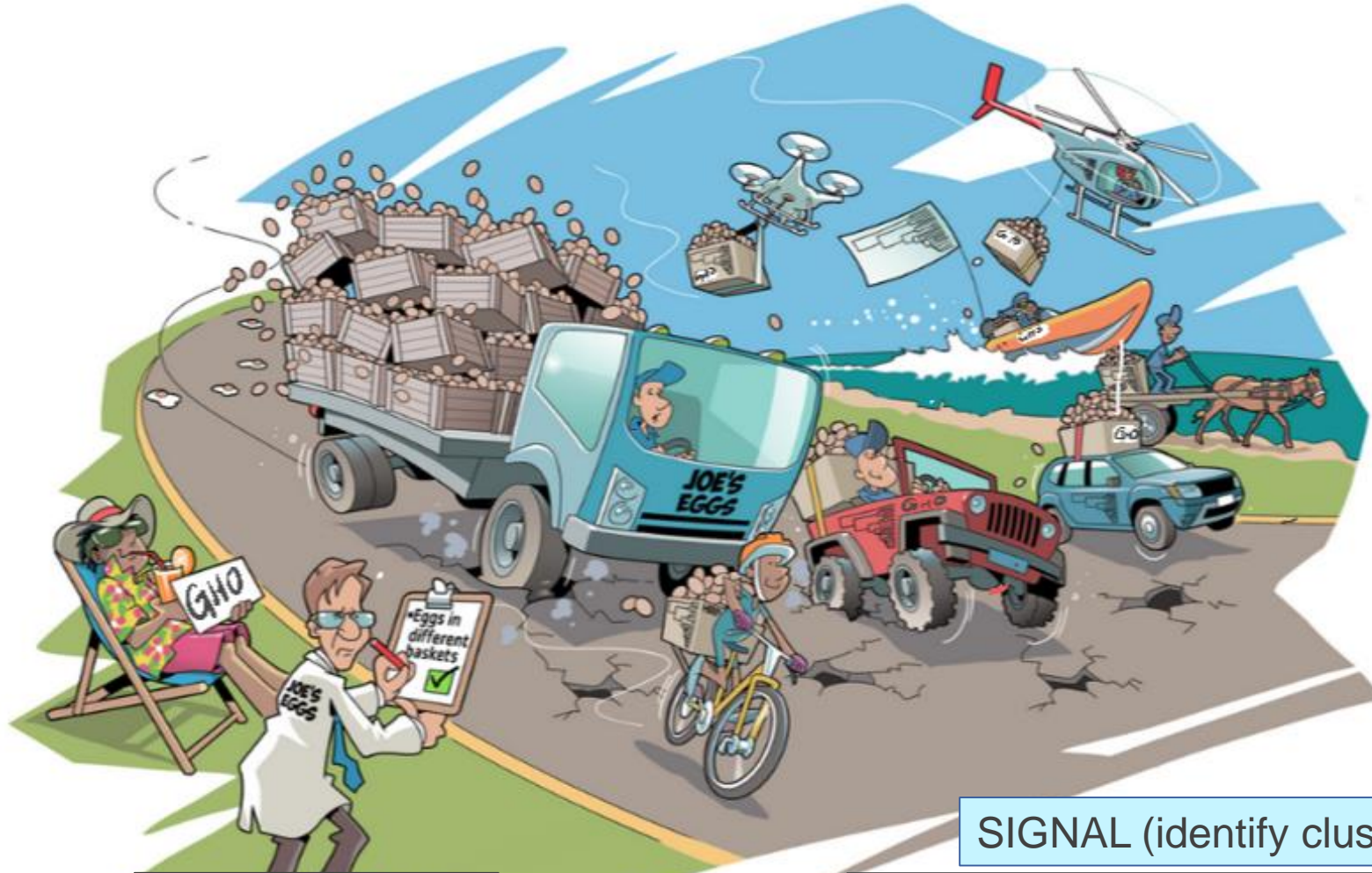


Index Investing: Not as Passive as You Think

Nico Katzke

Head of Portfolio Solutions, Satrix

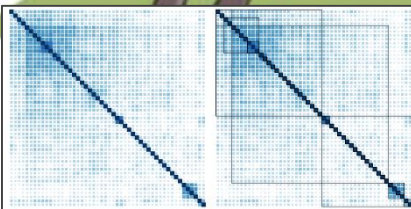
Current Research Efforts – focus on better identifying risk sources



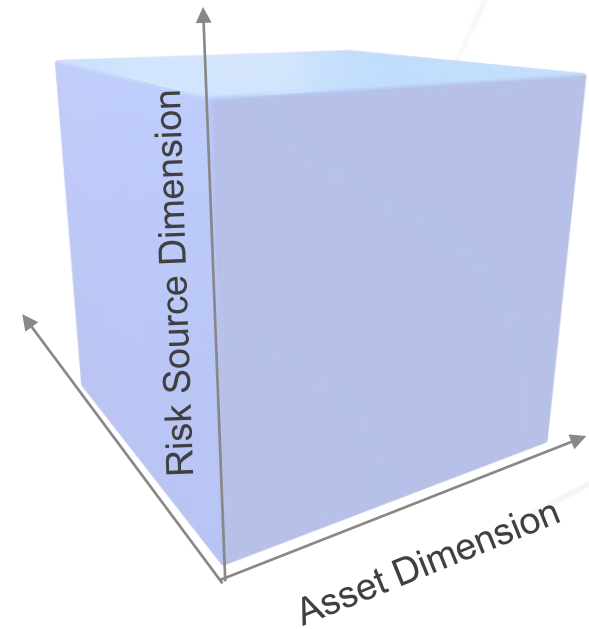
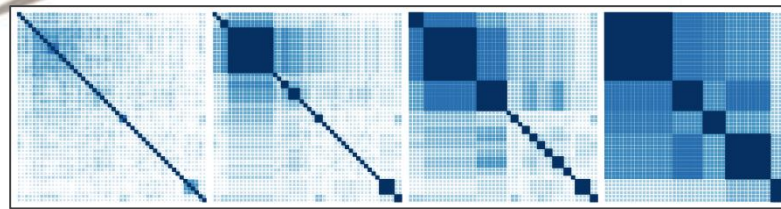
Building a Generalized Hierarchical Optimization (GHO) Framework:

- Better identifying risk sources
- Better utilizing the covariance structures in data
- Noise vs Signal

NOISE



SIGNAL (identify clusters)





