IAPF SEMINAR

19 September 2024

Innovations for multi-manager portfolios

iapf
representing pension savers

SPEAKER

Chris Adolph
Director of Customised Portfolio Solutions
Russell Investments

INTRODUCTION TO RUSSELL INVESTMENTS

WHAT WE DO

Help organisations maximise the potential within their investment programs.

FROM STRATEGIC GUIDANCE

INVESTMENT CONSULTING

IMPLEMENTATION & OPERATIONS

SINGLE / MULTI-ASSET SOLUTION

OCIO / FULL DISCRETION

TO A HOLISTIC PROGRAM

ACROSS INDUSTRIES

Corporate	Non-profit
Endowment	Educational
Insurance	Financial
Healthcare	Government

ACROSS STRUCTURES

DB/DC	Trusts
Distributors	Custody platforms
Tax exempt	Plan participant
Brokers/Dealers	

ACROSS THE GLOBE

16 offices around the world

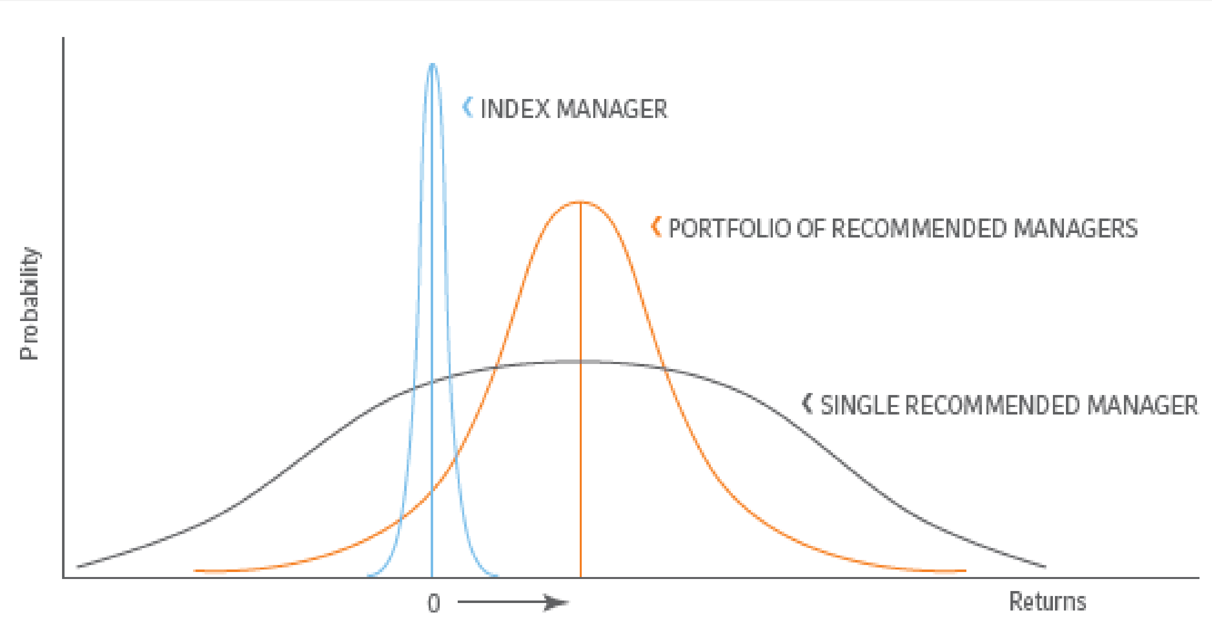
€281.3b assets under management	**€932b** assets under advice **	**€2.16t** traded in 2023 **	**1980** Managing multi-manager portfolios since	**320+** investment professionals	**2050** Net zero

Source: Russell Investments, data as at 30 June 2024, unless otherwise stated.
For illustrative purposes only.
*Investment Consulting is typically provided as part of wider solution within EMEA.
** Data as at 30 December 2023.

WHAT IS MULTI-MANAGER?

THE CASE FOR MULTI-MANAGER
Why multi-manager?

CONTEXT



A solution designed to improve probability of returns, given there's no crystal ball to predict who the winner will be.

KEY BENEFITS

Diversification makes it more likely you will succeed…and less likely you will have a bad experience.

- Access multiple excess return drivers
- Higher consistency of excess returns
- Diversify manager selection risk

Russell Investments

Please note that manager diversification (if done well) reduces risk but not return. Total expected returns equal the weighted-average expected return of underlying asset classes, strategies or managers. Importantly, however, exposure to many differentiated return sources reduces the total expected volatility of the overall portfolio; it also increases the probability of the desired outcome (through reduced impact of more extreme left-tail events).

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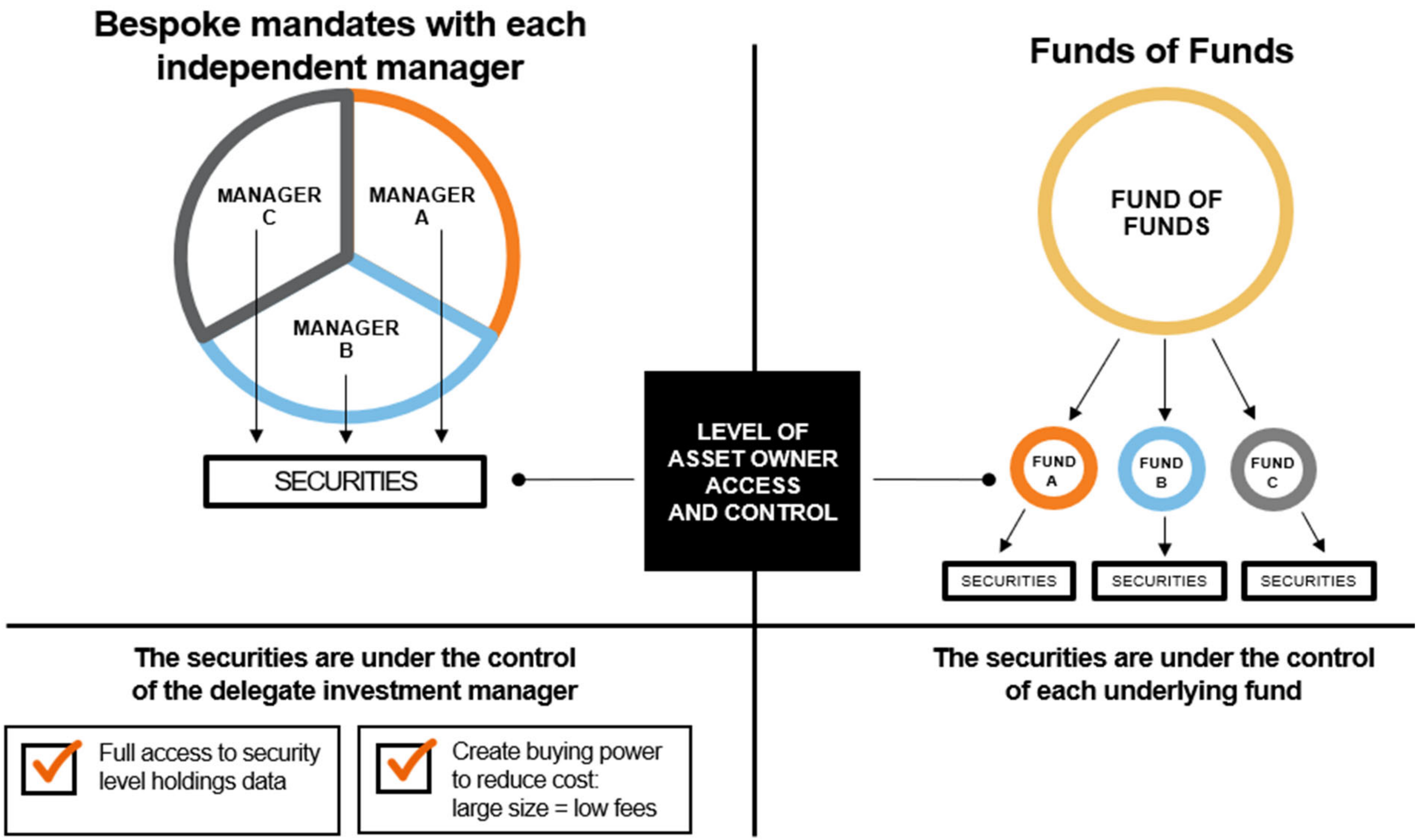
THE CASE FOR MULTI-MANAGER
Multi-manager vs. Fund of Funds.



