



Quoniam emerging markets presentation pack

November 2024

Why Quoniam for emerging market equities?



Experienced team managing the strategy for over 10 years



Investing in research to evolve the strategy to encompass new techniques and data to stay ahead of the competition



Achieved a high Sharpe ratio by capturing tried and tested alpha drivers in a strong risk framework



Ability to provide data coverage of the emerging markets universe due to modern cloud-based infrastructure



Competitive fees, providing a value for money proposition

- 1. Quoniam company overview**
2. Quoniam factor based approach
3. Why Quoniam for Emerging market equities
4. Emerging markets Performance and characteristics

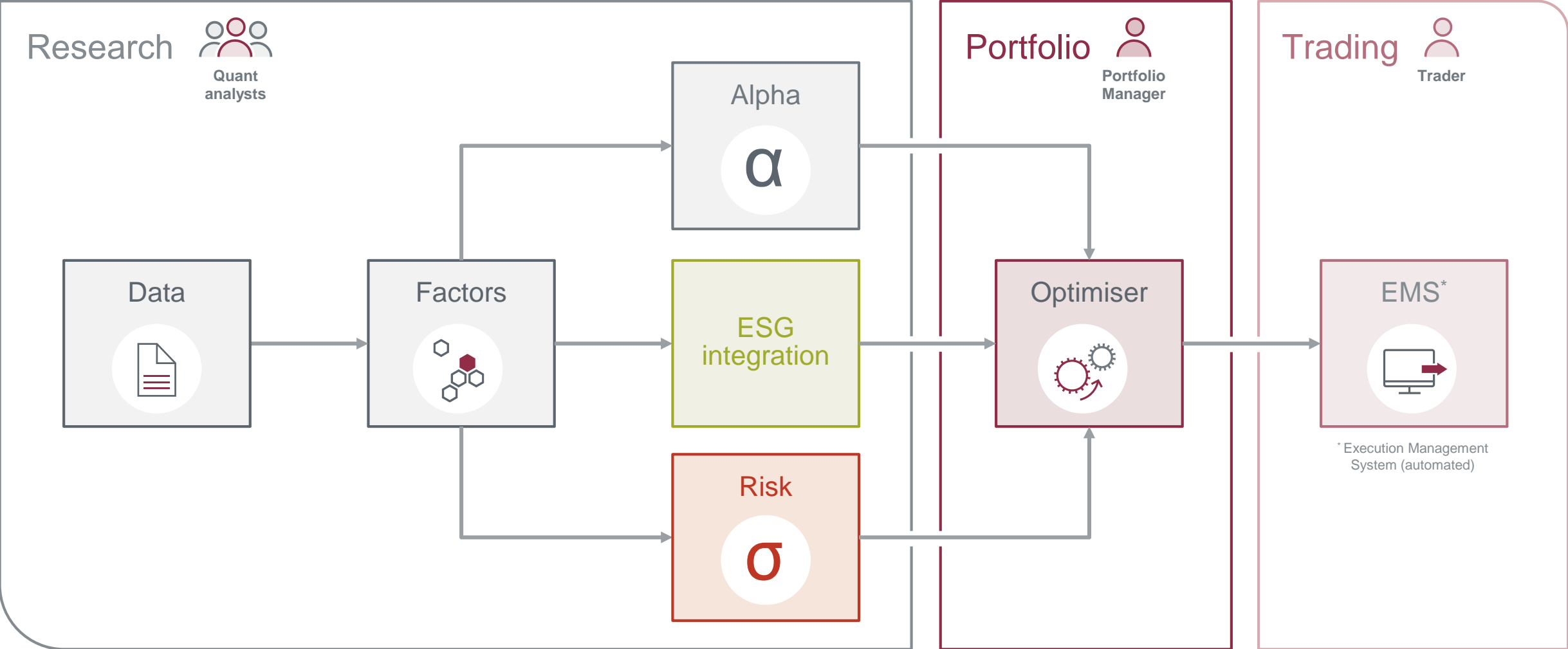
We offer a broad range of systematic investment strategies