Portfolio Performance

Core Portfolio
Performance

**Broad Market
Exposures**
(strategic asset allocation)

**Strategic
Factor Exposures**
(drivers of active returns)

Additional Sources
of Return

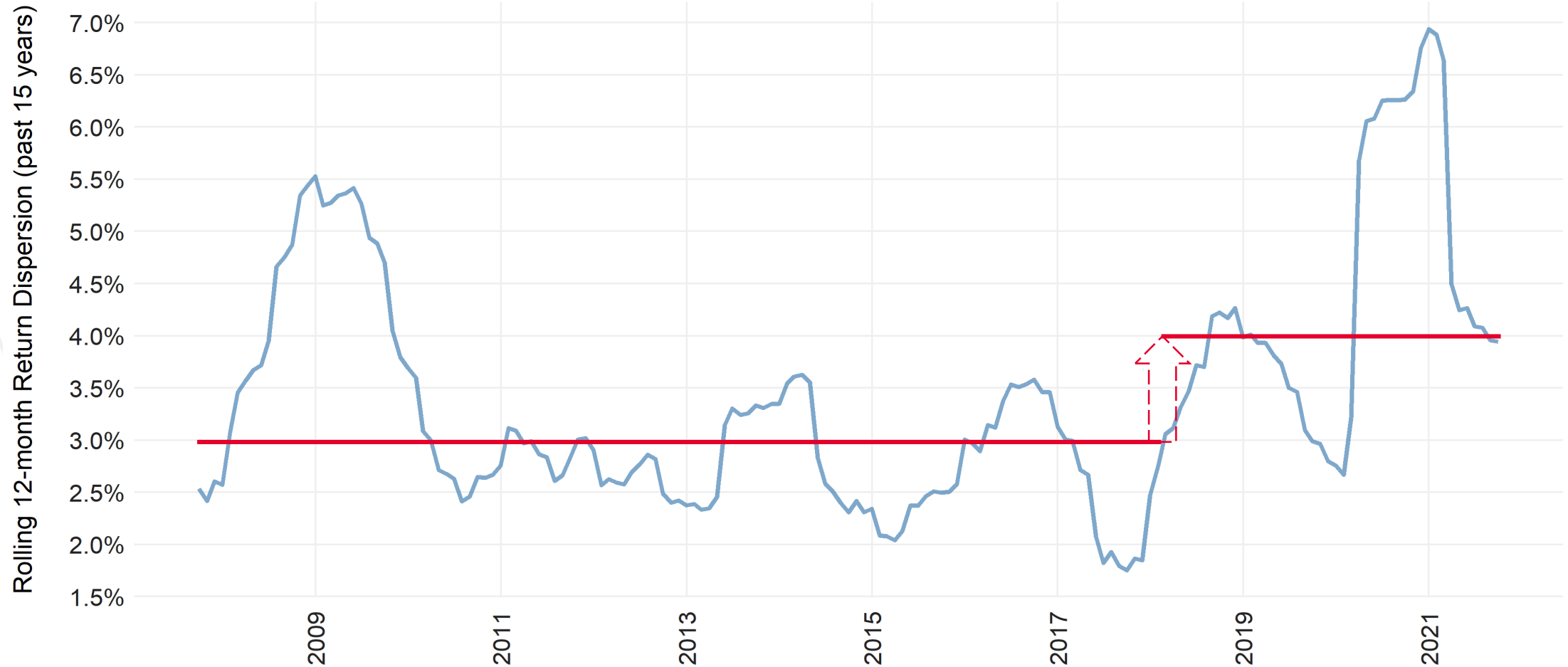
Security Selection

Market & Factor Timing



TAA opportunities have been favourable in recent years

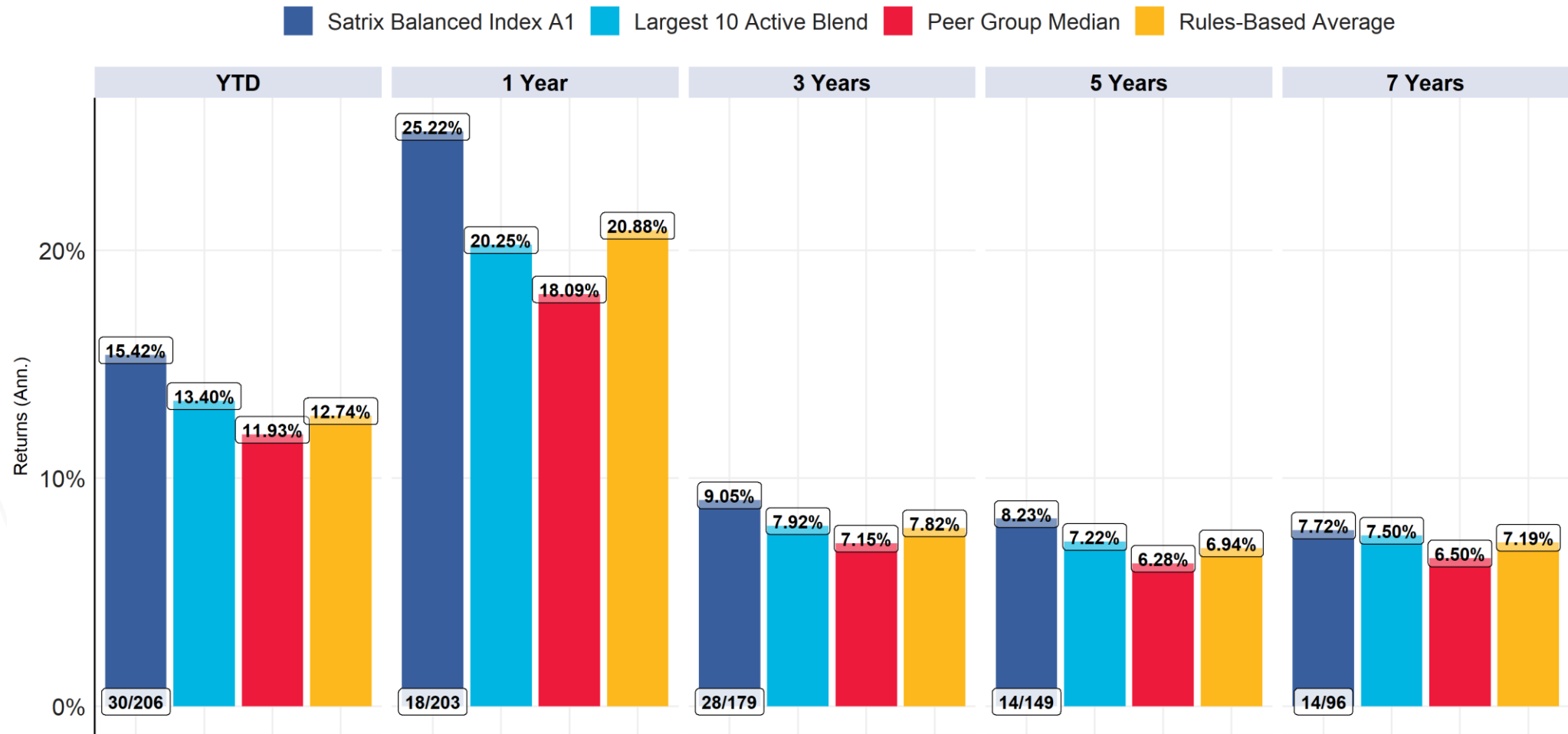
Rolling 12-month multi-asset return dispersion





Satrix Balanced Index Fund Ranks & Returns vs. Peers

(ASISA) South African Multi-Asset High Equity as at 30 September 2021



Source: Morningstar retail funds as at 30 September 2021 | Returns in excess of 1 year are annualised. Annualised returns indicate the average annual return after compounding

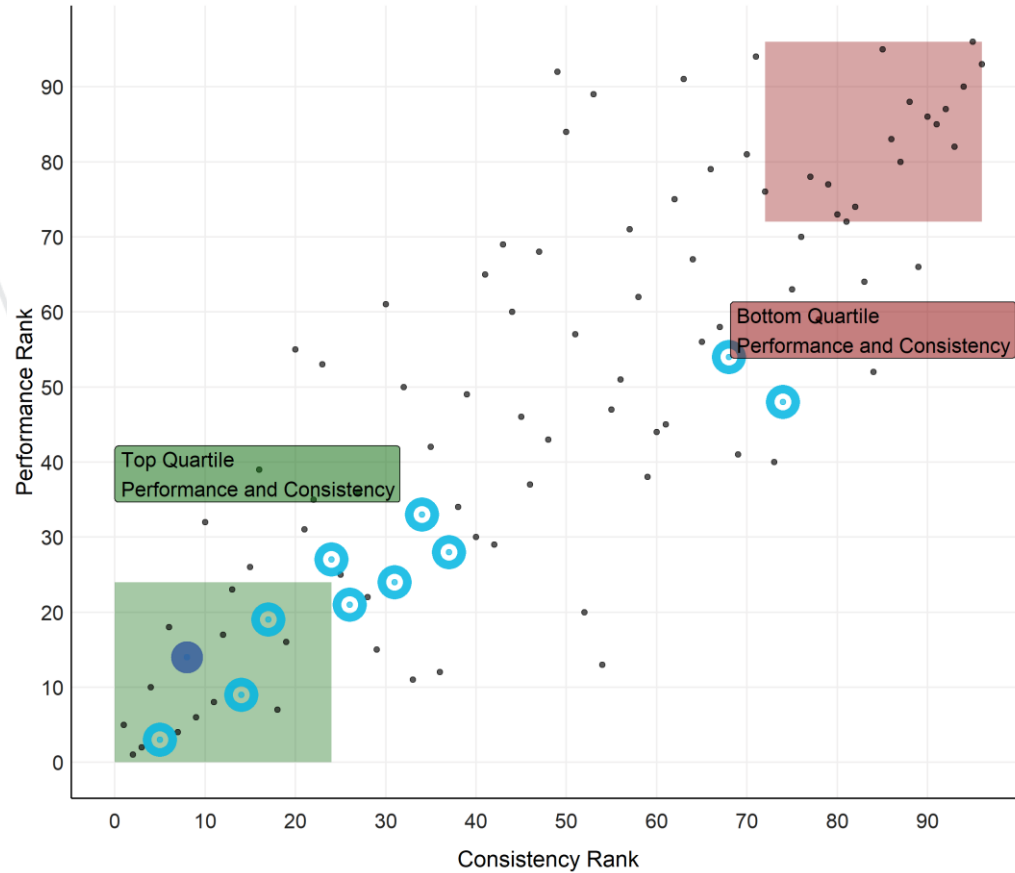
Consistency of performance = greater peace of mind



(ASISA) South African Multi-Asset High Equity as at 30 September 2021

Performance vs Consistency: Satrix Balanced Index A1 vs ASISA Peer Group

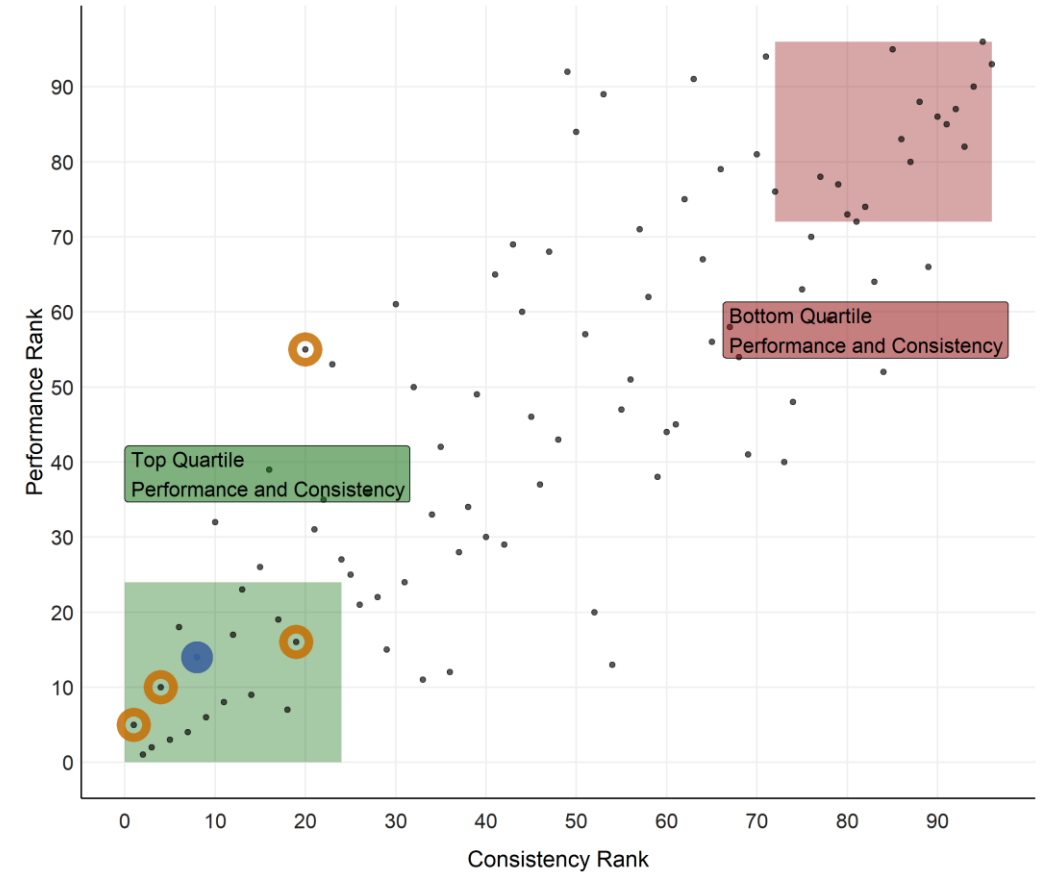
Consistency measured as average rolling 3 year rank within group over past 7 years | 96 Funds



● Satrix Balanced Index A1 ● ASISA ● Largest 10 Active Funds

Performance vs Consistency: Satrix Balanced Index A1 vs ASISA Peer Group

Consistency measured as average rolling 3 year rank within group over past 7 years | 96 Funds