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FUNDAMENTALS FOR SUCCESS IN MULTI-MANAGER

FUNDAMENTALS FOR SUCCESS IN MULTI-MANAGER

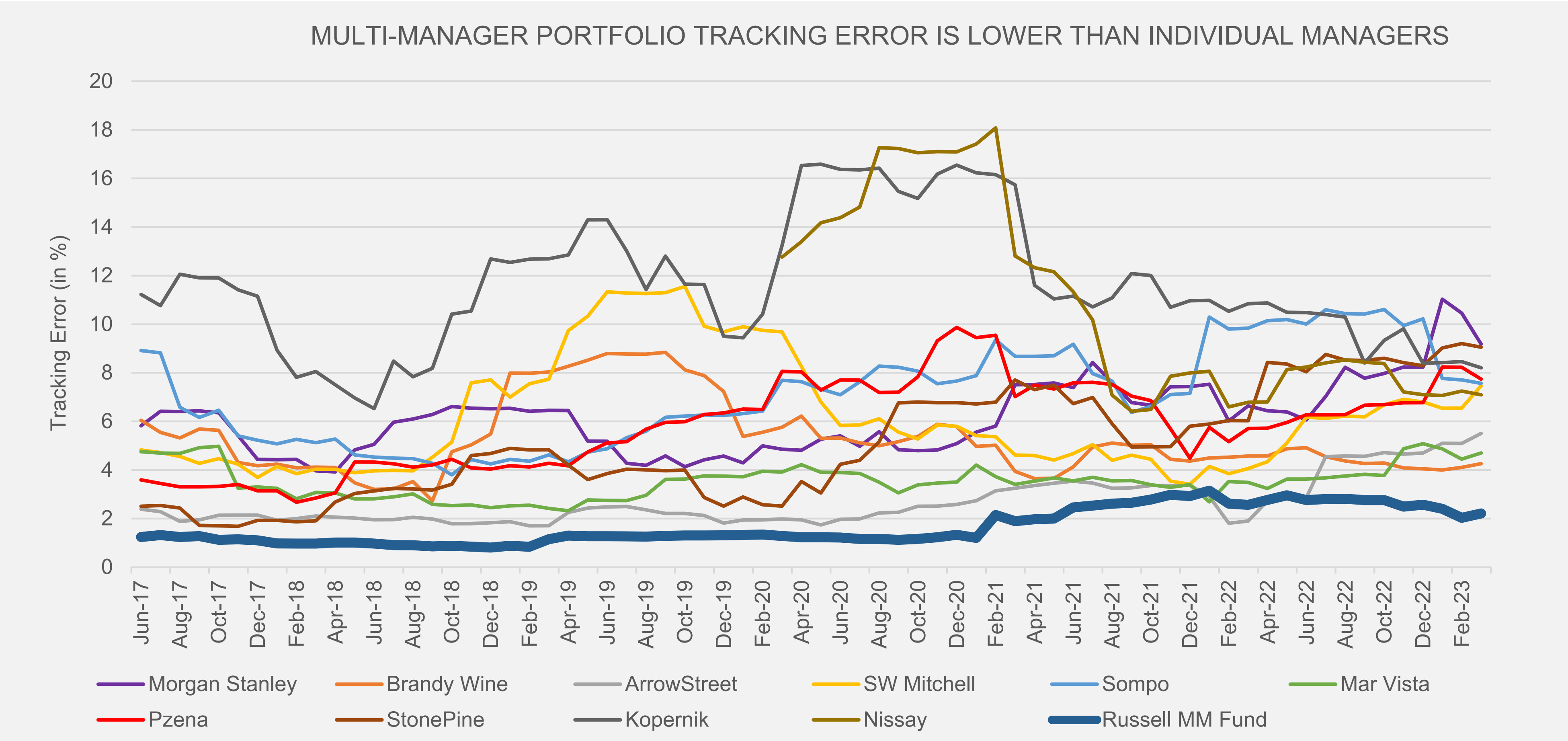
Managing multi-manager portfolios is investing.

OBSERVATIONS

- Any move away from passive is an active decision
- You cannot blame underlying managers for your multi-manager performance
- Success requires more than selecting good managers
- “Total portfolio ownership” mindset is key.

THE CASE FOR MULTI-MANAGER
Diversification is math, not a myth.

GLOBAL SELECTIVE EQUITIES OPPORTUNITIES FUND EXAMPLE

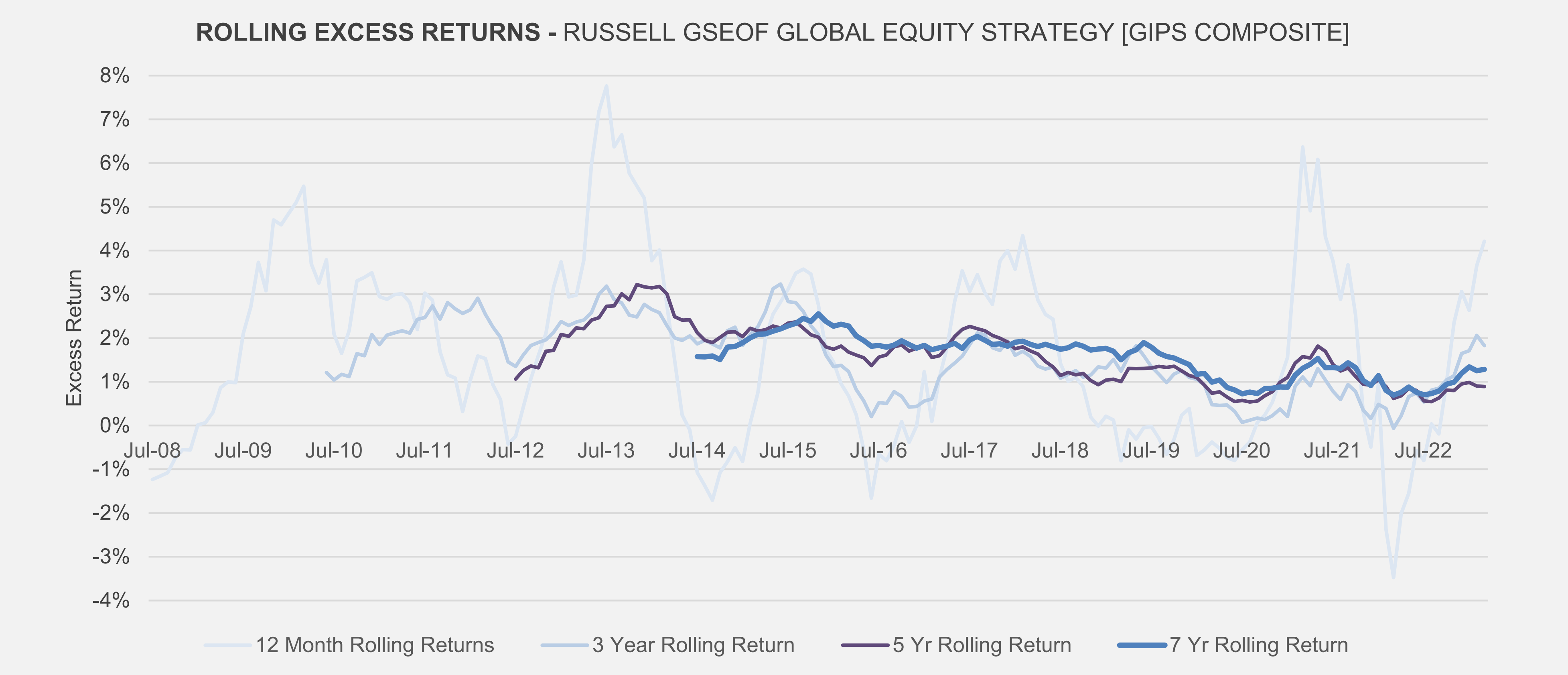


Any past performance is not necessarily a guide to future performance.

Source: Russell Investments, data as of 31 March 2023. The Fund is actively managed with reference to the MSCI World Index (USD) - Net Returns. Funds represented on this slide track against various regional benchmarks unlike the Global Selective Equity Opportunities Fund which tracks against a global benchmark. All managers are shown against their respective benchmarks. Any reference to specific money managers should not be taken as a recommendation. Money managers are subject to change. Regional managers are Mar Vista, Legg Mason, SW Mitchell, Pzena, Nissay, Sompo. Global managers are ArrowStreet, Kopernik, Morgan Stanley, Stonepine.

THE CASE FOR MULTI-MANAGER
Multi-manager return profiles typically smooth over time.

RESULTS



Past performance does not predict future returns.

Source: Russell Investments, Confluence. Data as at 31 March 2023. Performance in USD and gross of commissions, fees or other charges (unless specified otherwise).

This track record is a GIPS Composite: From August 2007 the performance is of the composite of the single client mandate and of the Russell Investments Global Selective Equity Opportunities Fund from October 2017. The composite portfolio is not investable. The Global Selective Equity Opportunities Fund is actively managed with reference to the MSCI World Index (USD) Net Returns. The Fund's performance will be measured against the Index which it seeks to outperform by 1.5% over the medium to long term.

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Total portfolio positioning.

MULTI-MANAGER PORTFOLIO MANAGER MUST DECIDE…

Total Portfolio Positioning

Strategic Beliefs & Tactical Positioning

Risk Management

UNDERLYING MANAGERS DELIVER ALPHA THROUGH…

Security Selection

Dynamic Management

Source: Russell Investments. For illustrative purposes only.

FUNDAMENTALS FOR SUCCESS IN MULTI-MANAGER
More to it than selecting great managers.