Strategy profiles



1. Quoniam company overview
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A data-driven investment process



Quoniam accesses tried and tested systematic factors

Alpha drivers combined with methods to manage risk

Alpha factors

Value

- Cheaply priced assets (low stock price multiples, high spread), buy at a discount¹
- Might be cheap for a reason (higher risk, declining business)

Quality

- Low accruals, leverage and asset growth, high profitability²
- Typically, expensive

Momentum*

- Follow the trend, buy past winners³
- Potential drawdowns, if trend break is significant

Risk factors

Risk

- Beta (market) and idiosyncratic
- Low-risk-anomalies⁴: excessive risks not rewarded

Size/Illiquidity

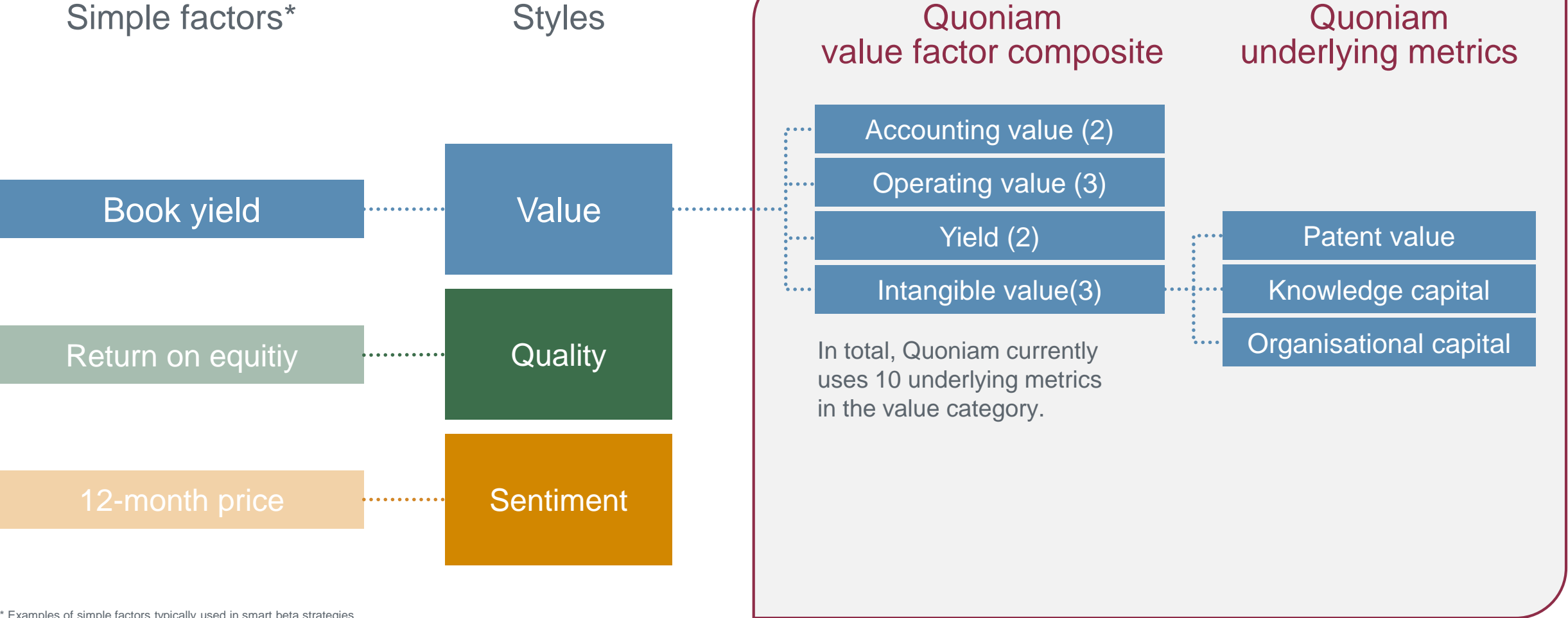
- Premium for taking reputation and business risk
- Long phases of underperformance possible