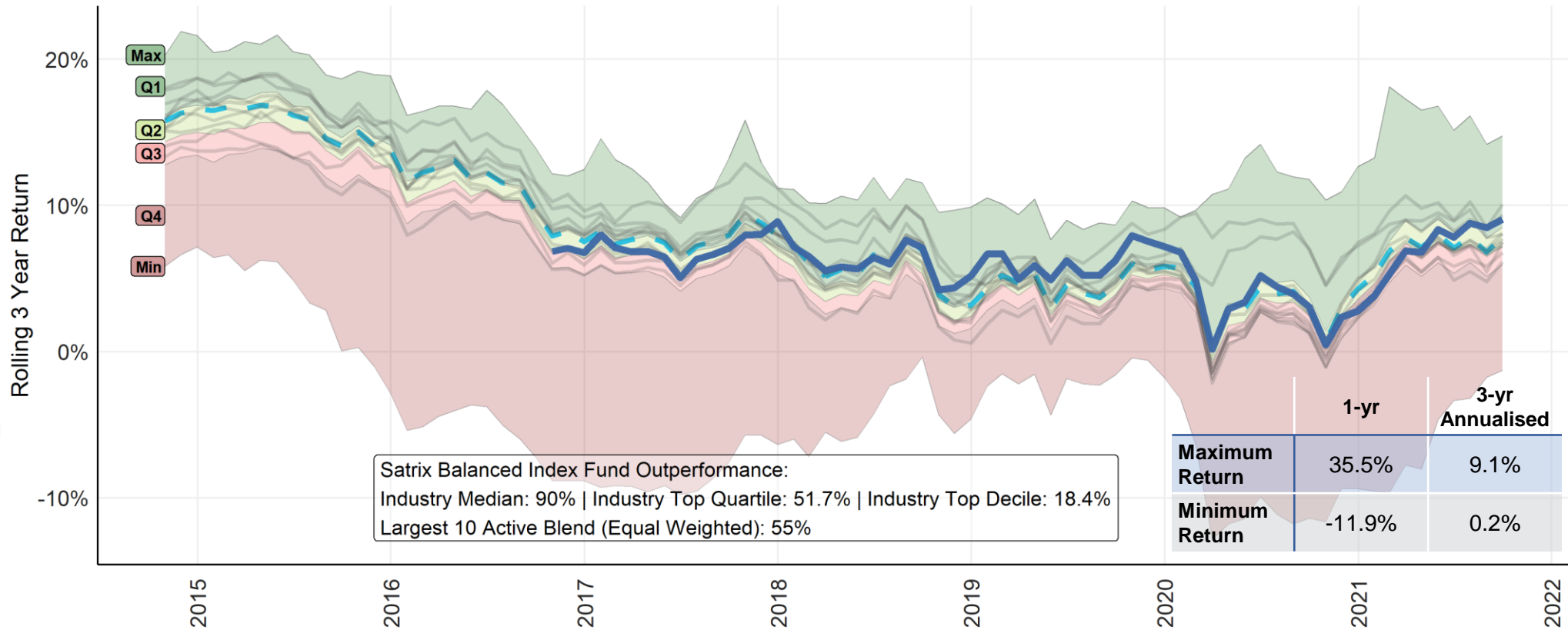
● Satrix Balanced Index A1 ● ASISA ● Rules Based

Greater peace of mind



ASISA Multi-Asset High Equity Category: Rolling 3 Year Returns

Shaded Areas: 1st - 4th Quartile Fund Category Returns | Dashed Blue Line: Largest 10 Active Blend (Equal Weighted)
 Grey Lines: Largest 10 Active Balanced Funds | Solid Blue Line: Satrix Balanced Index Fund

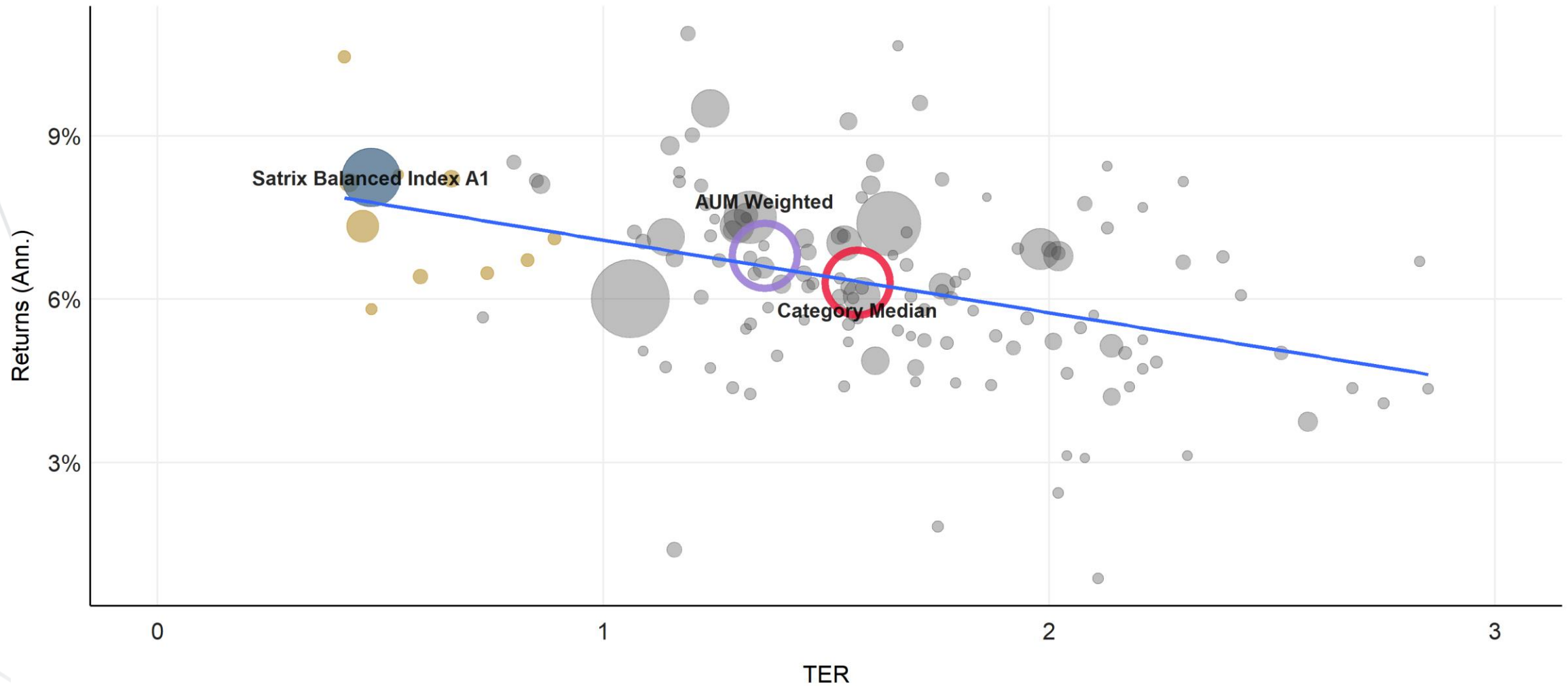


Performance vs Fees: Active vs Indexed Alternatives



(ASISA) South African Multi-Asset High Equity

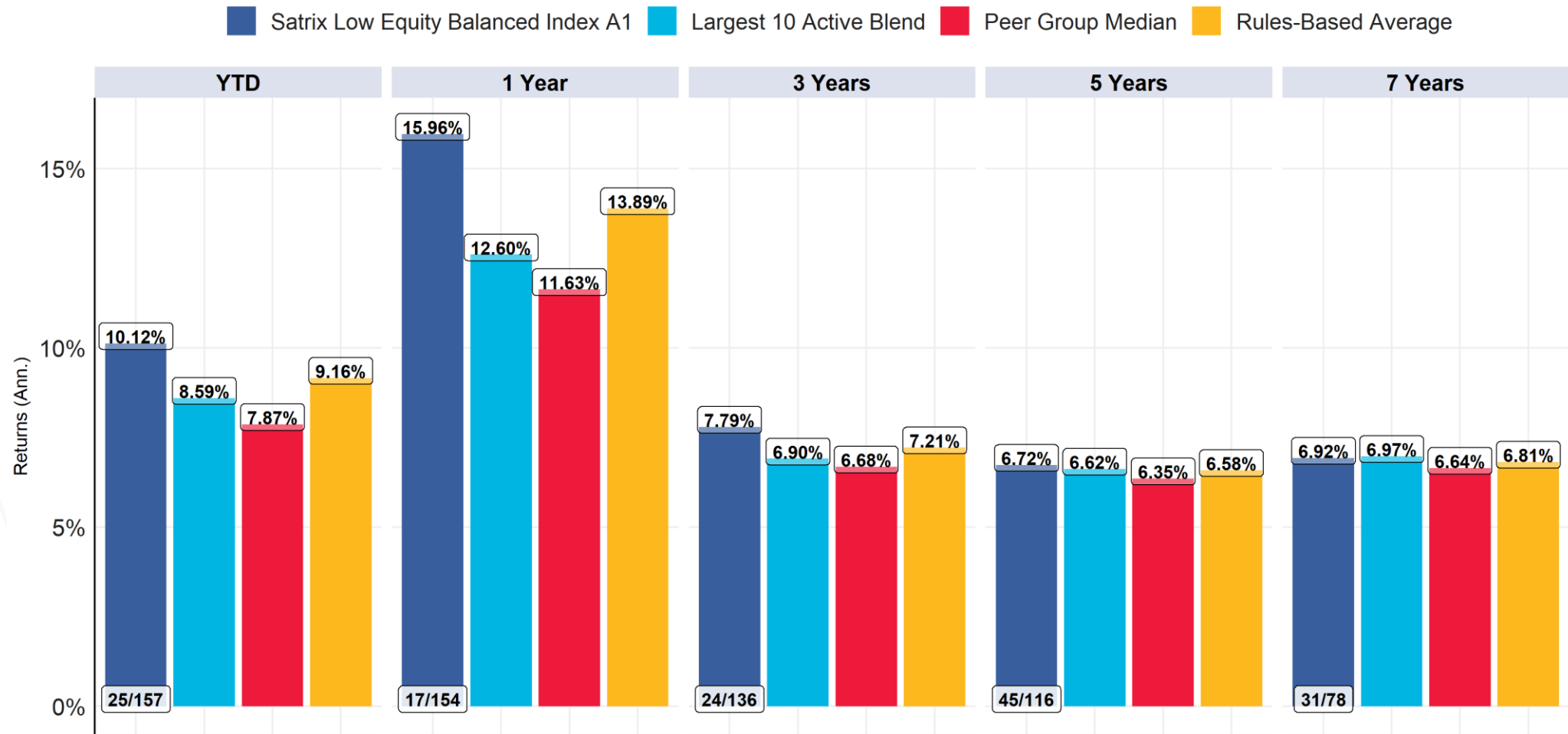
Mean-Variance Frontier: Multi-Asset Managers with at least 5 Year Track Record