RESULTS

1
THE OBVIOUS DECISIONS

- **Which** strategies?
- **Which** managers?
- **How many** managers?
- **At what** weights?

2
THE LESS OBVIOUS DECISIONS

- **What** total portfolio positioning am I targeting?
- **Which** risks need to be constrained? emphasised? ignored?
- **Can** desired positioning be achieved efficiently with managers?
- **How do** I maintain/change portfolio positioning?
- **How do** I implement the portfolio efficiently?

OUR EVOLUTION JOURNEY

MULTI-MANAGER 2.0

PROCESS EVOLUTION
Multi-Manager 2.0: Framing our evolution.

DESIGN

TRANSLATE OBJECTIVES INTO A STRATEGIC ASSET ALLOCATION

- Establish Objectives (including ESG)
- Market Forecasts

CONSTRUCT

ACCESS EXPOSURES THROUGH A COMBINATION OF THIRD PARTY MANAGERS AND POSITIONING STRATEGIES

- Strategic Beliefs (incl ESG)
- Manager Research
- Systematic strategies (e.g. factor or completion)
- Overlays

MANAGE

DYNAMICALLY ADJUST TO CHANGING CIRCUMSTANCES, MARKETS, AND THIRD PARTY MANAGERS

- Portfolio Analytics (including stress testing / "what if" scenarios)
- Forward Looking Market Views
- Operational Efficiencies (e.g. centralised trading)

Source: Russell Investments. For illustrative purposes only.

FUND SNAPSHOT
World Equity Fund.

MULTI-MANAGER 2.0, INTEGRATING:

Manager Research:

Unshackled: global + regional

Systematic Strategies:

- Standalone targeting specific risk premia (e.g. Quality Income)

- Custom completion portfolio (managing additional regional/style biases)

Overlays:

- Correcting regional biases

- Currency hedging

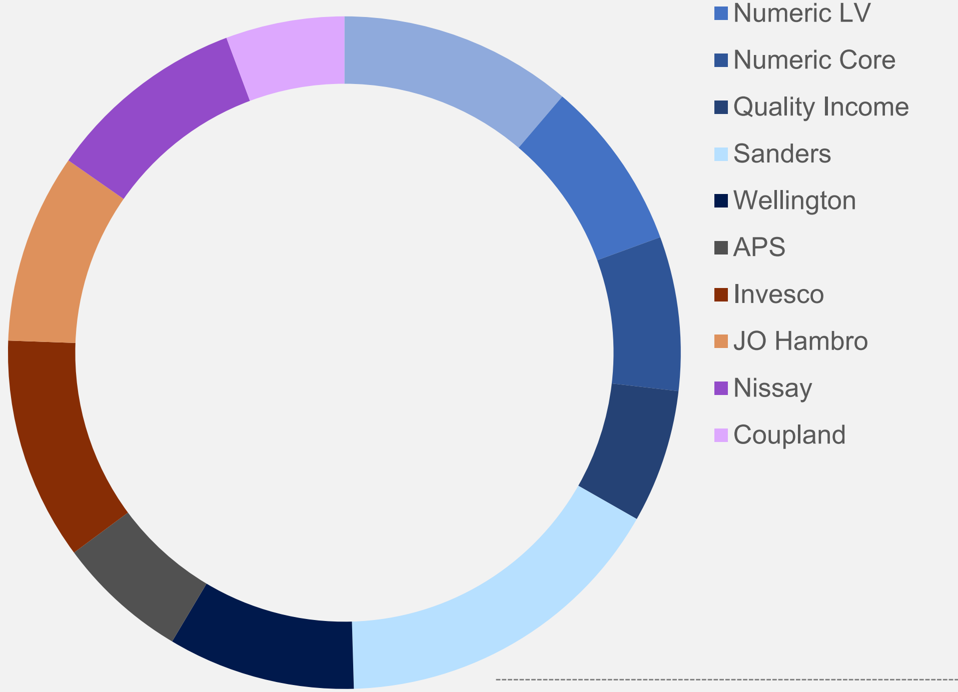
Trading efficiencies:

- Enhanced Portfolio Implementation

Asset Class/Manager

SUB ASSET CLASS

SPECIALISED MANAGERS

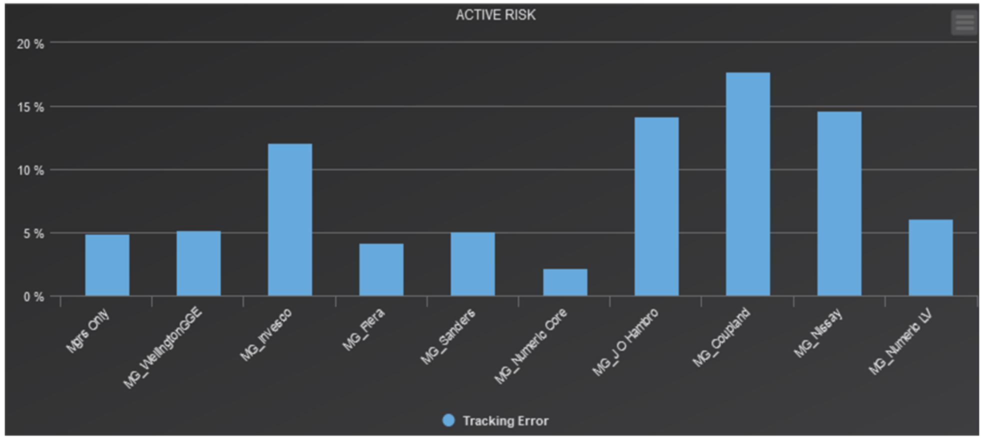


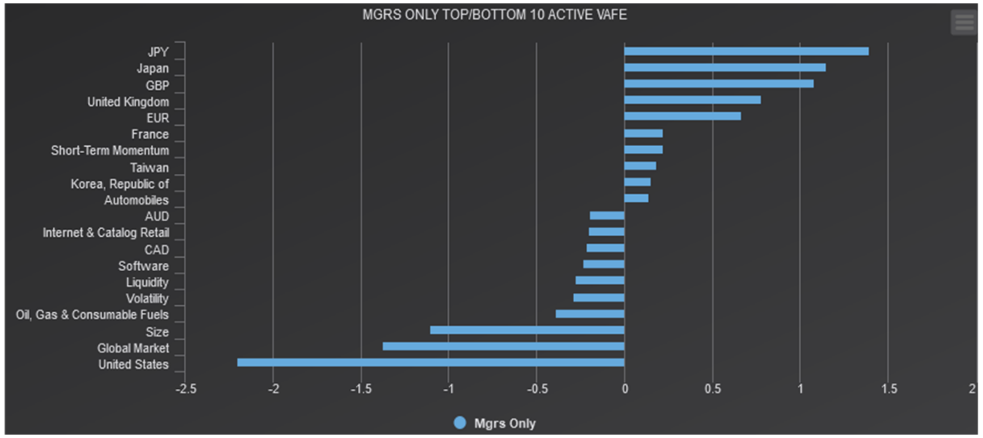
- **Smoother return profile**
- **Access to best ideas**
- **Reduced governance burden**
- **Futureproof approach**

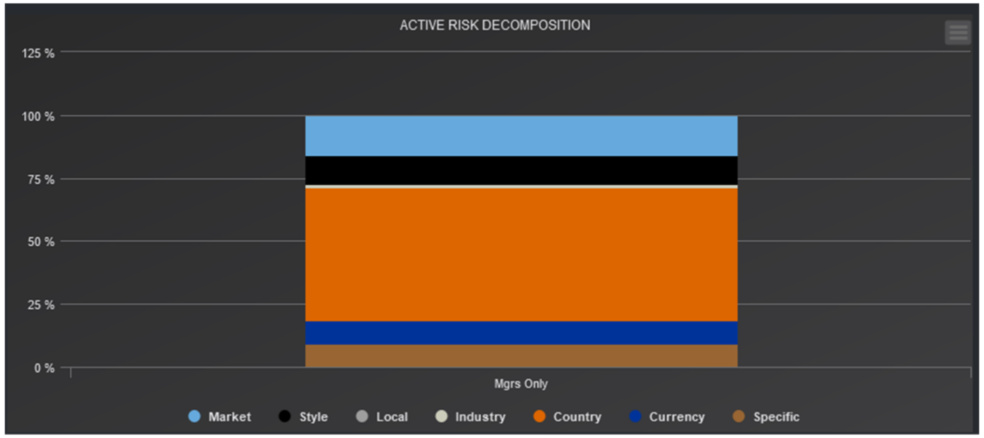
Source: Russell Investments, as at 31 December 2022.

COMPLETION PORTFOLIOS
WEF example: Active managers only.

- Nearly 5% tracking error vs. benchmark
- Global + regional model causes regional biases and country risk dominates
- Intended factor biases distorted by country exposures.







Source: Russell Investments, as at January 2023. For illustrative purposes.