ESG

- In contrast to other risk premia, little reward to be gained by taking ESG risks
- Therefore, avoid negative ESG exposure

1) Fama/French 1992 2) Sloan 1996. Asness/Frazzini/Pedersen 2013 3) Jegadeesh/Titman 1993. Carhart 1997; 4) Haugen et al. 1972/2010. Carvalho et al. 2014 (FI)

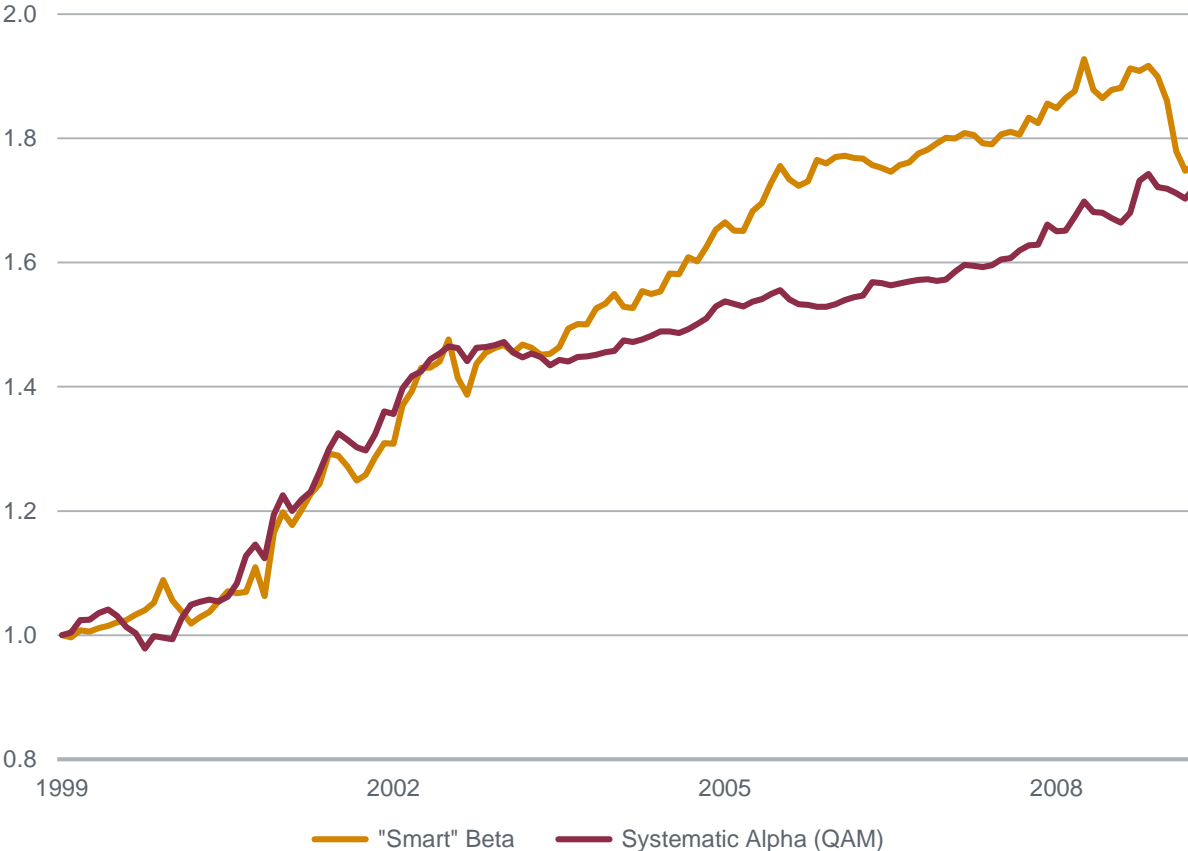
Proprietary factors: The evolution of factor-based investing