Satrix Low Equity Balanced Index Fund Ranks & Returns vs. Peers



(ASISA) South African Multi-Asset Low Equity as at 30 September 2021

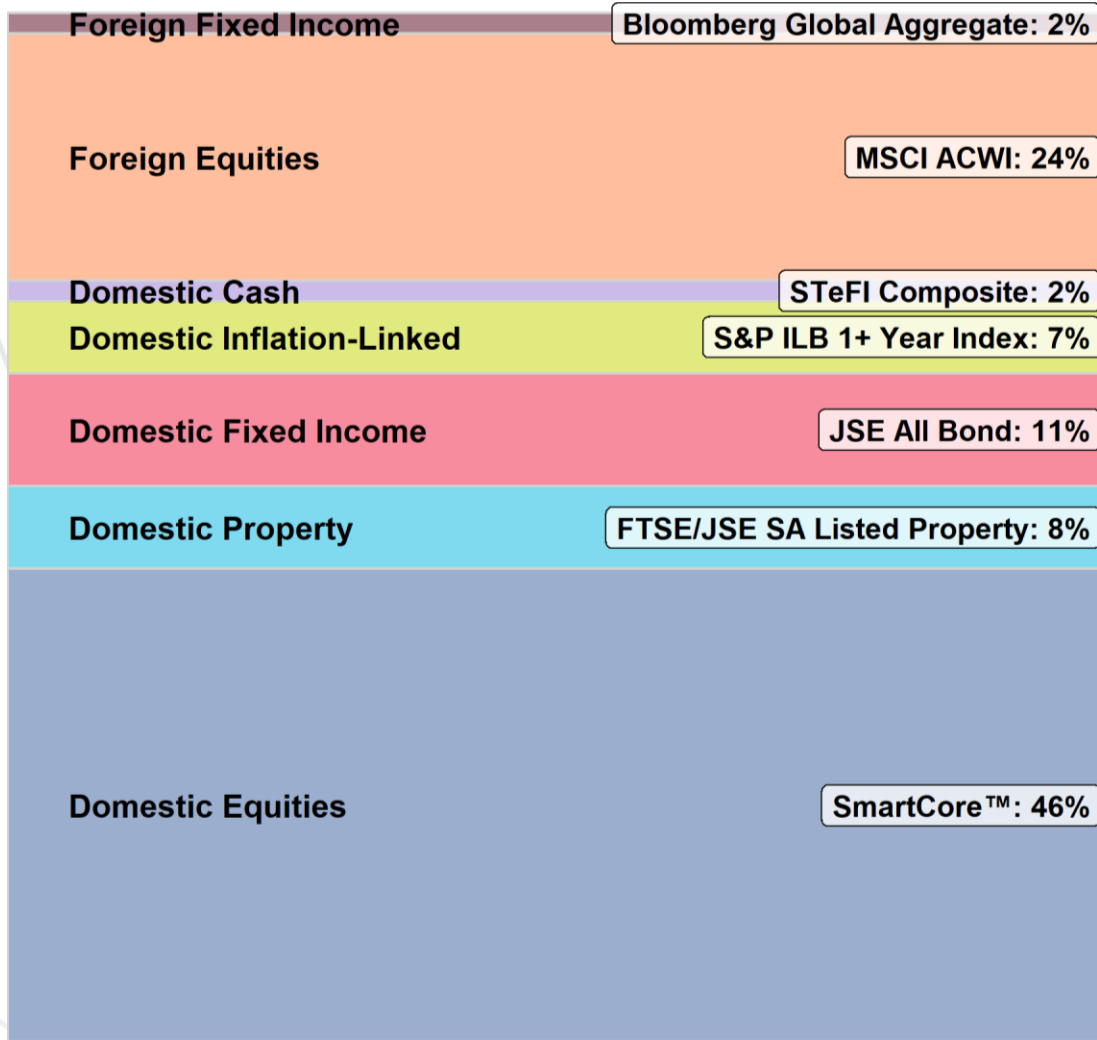


Source: Morningstar retail funds as at 30 September 2021 | Returns in excess of 1 year are annualised. Annualised returns indicate the average annual return after compounding