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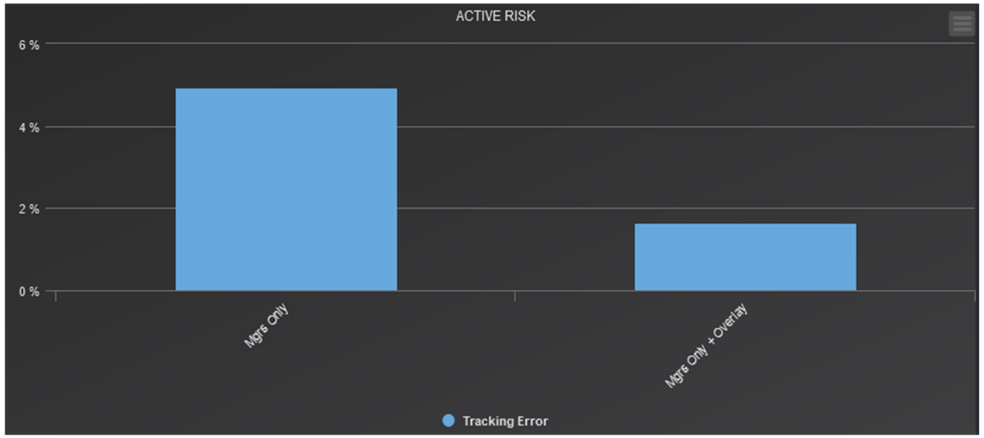
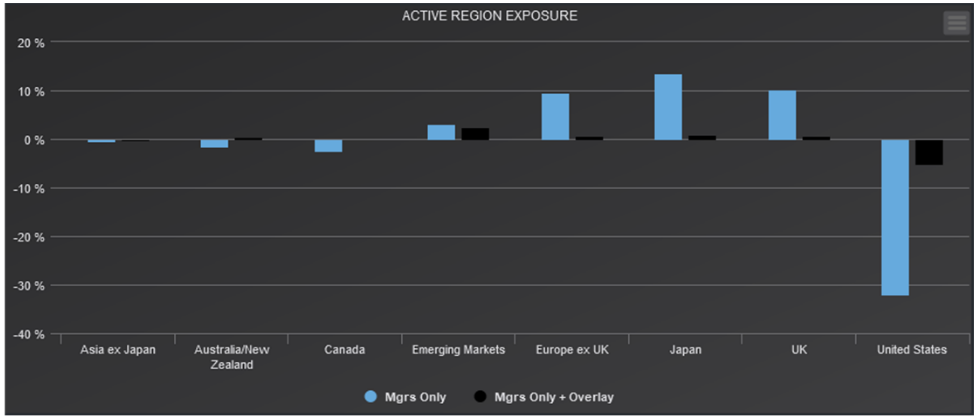
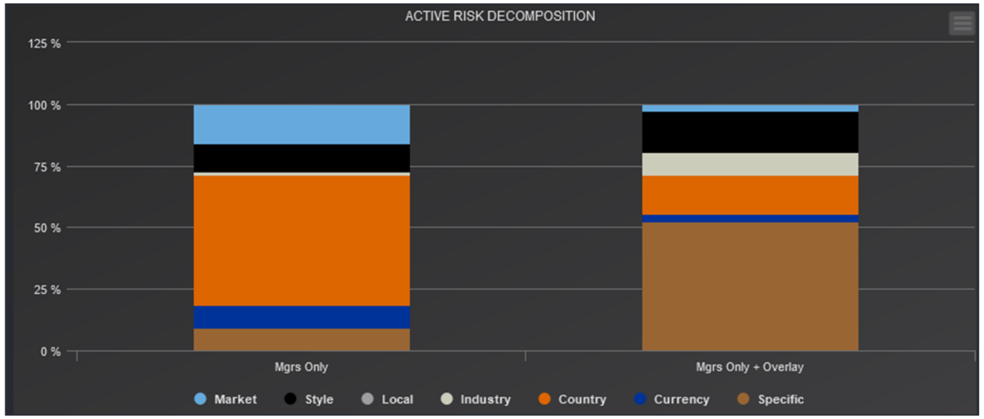
COMPLETION PORTFOLIOS
WEF example: Correcting regional biases.

- Add futures + currency overlay:
    - Short UK + GBP
- Short Japan + JPY
- Long U.S.
- Reduce TE due to reduction in country and currency risk.

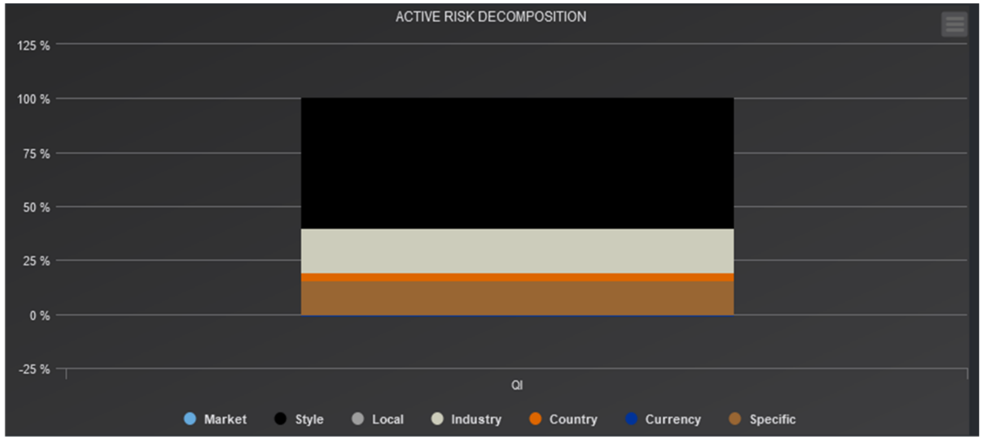


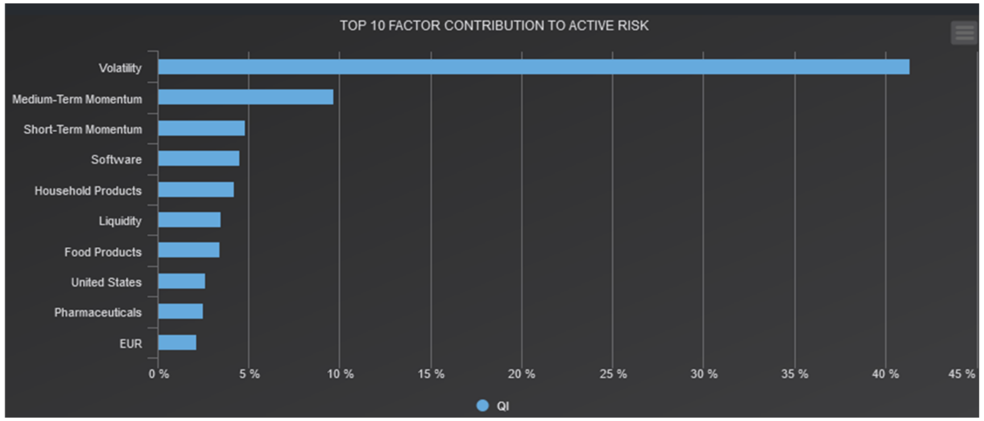


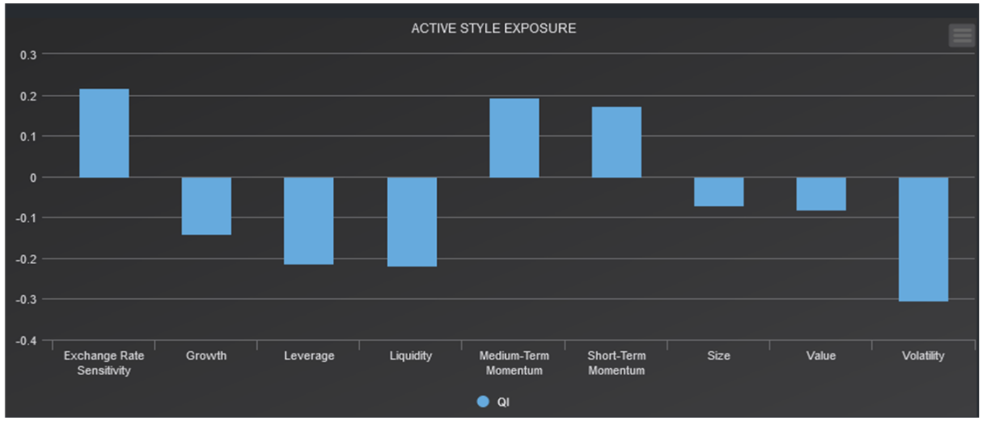


COMPLETION PORTFOLIOS
WEF example: Managing volatility with quality income.

- Quality Income is a systematic factor strategy targeting defensive, low volatility, dividend paying companies.
- Provides a consistent, predictable defensive exposure.





