar.

**Attribution > Overview**

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**Attribution > Factor**

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Attribution - Industry/Country

Here is shown the industry and country attribution.

The industry breakdown is calculated using Industry Classification Benchmark (ICB*), a globally recognized standard, operated and managed by FTSE Russell for categorizing companies and securities, with approximately 75,000 securities worldwide classified by the system. See www.icbenchmark.com for more information.

Attribution > Industry

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Attribution > Country
Contribution

Analytics+ also allows the investigation of the historical contribution to performance on both a monthly and cumulative basis.

Additional granularity is available to investigate individual factor, industry and country contributions to performance.

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# Technical Specifications

## Inputs

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<th>Investment Universes</th>
<th>FTSE All-World®</th>
<th>FTSE Japan</th>
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## Factor Tilts

**Value:** Earnings Yield, Cash Flow Yield and Country Relative Sales to Price Ratio  
**Size:** Log of Full Market Capitalization  
**Quality:** ROA, Change in Asset Turnover, Accruals and Leverage  

**Momentum:** Cumulative 11-month return (ex most recent month)  
**Volatility:** 5 year standard deviation (weekly)  
**Yield:** Log of 12mth trailing dividend yield

## ESG Tilts

**Overall:** Environmental, Social and Governance Scores  
**Environmental:** Biodiversity, climate change, pollution and resources, supply chain, water use  
**Social:** Customer responsibility, health and safety, human rights and community, labor standards, supply chain  
**Governance:** Anti-corruption, corporate governance, risk management, tax transparency

## Tilt Strength

**Factor, ESG and Macro:** tilt strengths can be modified (dialed up, dialed down or tilted away) to emphasize certain exposures

## Outputs

### Performance

**Performance:** Total and Excess Return, Return/Risk Ratio, Information Ratio, Cumulative Return Chart, Up/Down Capture  

### Valuations & Metrics (current and history)

- Earnings Yield  
- Book-to-Price  
- Sales-to-Price  
- Cash Flow Yield  

### Index Characteristics (current and history)

- Factor Exposure  
- ESG Exposure  
- Turnover  

**Risk Analytics:** Volatility, Volatility Reduction, Max Drawdown, Tracking Error

## Tool Parameters

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<tr>
<th>Parameter</th>
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<tr>
<td>Date Range</td>
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<tr>
<td>Factor Exposure Calculation</td>
<td>Holdings Based Analysis (Z-score)</td>
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