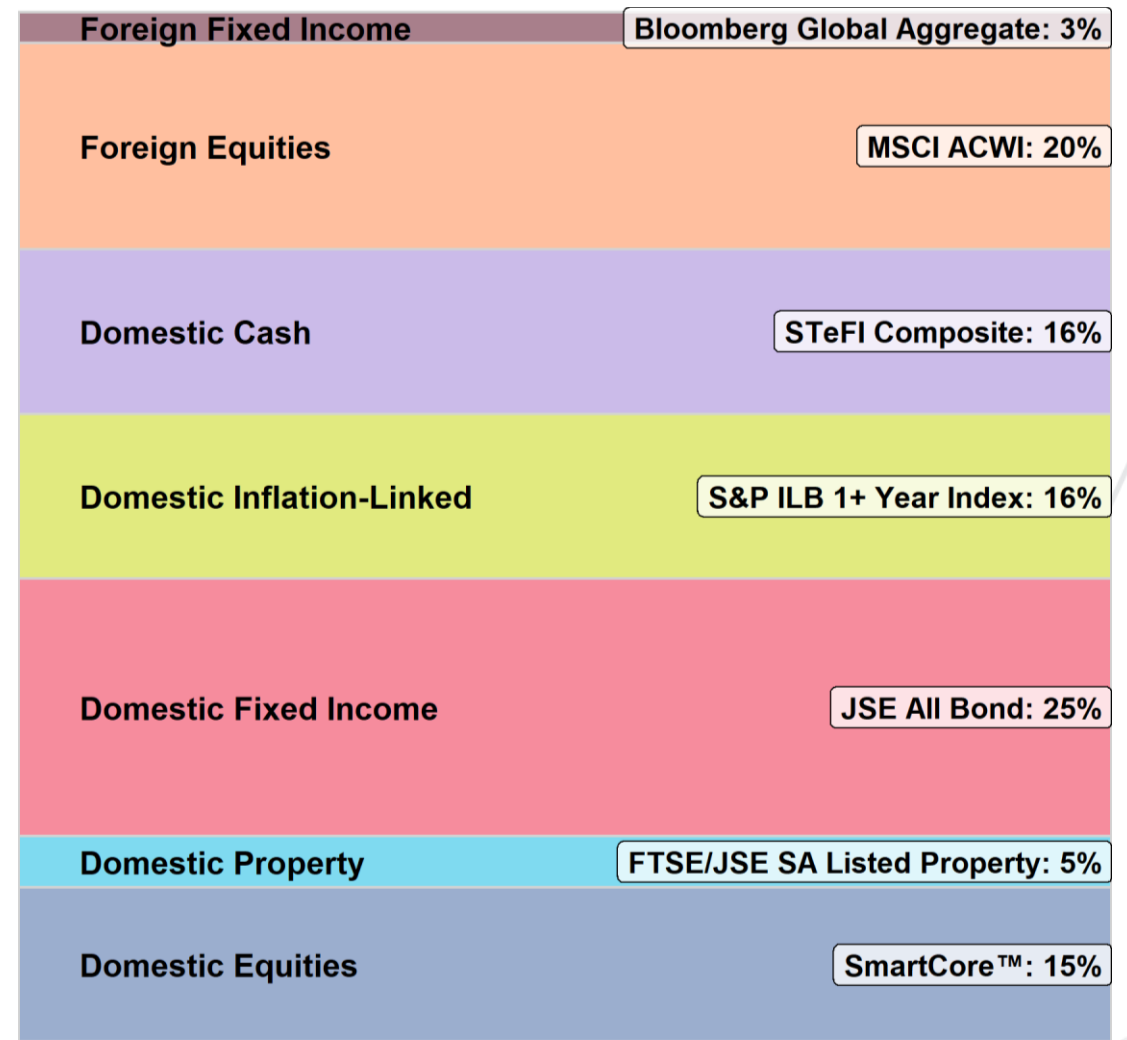
Strategic Asset Allocation



Satrix Balanced Index Fund



Satrix Low Equity Balanced Index Fund





SmartCore

Local Equity Component

Quality

Satrix

SmartCore™

Index

Value

Momentum

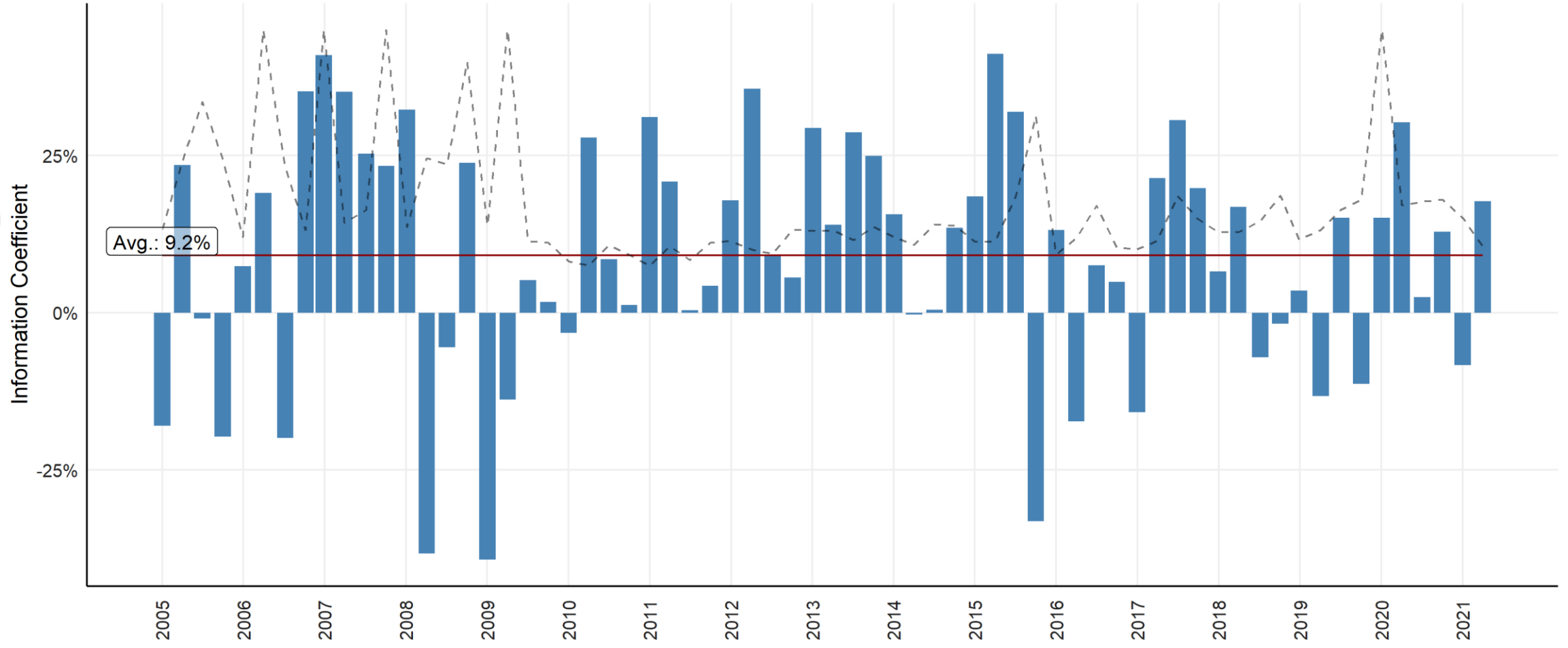


Information Coefficient Comparison



Quarterly Information Coefficient: SmartCore™

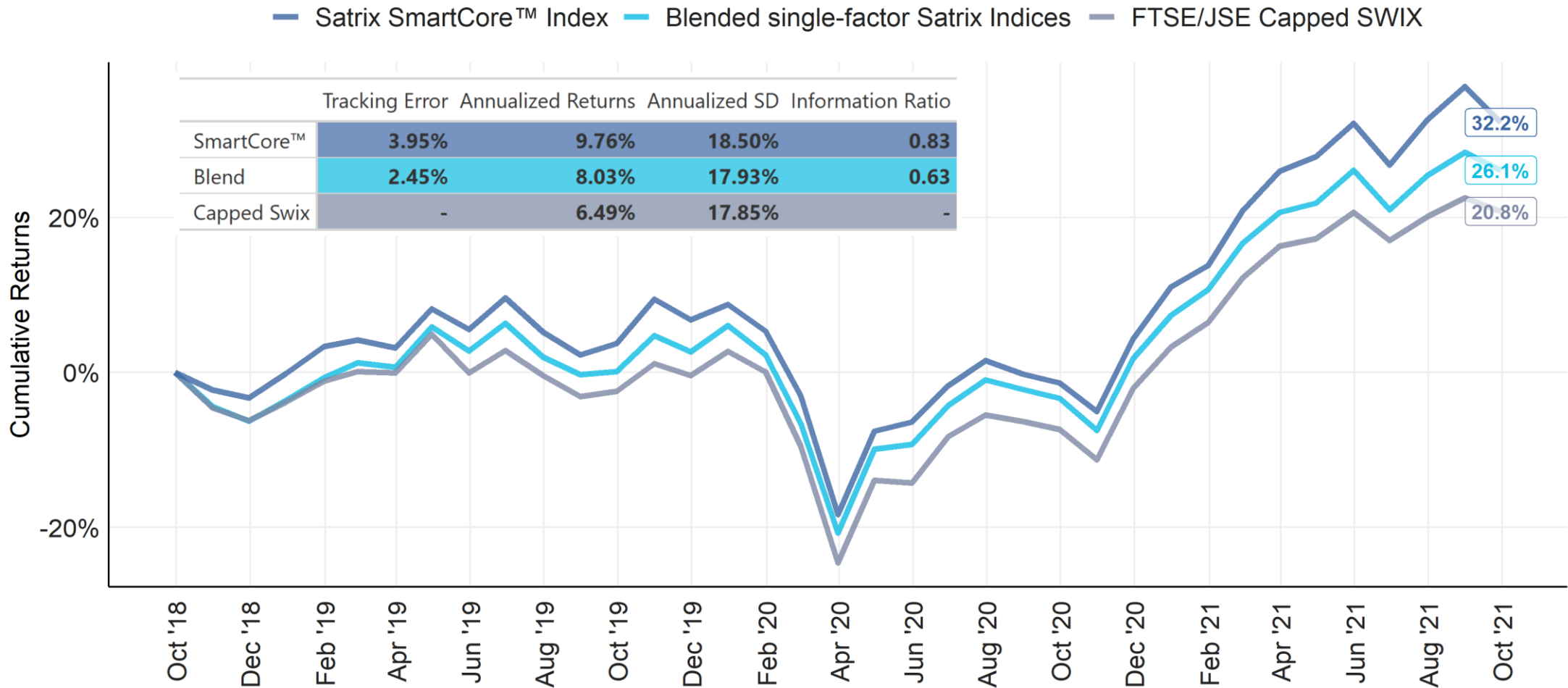
Information Coefficient: rank correlation between score and quarter's returns | Dotted Line: return dispersion (Capped at 45%)



Satrix SmartCore™ | Cumulative Performance Since Inception



Bottom-up construction adds value – Actual performance vs Blend vs Capped SWIX Benchmark



Source: FTSE/JSE as at 30 September 2021 | Calculation: Satrix | Returns in excess of 1 year are annualized, indicating the average annual return after compounding.

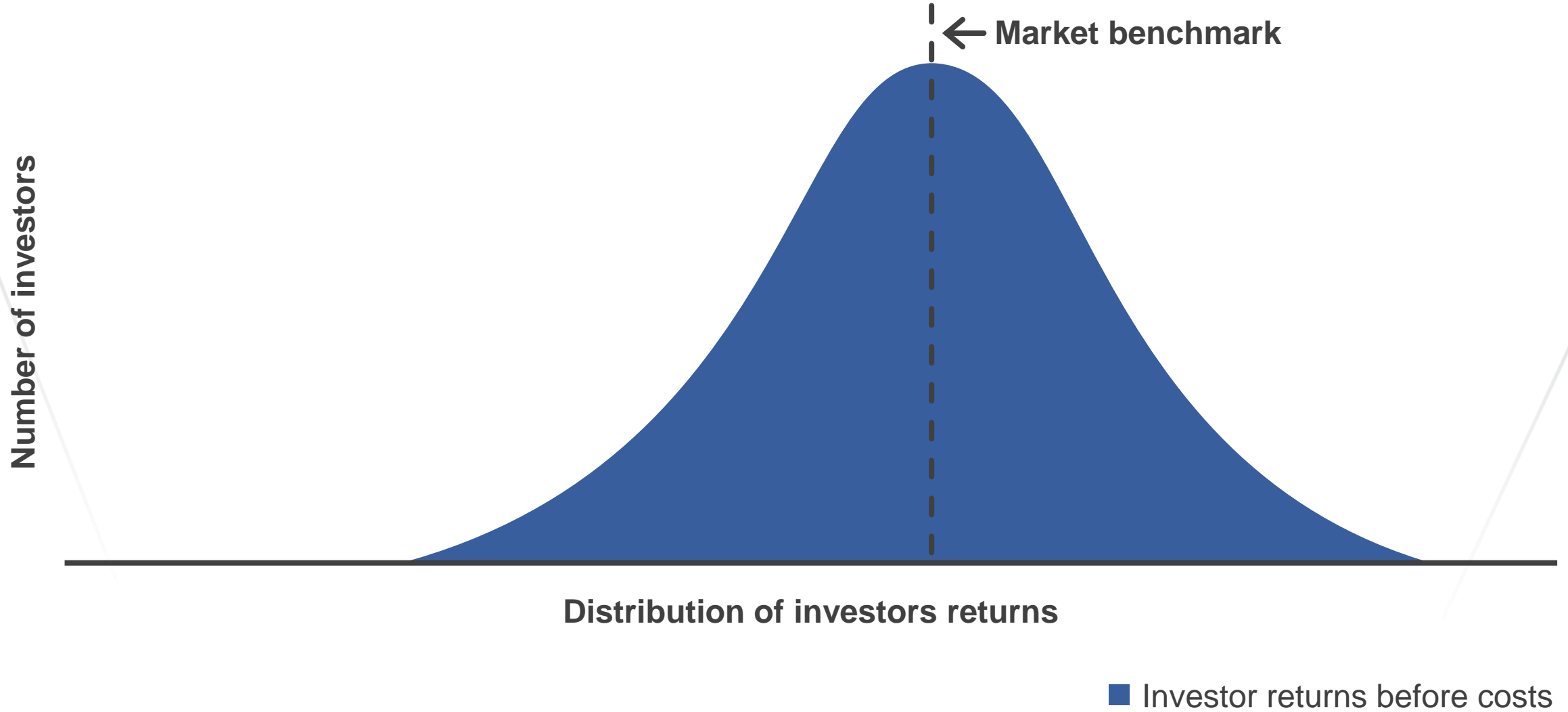


**How active are
active managers?**

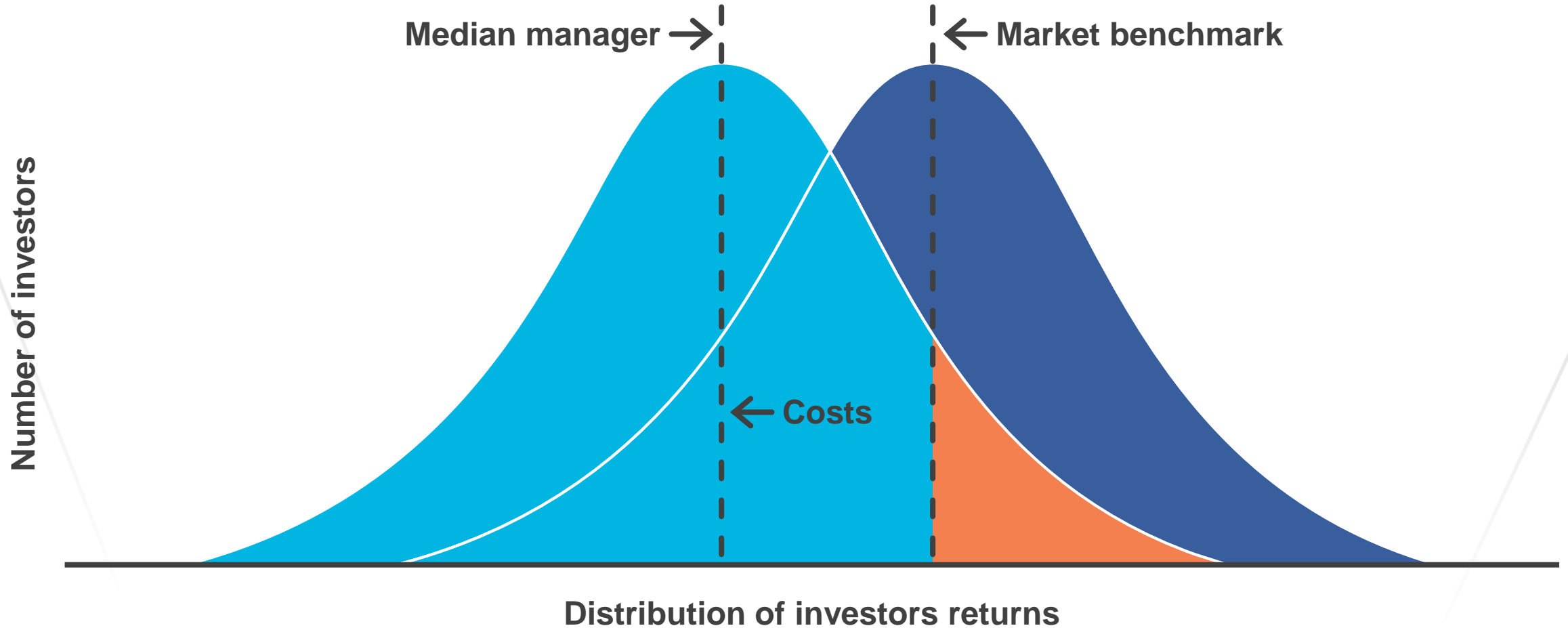


The Arithmetic of **Active** **Management**

The Arithmetic of Active Management



The Arithmetic of Active Management



■ Investors who outperform the benchmark ■ Investor returns after costs ■ Investor returns before costs