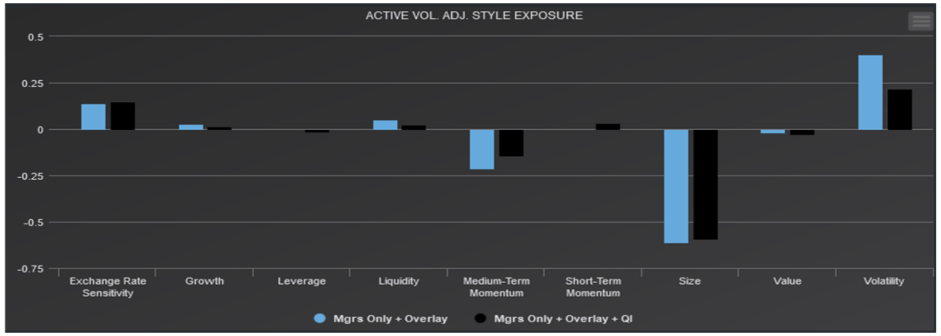


Source: Russell Investments, as at January 2023. For illustrative purposes.

COMPLETION PORTFOLIOS
WEF example: Managing volatility with quality income.

- QI reduces fund level tracking error and volatility exposure.
- Low correlation with other strategies ex low volatility manager.

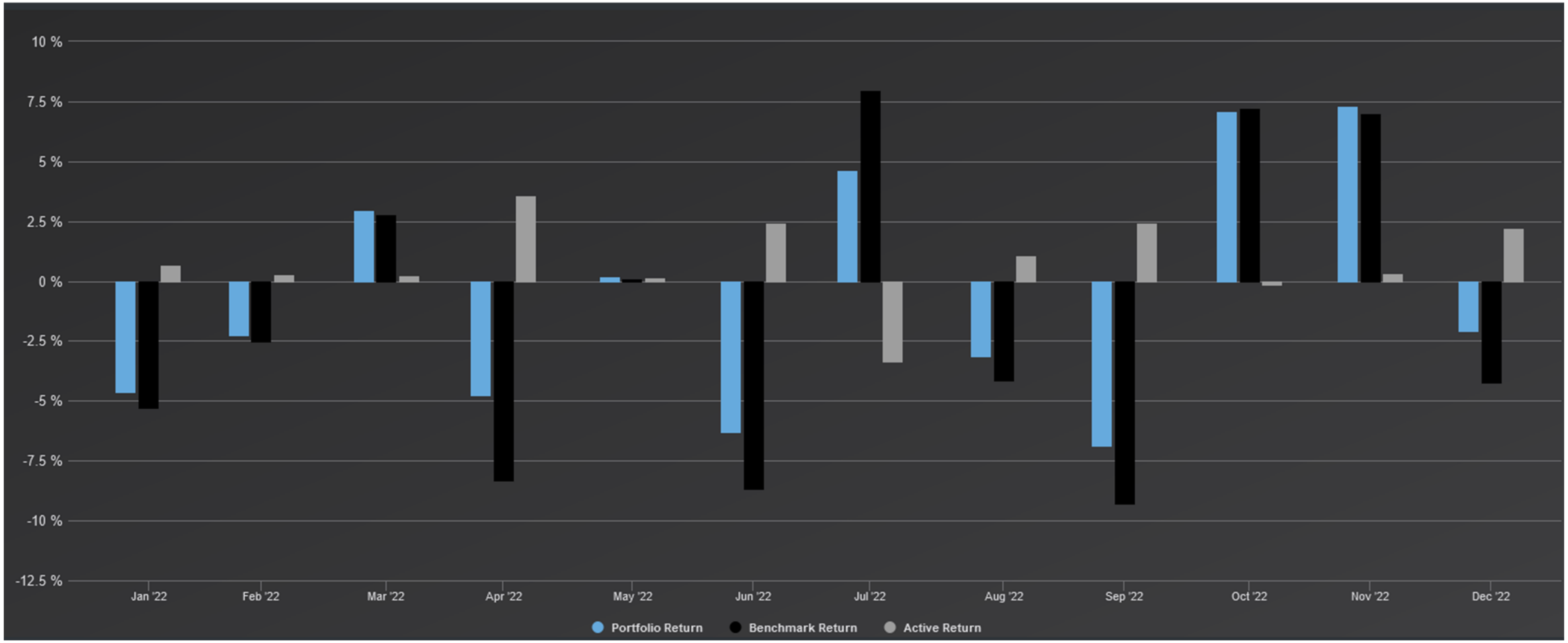
CPS case study WEF - 30-Dec-2022	Mgrs Only + Overlay	Mgrs Only + Overlay + QI
Benchmark	MSCI World Index	MSCI World Index
Summary		
Active Risk	1.66 %	1.58 %
Forecast Beta	0.98	0.97



QI - 30-Dec-2022	MG_APS	MG_Coupland	MG_Fiera	MG_Invesco	MG_J O Hambro	MG_Nissay	MG_Numeric Core	MG_Numeric LV	MG_Quality Income	MG_Sanders	MG_WellingtonGGE
MG_APS	1.00	-0.30	-0.16	-0.67	-0.61	-0.37	-0.16	-0.12	-0.21	-0.37	-0.18
MG_Coupland	-0.30	1.00	0.05	-0.12	-0.04	0.49	-0.01	-0.07	-0.19	-0.10	0.30
MG_Fiera	-0.16	0.05	1.00	-0.04	0.00	0.07	-0.01	0.13	0.14	0.20	-0.01
MG_Invesco	-0.67	-0.12	-0.04	1.00	0.72	0.13	0.19	0.03	0.22	0.49	0.06
MG_J O Hambro	-0.61	-0.04	0.00	0.72	1.00	0.15	0.19	0.05	0.17	0.34	0.07
MG_Nissay	-0.37	0.49	0.07	0.13	0.15	1.00	0.14	0.51	0.51	0.28	-0.24
MG_Numeric Core	-0.16	-0.01	-0.01	0.19	0.19	0.14	1.00	0.52	0.32	0.10	-0.14
MG_Numeric LV	-0.12	-0.07	0.13	0.03	0.05	0.51	0.52	1.00	0.82	0.25	-0.56
MG_Quality Income	-0.21	-0.19	0.14	0.22	0.17	0.51	0.32	0.82	1.00	0.33	-0.59
MG_Sanders	-0.37	-0.10	0.20	0.49	0.34	0.28	0.10	0.25	0.33	1.00	-0.14
MG_WellingtonGGE	-0.18	0.30	-0.01	0.06	0.07	-0.24	-0.14	-0.56	-0.59	-0.14	1.00

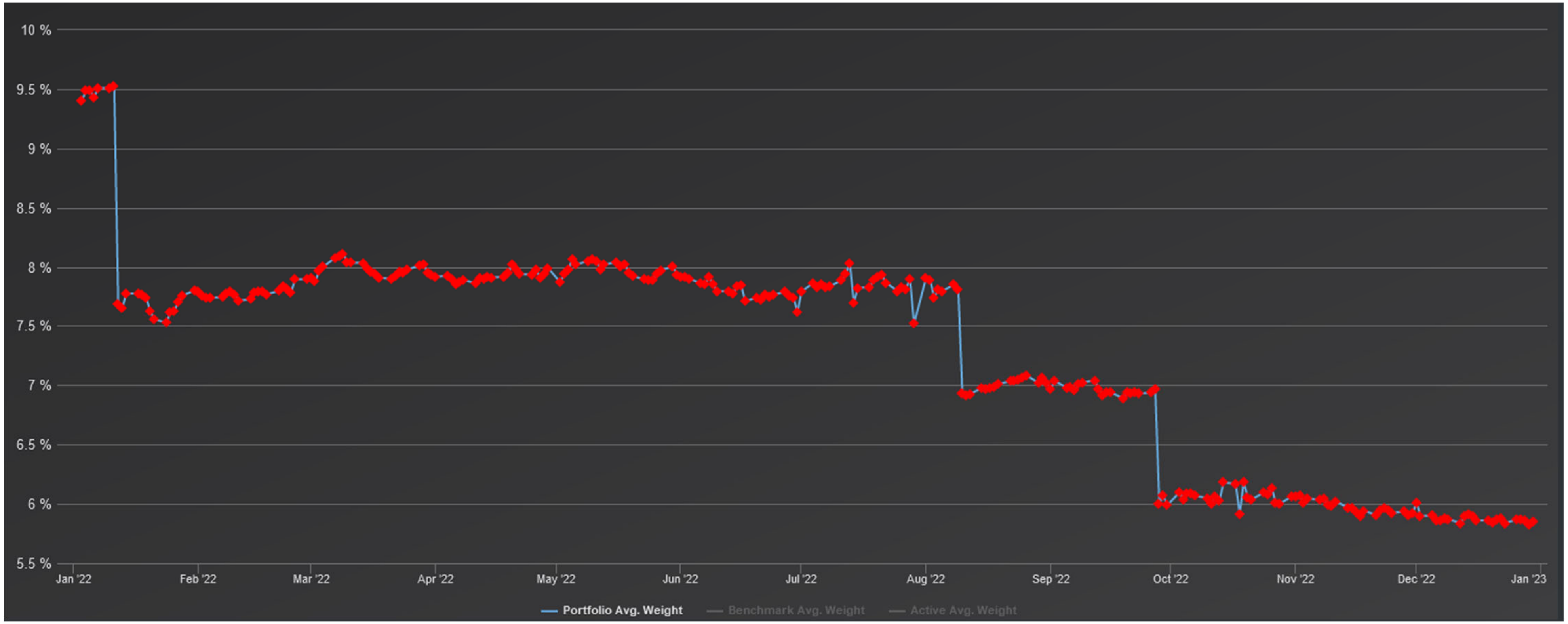
COMPLETION PORTFOLIOS

Quality income performance: Strong in defensive environment.