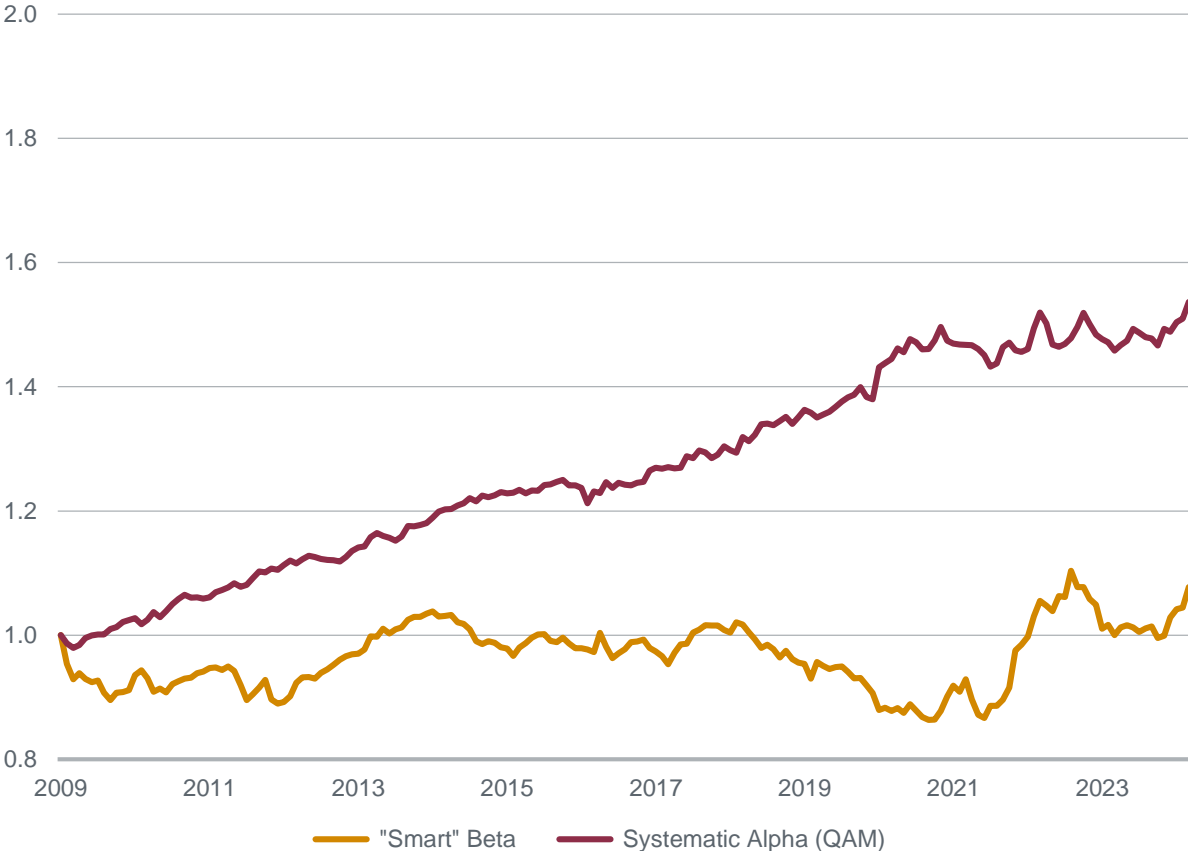
* Examples of simple factors typically used in smart beta strategies