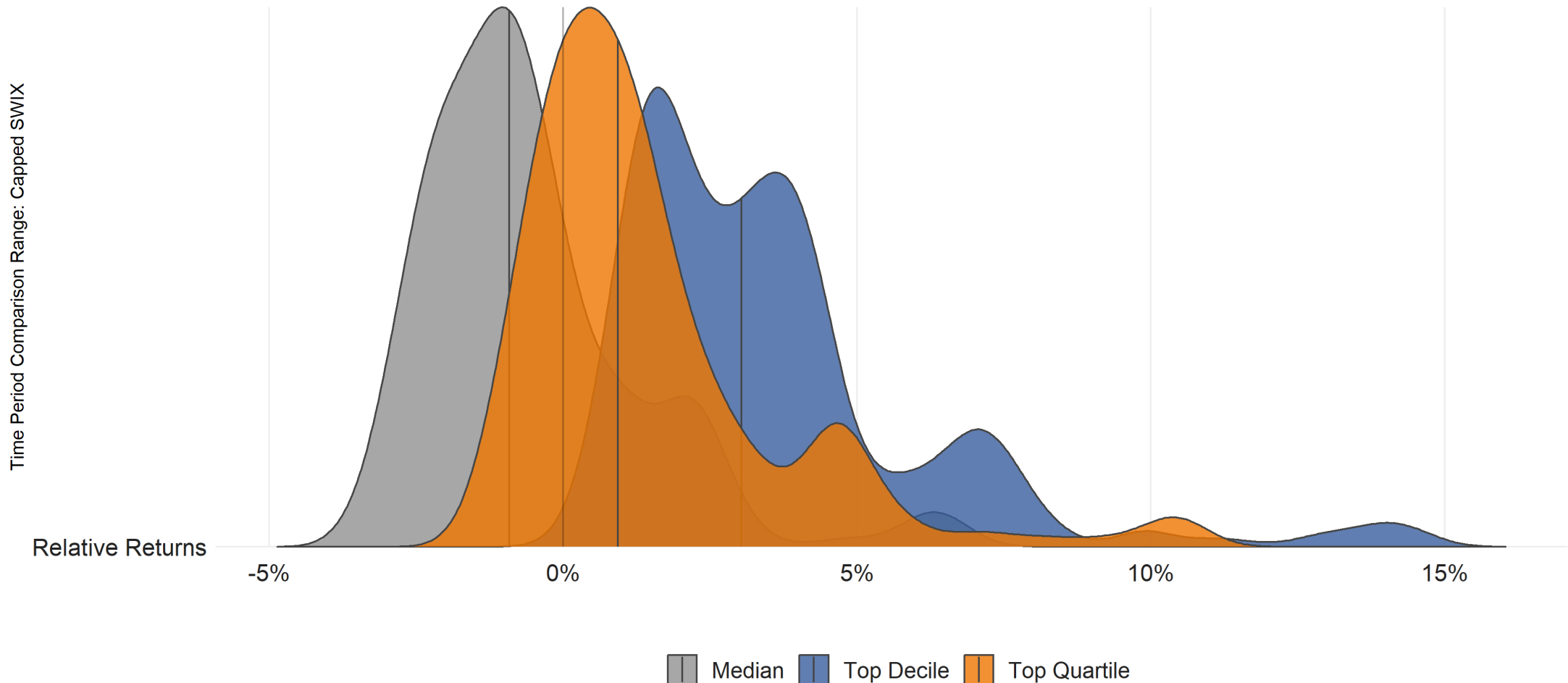
The Arithmetic of Active Management – Empirical evidence



Underperformance of majority of active funds vs. Capped SWIX (after costs)

Distribution of Rolling 3 Year Performance Relative to Capped SWIX Index

Distributions: Percentiles of ASISA General Equity Fund Comparative Performance to Capped SWIX Index



Performance of retail class active funds excluding fund of funds and index funds. Benchmark index less 50bps per annum. Capped SWIX performance equivalent to SWIX performance prior to February 2012. Source: Morningstar, FTSE/JSE & Satrix, January 2002 – June 2021

CAPI & Top 40 Index vs Active General Equity Retail Funds

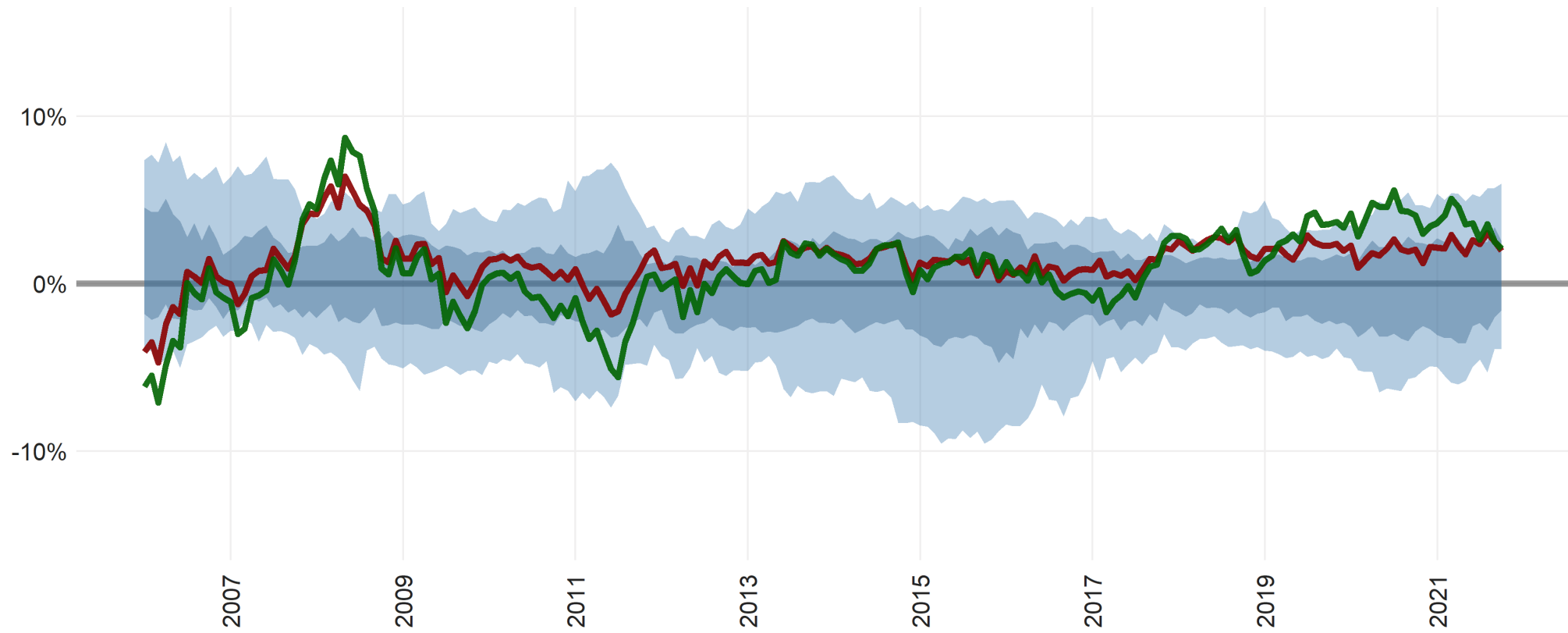


3 Year Relative Performance: ASISA General Equity Funds vs CAPI Index

Dark Blue Shade: 75th and 25th Fund Percentiles

Light Blue: 90th and 10th Fund Percentiles

— CAPI — Top 40



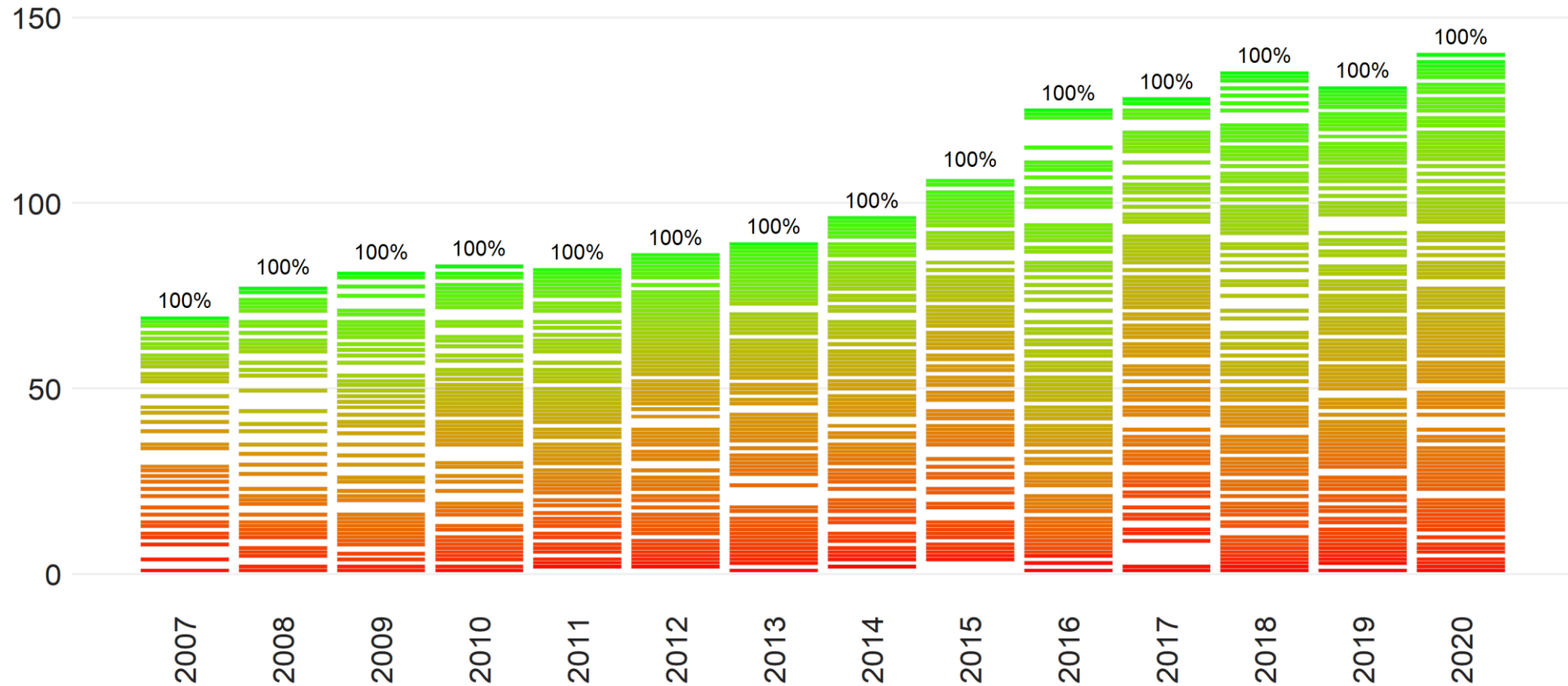
Persistence & Consistency



If past performance indicated future performance...