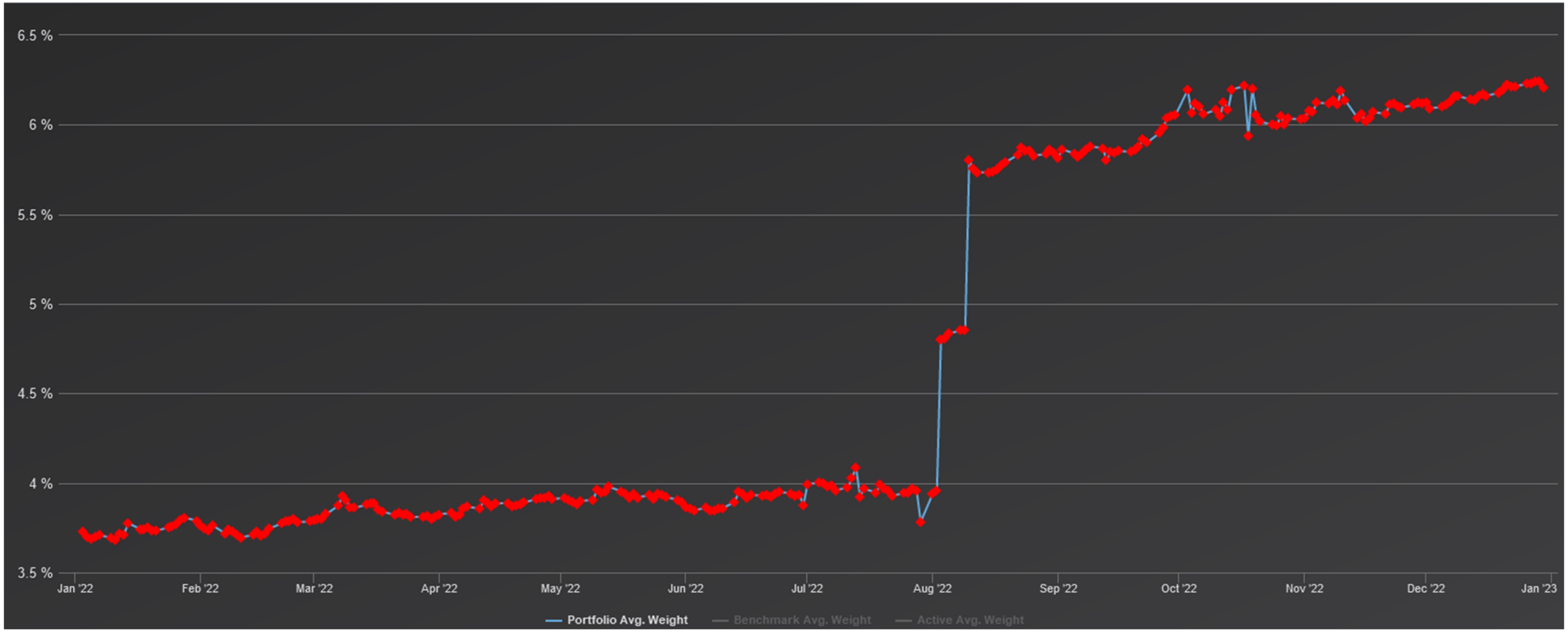
Past performance does not predict future returns.
Source: Russell Investments, as at January 2023. For illustrative purposes.

COMPLETION PORTFOLIOS
Completion strategy allocation: Exposure weight adjustments.



Source: Russell Investments, as at January 2023. For illustrative purposes.

COMPLETION PORTFOLIOS
Quality Income allocation: Weight adjustments in 2022.



Source: Russell Investments, as at January 2023. For illustrative purposes.

ENHANCED PORTFOLIO IMPLEMENTATION

MULTI-MANAGER 3.0

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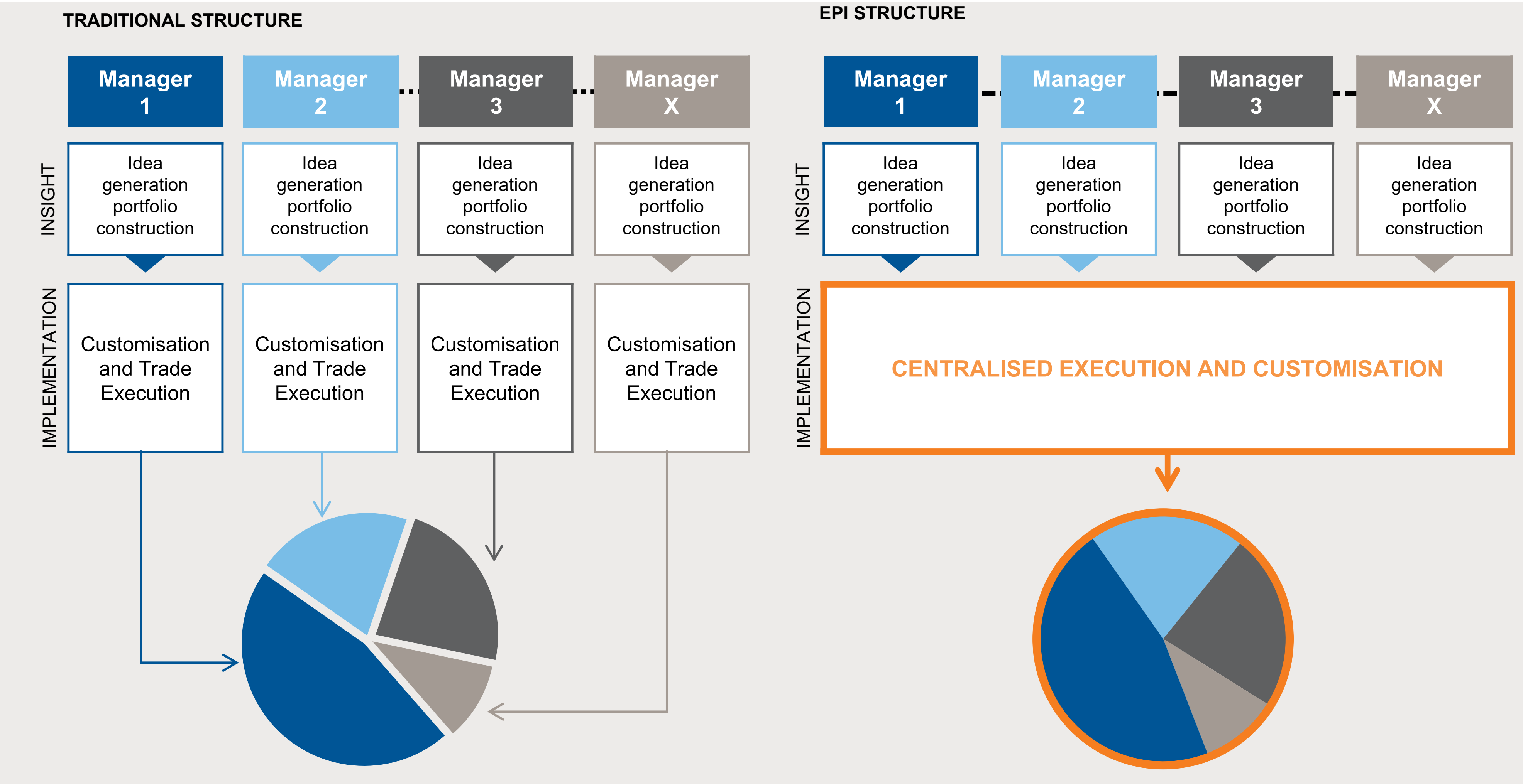
WHAT IS EPI?
Invest with models — Separating implementation and insight.



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Source: Russell Investments. For illustrative purposes.

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KEY BENEFITS
How EPI impacts the client and the investor.

ALPHA PRESERVATION

- Fewer Costs
- Reduced Turnover
- Efficient Trading

CONTROL AND EFFICIENCY

- Improved Visibility
- Centralised trading and operations
- Simplified portfolio changes
- Exclusion and ESG Integration

LOWER MANAGEMENT FEES[1]

- Reduced manager risk
- Improved AUM Capacity
- Simplified Contracting

1 EPI provides the opportunity to lower management fees due to the removal of implementation overhead and risk at the manager. Lowering management fees are dependent on both the managers and the client's ability to come to agreement on lower fees.

KEY BENEFITS

Lower costs / Potential alpha preservation by lowering implementation costs.

Fewer Custody Accounts

- Multi-manager strategies can be structured within one custody account
- Central liquidity reserve

Reduced Trading Volumes

- Eliminating offsetting trades
- Eliminating trivial positions and trades

Reduced Trading Costs

- Fewer transactions lead to lower trading costs
- Materially improved execution versus average managers (FX and equities)

Reduced Tax

- Reduced trading volume leads to lower tax charges
- Especially powerful in UK equities

Savings from reduced transaction costs have been shown to outweigh timing impact associated with trades.

Source: Russell Investments.

KEY BENEFITS
Control and efficiency / daily visibility of individual manager and aggregate performance.

Eases New Manager Set-up/Manager Termination

- Due diligence
- Account and market openings
- Account termination.

More Efficient Transitions and Cashflows

- Centralised inflows/ outflows
- Faster allocation changes and transition process, given all trading is done within the central account.

Centralised Portfolio Operations

- Daily reconciliation of underlying managers to custodian bank
- Daily pre- and post-trade compliance
- Consolidated trade and settlement operations
- Centralised reporting for all trades and AUM (MiFID II).

Robust Foundation for Nimble Decision-making

- On demand availability to adjust manager weights with one seamless notification
- Flexibility to make manager changes simply by switching manager model portfolios
- Single guidelines for entire portfolio, allowing for fast changes to strategy, opposed to changing each individual underlying manager
- Opportunity to integrate ESG targets into implementation.

Enables stronger focus on investment thinking by reducing operational burden.

KEY BENEFITS

Lower management fees / the power of EPI to potentially negotiate lower fees.

TOOLS FOR YOU TO NEGOTIATE WITH MANAGERS

Reduced Manager Risk

- No physical trading
- No pre/post trade compliance
- No reconciliation

Improved AUM Capacity

- Single model can be used across multiple funds
- More cap space for strategies due to lower turnover

Ability to Simplify Contracting

- Only one set of guidelines to update for exception-based rules
- Exclusions are consolidated and applied in EPI
- ESG can be applied through exclusions or optimisation

OUTSOURCED MANAGER CONTRACTING AND OVERSIGHT

Contracting and Due Diligence Management

Potential for Lower Fees

- If selected manager strategy(s) are already on EPI platform, they are eligible for contracting directly through Russell Investments
- While the client maintains overall discretion of manager selection and allocation, Russell Investments would act as the contracting party and provide ongoing oversight
- If a lower fee is achieved with the selected manager by leveraging Russell Investments pre-existing fee schedule, a reduced fee will be passed onto the client
- There is no explicit fee for this service, as fee savings are shared by the client and Russell Investments.

KEY BENEFITS
Alpha preservation / results.

ANNUALISED PERFORMANCE EXAMPLES: INCEPTION TO DATE

EPI vs. Manager model(s)	UK	Global	Emerging Markets
Gross Performance	-0.03%	-0.07%	-0.10%
Net Performance impact	**0.41%**	**0.20%**	**0.30%**
Turnover Reduction	47%	35%	39%

Past performance does not predict future returns.

Source: Russell Investments. Data as of 30 September 2023. Figures are annualised.

Note: A full breakdown of performance data can be found on slides 37-39 of this presentation.

UK Track record = UK Equity Portfolio. Enhanced Implementation Inception: 30 December 2011.
Global Track Record = Global Equity Portfolio. Enhanced Implementation Inception: 11 June 2014.
Emerging Market = EM Equity Portfolio. Enhanced Implementation Inception: 13 June 2014.

Please also note that the brokerage assumed in this analysis (UK 6bps, Global Dev 6bps, EM 10bps) is higher than we may charge in practice – making results highlighted more conservative than would have been experienced over the same time period with an equivalent period. Performance is gross of fees.

Fees will reduce the overall performance of the fund. Past performance is not indicative of future results. The information above is provided solely to demonstrate Russell Investments' history in developing strategies and is not an offer to purchase any specific product. Not all investors will be eligible to invest in the strategies noted and not all strategies have been successful and may no longer be in use.

THE POWER OF MARGINAL GAINS
Multi-manager implementation toolkit.

FOCUS
YOUR PORTFOLIO
YOUR VIEWS
YOUR RESULTS

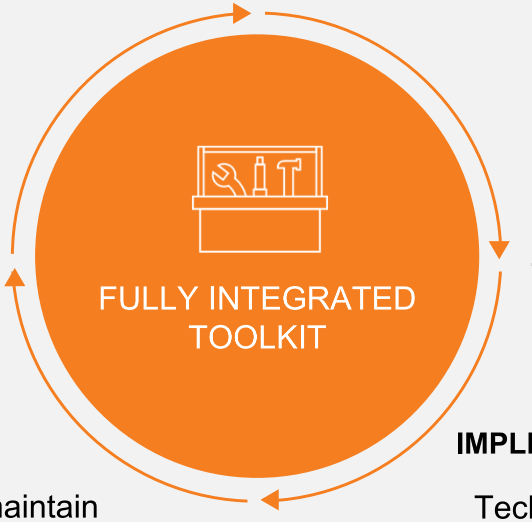
SERVICE AREAS

SYSTEMATIC / CUSTOM EXPOSURES

Efficient access to desirable risk premia (equity, fixed income and currency), including custom completion portfolios

CHANGE MANAGEMENT

Reducing costs when changing managers/asset class exposures



OVERLAYS

Efficient tools to capture/maintain desired positioning, and reduce costs of implementation

IMPLEMENTATION & TRADING

Techniques to reduce trading impact within your portfolio (including capture of netting/matching opportunities)

IMPORTANT INFORMATION AND DISCLOSURES

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This material does not constitute an offer or invitation to anyone in any jurisdiction to invest in any Russell Investments Investment product or use any Russell Investments Investment services where such offer or invitation is not lawful, or in which the person making such offer or invitation is not qualified to do so, nor has it been prepared in connection with any such offer or invitation.

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The value of investments and the income from them can fall as well as rise and is not guaranteed. You may not get back the amount originally invested. Any past performance figures are not necessarily a guide to future performance.

Any reference to specific money managers should not be taken as a recommendation. Money managers are subject to change.

Russell Investments Limited may trade a portion of Fund assets based on a model portfolio provided by the manager. By employing this emulated portfolio approach, we are able to gain capacity not otherwise available, leveraging on Russell's implementation capabilities in order to access underlying alpha in an efficient manner. Potential investors in emerging markets should be aware that investment in these markets can involve a higher degree of risk.

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END NOTES FOR MANAGER RESEARCH

Source:
These slides contain data as provided by internal Russell Investments applications. These applications are populated with data collected from individual managers by third party data collectors. The data is not thoroughly verified by Russell Investments and although deemed reliable, its accuracy is not guaranteed by Russell Investments or its affiliates. Most data is gross of advisory fees, but net of fee data is utilised where gross of fee data is not available. Note: In some cases money managers do not provide data on their products, therefore a reader should be aware that the representations may be misleading; performance of hire lists may be higher or lower than represented. Hire ranked does not imply that such products have been placed in any of our funds or products.

Excess Returns:
Each product in our hire lists is compared to the relevant Russell Investments' assigned benchmark and universe to determine product level excess returns for each quarter. All product level quarterly excess returns are geometric excess returns. Product level quarterly excess returns are then averaged across all products in the hire list to determine an average hire list quarterly excess return. Averages are only calculated for hire lists that consist of at least three hire rank products for the given quarter. The average quarterly excess returns by hire list are then annualised to determine the hire list 5-year annualised rolling excess returns. Each 5-year annualised return requires 20 contiguous quarters of non-missing quarterly averages. If the 5-year annualised average excess return for a hire list is greater than zero, then the hire list is considered to have outperformed over that time period.

Representation:
No client of Russell Investments has been able to achieve the represented performance due to the fact that the hire lists and universes are comprehensive composites that cannot be invested in directly. The hire lists and universes in Russell Investments' research database that are used in this material (presentation) cannot be purchased or held by any client. These manager products are available for our consulting clients and internal portfolio managers to use in the construction of portfolios for our fund and separate account clients.

Past performance is not indicative of future performance.

Timing:
Data is Preliminary (Performance ending 2023 Q1, last updated 18 May 2023). Manager products are included and excluded as our product ranks change over time; not all products are continually hire ranked over these indicated time periods.

The information presented is for illustrative purposes only.

GIPS PERFORMANCE DISCLAIMER

Russell Investments Limited Performance Results: Global Equity Composite
Russell Investments Limited has prepared and presented this report
in compliance with the Global Investment Performance Standards (GIPS).

31 December 2020.

CALENDAR YEARS	Total Gross Returns % (£)	Benchmark Returns % (£)	NO OF PORTFOLIOS	TOTAL ASSETS (£M)	% OF FIRM'S ASSETS	TOTAL FIRM'S ASSETS (£M)
2020	13.3	12.3	1	767	2.4	31,424
2019	23.1	22.7	1	684	2.1	32,879
2018	-3.1	-3.0	1	546	1.9	28,090
2017	15.5	11.8	1	565	2.0	28,828
2016	28.2	28.2	2	2,916	9.8	29,665
2015	6.7	4.9	1	2,313	9.1	25,377
2014	10.9	11.5	1	2,119	7.8	27,276
2013	29.4	24.3	1	2,216	9.2	24,162
2012	13.8	10.7	1	1,840	8.9	20,773
2011	-4.5	-4.8	1	1,618	9.0	18,031
2010	18.9	15.3	1	1,811	9.1	19,890
2009	19.8	15.7	1	1,908	10.2	18,649
2008	-18.7	-17.9	1	1,627	8.4	19,322
Jul 31 - Dec 31 2007	3.7	4.3	1	2,001	7.6	26,324

PERFORMANCE	Total Returns % (£)	Benchmark Returns % (£)
1 Year Annualised	13.3	12.3
2 Year Annualised	18.1	17.4
3 Year Annualised	10.6	10.2
5 Year Annualised	14.9	13.9
10 Year Annualised	12.8	11.4
Since Inception	10.9	9.4

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in compliance with the Global Investment Performance Standards (GIPS).