ASISA General Equity Fund Performance Persistence

Shading indicates past three years' performance up to indicated year (green: best, red worst)
Rank / position indicates given years' performance.



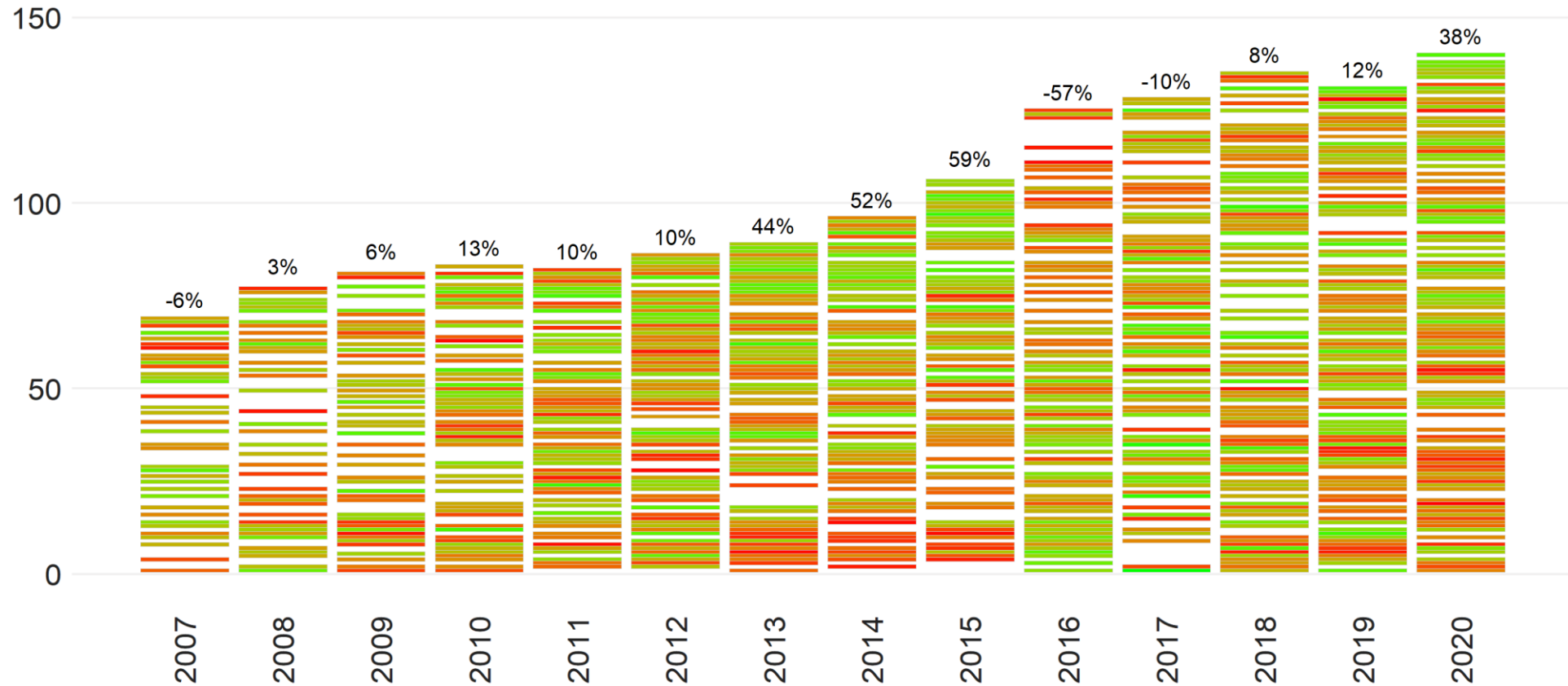
Persistence & Consistency



In practise, this is very low

ASISA General Equity Fund Performance Persistence

Shading indicates past three years' performance up to indicated year (green: best, red worst)
Rank / position indicates given years' performance.

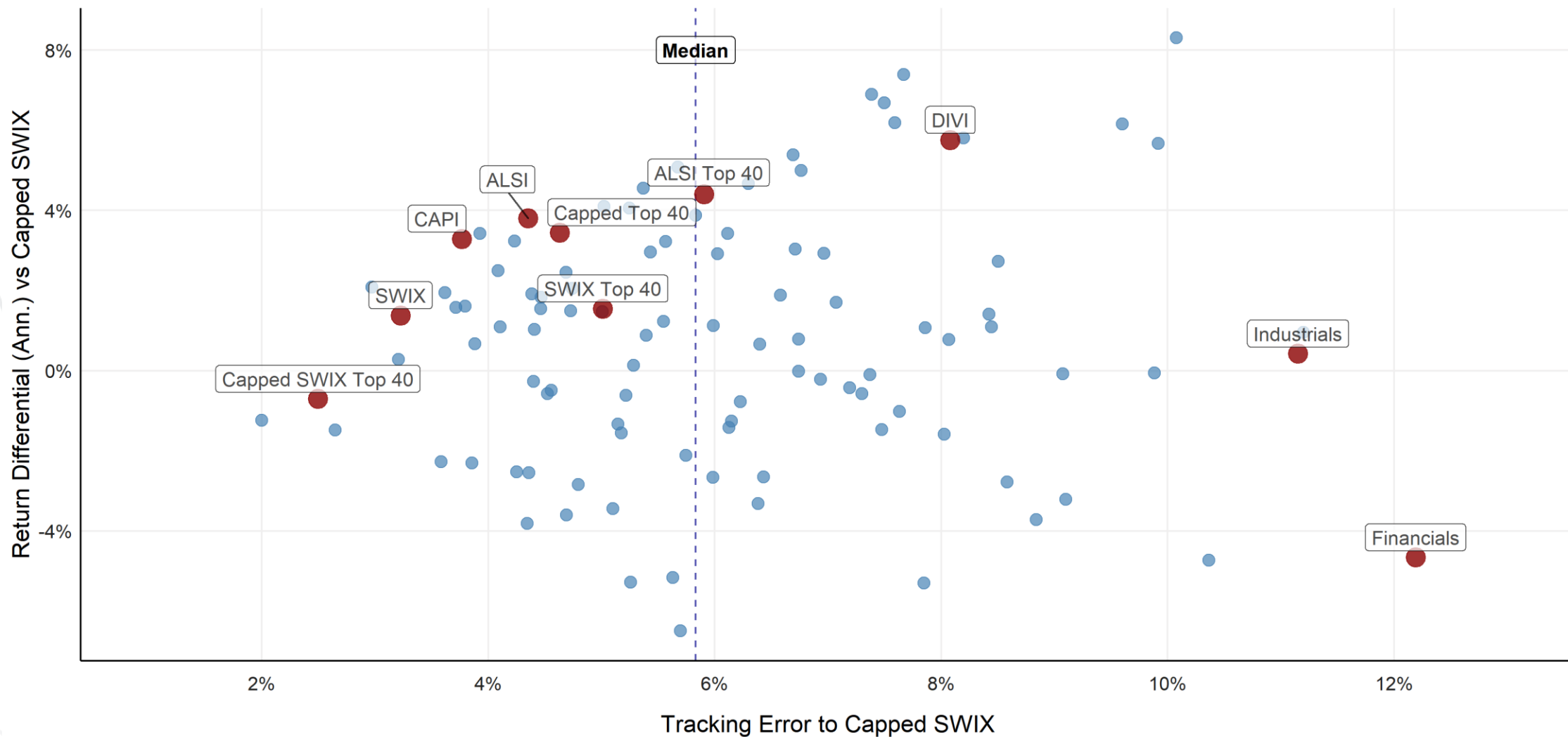


How Active is Passive?