31 December 2020.

1. Russell Investments EMEA Ltd claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Russell Investments EMEA Ltd has been independently verified for the periods 1 January 2002 through 31 December 2019. The verification report(s) is/are available upon request.
   A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm's policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report.
2. For the purposes of GIPS, the Firm is defined as all portfolios managed in EMEA by Russell Investments Limited excluding Joint Ventures, LDI (Liability Driven Investment) portfolios and assets sub-delegated to other companies within the Russell Investment group.
3. The composite creation date was 31st December 2016 and the inception date was 30 June 2007.
   The Composite includes all tax exempt portfolios managed on a fully discretionary basis investing in global equity stocks, predominantly in equity securities, including common stock, convertibles and warrants, listed, traded or dealt in on any Regulated Market. The Fund may employ investment techniques and financial derivative instruments for efficient portfolio management and/or investment purposes.
   This composite consists of the Russell Investments Global Selective Equity Opportunities Fund and a client Global Equity Portfolio. The composite was created to retain the performance history of the client portfolio.
4. The official benchmark for this composite is: MSCI World Net
5. The annual Total Expense Ratio for this composite was 0.73%. This consists of Management Fees of 0.6% and ACT & Other Fees of 0.13%.
6. Assets as of 31 December 2020 were £767M.
7. Valuations are completed in UK Sterling using WM/Reuters 4pm exchange rates.
8. All fund returns are provided Gross of fees.
9. A fund becomes eligible for inclusion in a composite on the first day of full funding. Terminated funds leave their composites on the final day of trading.
10. Policies for valuing investments, calculating performance, and preparing GIPS Reports are available upon request.
11. Internal dispersion is not applicable because there are five or fewer portfolios in the composite for the full year.
12. The three-year annualized ex-post standard deviation is not presented when 36 monthly returns are not available.
13. Composite Gross-of-fees returns are applied in the calculation of this report's risk measures.
14. Lists of composite descriptions, limited distribution pooled fund descriptions, and broad distribution pooled funds are available upon request.
15. Use of derivatives over the year for the fund has been for both investment purposes to gain exposure to markets and for efficient portfolio management (hedging or securitisation) in line with the fund's overall objectives. Forward currency contracts, futures, swap contracts, and options are being used to hedge or gain exposure to Fixed Income and currency markets.
16. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

APPENDIX

PERFORMANCE
Global (more detailed performance breakdown)

Turnover has been consistently reduced through our enhanced implementation process, resulting in significant cost savings. With consistent low tracking error paired with reduced turnover, the portfolio realises a post cost excess return benefit:

EPI VS. SEPARATE ACCOUNT IMPLEMENTATION (ANNUALISED)	ITD	5YR	4YR	3YR	2YR	1YR
Net return change*	**0.20%**	**0.26%**	**0.28%**	**0.27%**	**0.37%**	**0.16%**
Gross return delta**	**-0.07%**	**-0.01%**	**0.02%**	**0.03%**	**0.13%**	**0.00%**
Cost savings***	0.27%	0.26%	0.25%	0.24%	0.24%	0.17%
Spread & Impact****	0.22%	0.21%	0.20%	0.18%	0.16%	0.09%
FX	0.00%	0.01%	0.01%	0.01%	0.01%	0.02%
Taxes	0.01%	0.01%	0.01%	0.02%	0.03%	0.03%
Comms	0.04%	0.04%	0.03%	0.03%	0.03%	0.02%
Turnover Reduction	**-34.6%**	**-34.1%**	**-30.5%**	**-32.3%**	**-29.1%**	**-33.2%**
Tracking Error	0.42%	0.48%	0.52%	0.47%	0.41%	0.54%

Past performance does not predict future returns.
Source: Global Equity Portfolio. Data as of 30 September 2023. Enhanced Implementation Inception: 11 June 2014. Figures are annualised.
*Net Return change = Gross return delta + Cost savings.
**Gross return delta = holdings only performance difference between EPI and the manager models
***Cost savings = Commissions per Annum + Spread & Impact. These figures are assumed savings based on the calculation assumptions defined for each.
****Spread & Impact = Turnover Reduction (actual) x Trading Costs; Russell = actual trading cost; Manager Models = ITG model costs.
Please note that the brokerage assumed in this analysis (Global /6bps) is higher than we may charge – making results highlighted more conservative than would have experienced over the same time period with an equivalent period.

PERFORMANCE
Emerging Markets (more detailed performance breakdown)

Turnover has been consistently reduced through our enhanced implementation process, resulting in significant cost savings. With consistent low tracking error paired with reduced turnover, the portfolio realises a post cost excess return benefit:

EPI VS. SEPARATE ACCOUNT IMPLEMENTATION (ANNUALISED)	ITD	5YR	4YR	3YR	2YR	1YR
Net return change*	**0.30%**	**0.41%**	**0.38%**	**0.41%**	**0.49%**	**0.16%**
Gross return delta**	**-0.10%**	**-0.02%**	**-0.03%**	**-0.02%**	**0.10%**	**-0.12%**
Cost savings***	0.39%	0.43%	0.42%	0.43%	0.39%	0.29%
Spread & Impact****	0.33%	0.35%	0.33%	0.32%	0.24%	0.15%
FX	0.00%	0.01%	0.01%	0.02%	0.03%	0.02%
Taxes	0.01%	0.02%	0.03%	0.04%	0.06%	0.07%
Comms	0.04%	0.05%	0.05%	0.05%	0.06%	0.05%
Turnover Reduction	**-39.0%**	**-37.7%**	**-37.0%**	**-36.8%**	**-37.9%**	**-25.2%**
Tracking Error	0.53%	0.51%	0.43%	0.27%	0.22%	0.18%

Past performance does not predict future returns.
Source: EM Equity Portfolio. Data as of 30 September 2023. Enhanced Implementation Inception: 11 June 2014. Figures are annualised.
*Net Return change = Gross return delta + Cost savings.
**Gross return delta = holdings only performance difference between EPI and the manager models
***Cost savings = Commissions per Annum + Spread & Impact. These figures are assumed savings based on the calculation assumptions defined for each.
****Spread & Impact = Turnover Reduction (actual) x Trading Costs; Russell = actual trading cost; Manager Models = ITG model costs.
Please note that the brokerage assumed in this analysis (EM 10bps) is higher than we may charge – making results highlighted more conservative than would have experienced over the same time period with an equivalent period.

PERFORMANCE
UK (more detailed performance breakdown)

Turnover has been consistently reduced through our enhanced implementation process, resulting in significant cost savings. With consistent low tracking error paired with reduced turnover, the portfolio realises a post cost excess return benefit:

EPI VS. SEPARATE ACCOUNT IMPLEMENTATION (ANNUALISED)	ITD	5YR	4YR	3YR	2YR	1YR
Net return change*	**0.41%**	**0.43%**	**0.44%**	**0.50%**	**0.46%**	**0.29%**
Gross return delta**	**-0.03%**	**-0.05%**	**-0.05%**	**-0.03%**	**-0.03%**	**0.13%**
Cost savings***	0.45%	0.48%	0.49%	0.53%	0.48%	0.17%
Spread & Impact****	0.27%	0.26%	0.26%	0.26%	0.21%	0.04%
FX	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Taxes	0.15%	0.17%	0.19%	0.22%	0.22%	0.10%
Comms	0.04%	0.04%	0.05%	0.05%	0.06%	0.03%
Turnover Reduction	**-47.1%**	**-52.0%**	**-58.2%**	**-61.9%**	**-63.0%**	**-47.3%**
Tracking Error	0.37%	0.24%	0.23%	0.19%	0.21%	0.21%

Past performance does not predict future returns.
Source: UK Equity Portfolio. Data as of 30 September 2023. Enhanced Implementation Inception: 30 December 2011. Figures are annualised.
*Net Return change = Gross return delta + Cost savings.
**Gross return delta = holdings only performance difference between EPI and the manager models
***Cost savings = Commissions per Annum + Spread & Impact. These figures are assumed savings based on the calculation assumptions defined for each.
****Spread & Impact = Turnover Reduction (actual) x Trading Costs; Russell = actual trading cost; Manager Models = ITG model costs.
Please note that the brokerage assumed in this analysis (UK 6bps) is higher than we may charge – making results highlighted more conservative than would have experienced over the same time period with an equivalent period..

THANK YOU