Comparison of Tracking Error and Excess Returns

Benchmark: Capped SWIX | Tracking Error over last: 60 months



Source: Morningstar | Calculations: Own

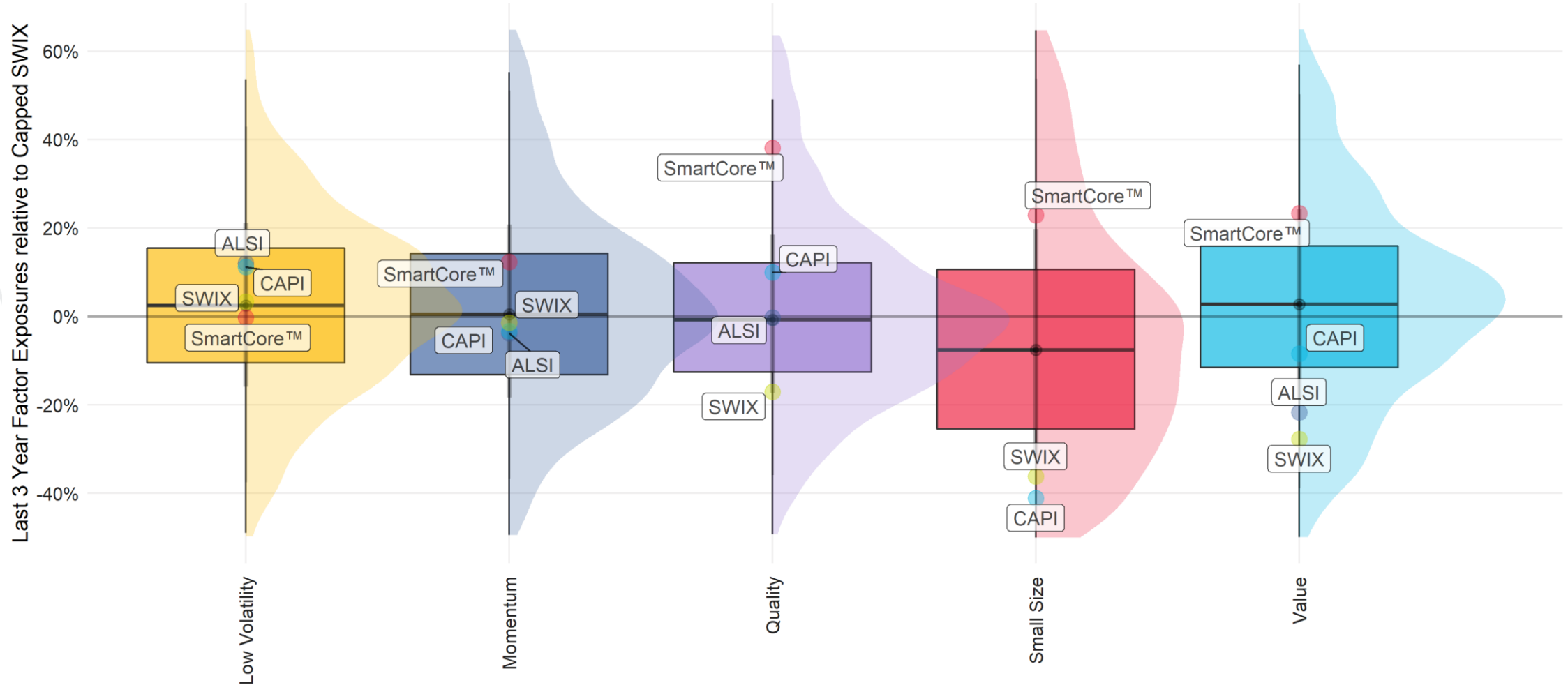
Rolling 24 month tracking error calculated at each month for the ASISA General Equity Funds. The list of active funds is filtered to take the net of fee performance of the retail class and to exclude any index funds and fund of funds. The list includes non-surviving funds. The proxy for index funds are a concatenated time series of the total return series (TR ZAR) reduced by a fee of 50 basis points.



Factor Exposures Comparison: Active Managers Hug the BM

Last 3 Year Constituent Factor Exposures: ASISA General Equity vs Benchmark Indices

Zero line is Capped SWIX exposure: positive values mean higher exposure to factor

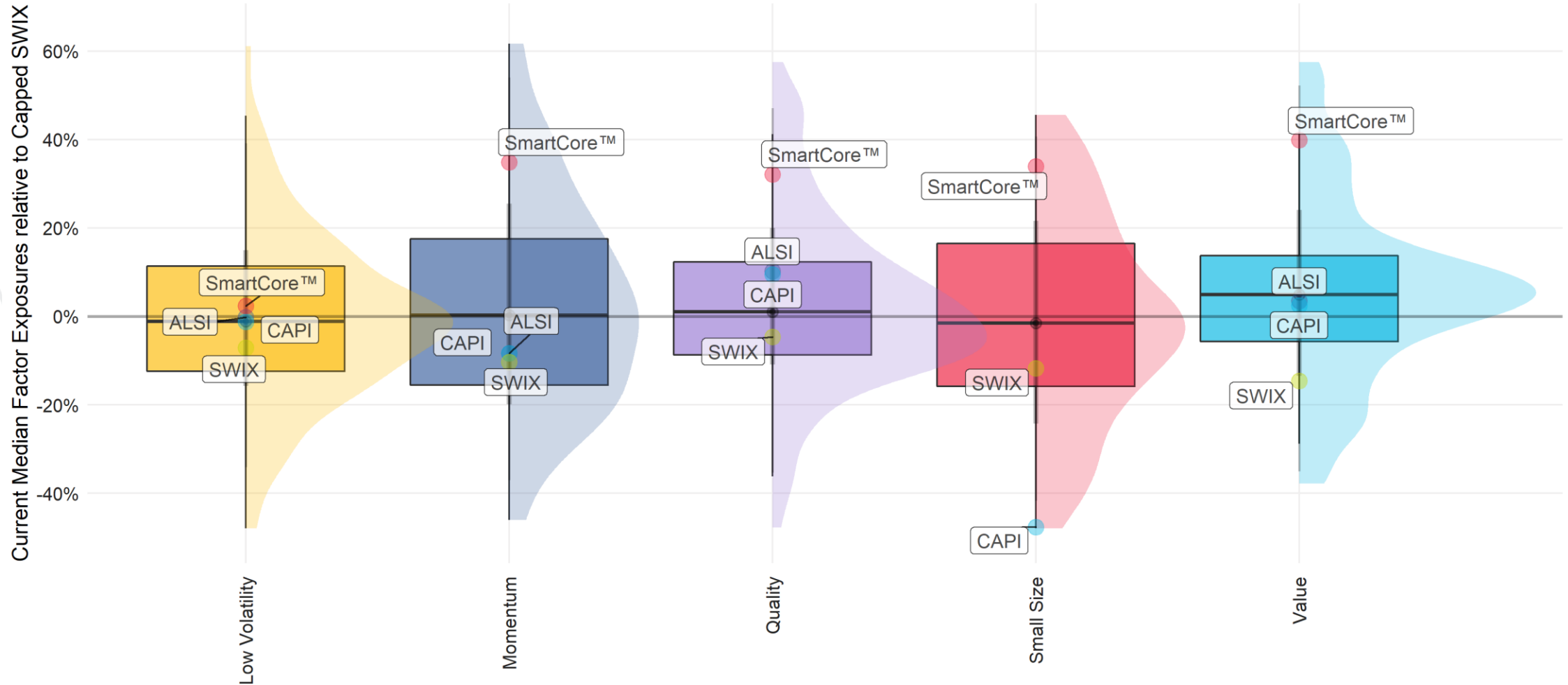




Factor Exposures Comparison: Active Managers Hug the BM

Most Recent Constituent Factor Exposures: ASISA General Equity vs Benchmark Indices

Zero line is Capped SWIX exposure: positive values mean higher exposure to factor



A dark, empty parking garage with fluorescent lights and a blue geometric overlay. The scene is dimly lit, with the primary light source being several long, parallel fluorescent tubes mounted on the ceiling. The floor is dark with white parking lines. In the background, a white pillar and a white door are visible. A large, semi-transparent blue triangle with white outlines is positioned in the lower right corner, partially overlapping the floor lines.

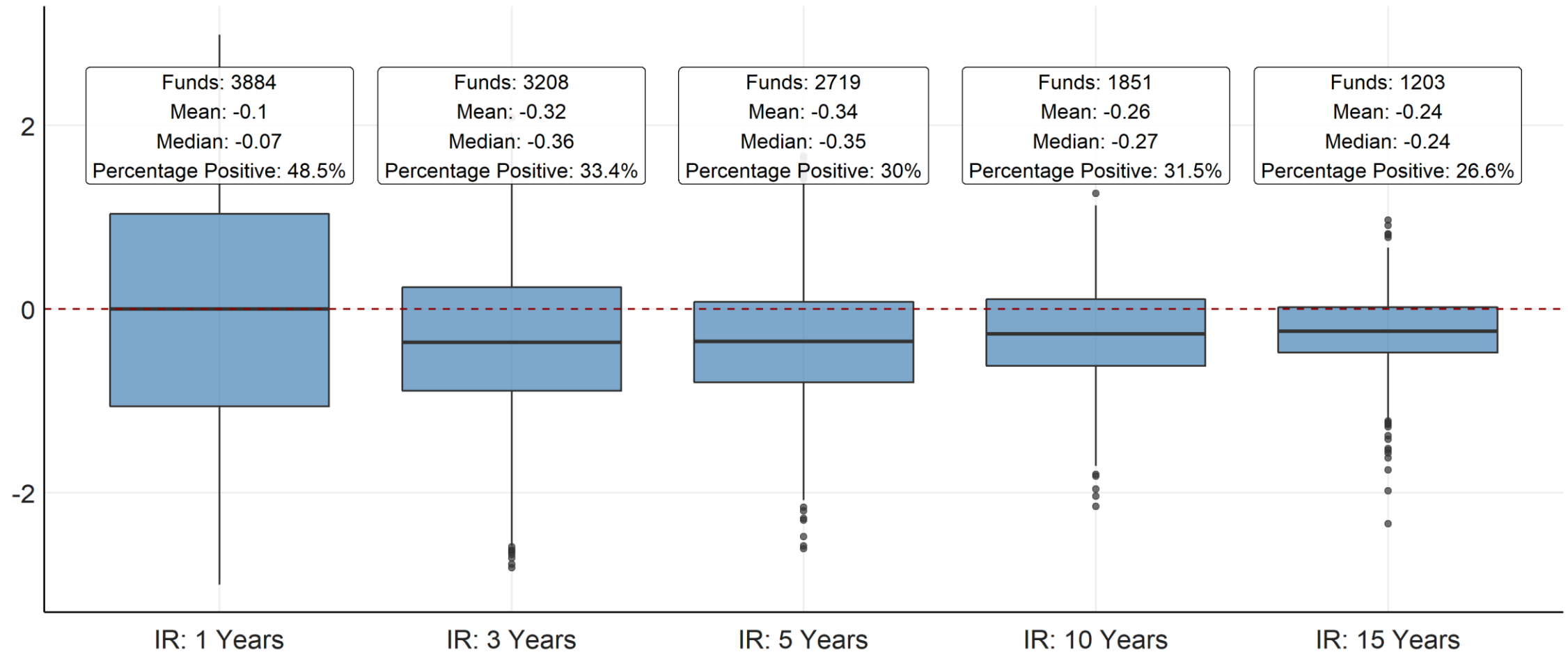
Thank You

Global Equity Component: Indexation Makes Sense



Developed Market Information Ratio Comparison

Global Broad Equity Category



Calculation: Satrix

Source: Morningstar | Benchmark MSCI ACWI – Funds in the global developed market grouping, includes between 1200 – 4000 funds compared over this period



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Performance is based on NAV to NAV calculations of the portfolio. Individual performance may differ to that of the portfolio as a result of initial fees, actual investment date, dividend withholding tax and income reinvestment date. The reinvestment of income is calculated based on actual distributed amount and factors such as payment date and reinvestment date must be considered. Annualised return is the weighted average compound growth rate over the period measured. Cumulative return is the aggregate return of the portfolio for a specified period.

The information does not constitute financial advice as contemplated in terms of the Financial Advisory and Intermediary Services Act, No 37 of 2002 (“FAIS”). Use or rely on this information at your own risk. Consult your financial advisor before making an investment decision.

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