The age of “smart” beta is over, systematic strategies have evolved beyond

Relative performance of risk premia 1999 – 2009



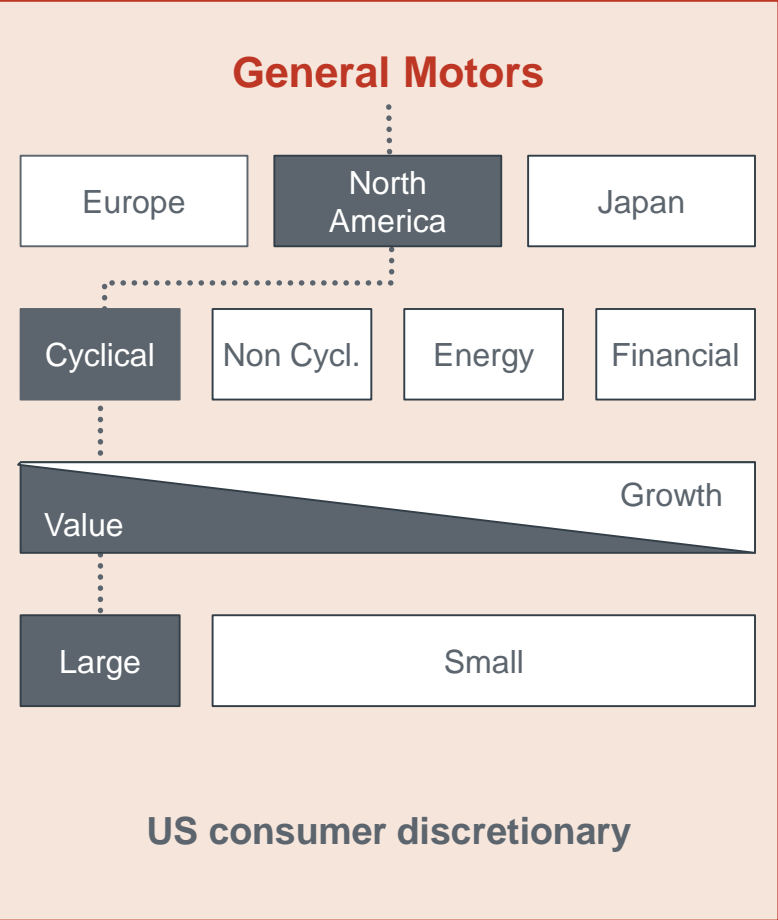
... and after GFC



Source: Quoniam Asset Management. Universe is Top 5,000 stocks in developed markets, market cap weighted. Chart shows relative performance of a) a simple risk premia strategy, b) a strategy using more advanced data / factors. Portfolio construction is size neutral relative to benchmark.

Alpha signal calculation: Using factor scores to compare stocks within broad peer groups

Peer grouping



Quoniam factors

Value	Quality	Sentiment
Accounting value Earnings, book multiples	Growth Change in profitability, margins	Earnings momentum Trend and revisions in EPS
Operating value Cash flow, sales... multiples	Earnings quality Accruals in earnings, cash flow & B/sheet	Price momentum Risk adjusted and sales interacted
Yield Free cash flow to equities, divid., buyback	Hubris CapEx, asset Gr., Ext. financing	Ownership Director's dealings, holdings
Intangible value Patent value, unrecorded intangibles	Profitability Operating and B/S margin metrics	Crowding Skewness, visibility, Chg in fund holdings
	Safety Leverage, solvency, volatility	Short selling momentum Capacity utilisation, volume ...
	Bank quality Core capital, loan to deposit, ...	
	Quality of intangibles Innovative effic., quality of patent pool, ...	

Dynamic factor allocation

Excess
Return_{it+1} =

Step 1: Linear factor premia

$$R_1 \times b_{1,it} + \dots + R_N \times b_{N,it}$$

Step 2: Non-linearities

$$+ e_{it}$$

Factor signals (b, Betas)

- Fundamental and technical ratios (given for each asset)
- Limited statistical significance in a large set of ratios
- Solution: aggregate multiple ratios into composite factors (e.g., P/E, P/B)

Factor premia (R)

- Estimated factor premia/returns for each factor
- Use them as factor weights in the model
- Apply a pure bottom-up approach with separate premia for each peer group (region, sector, style)

Machine Learning

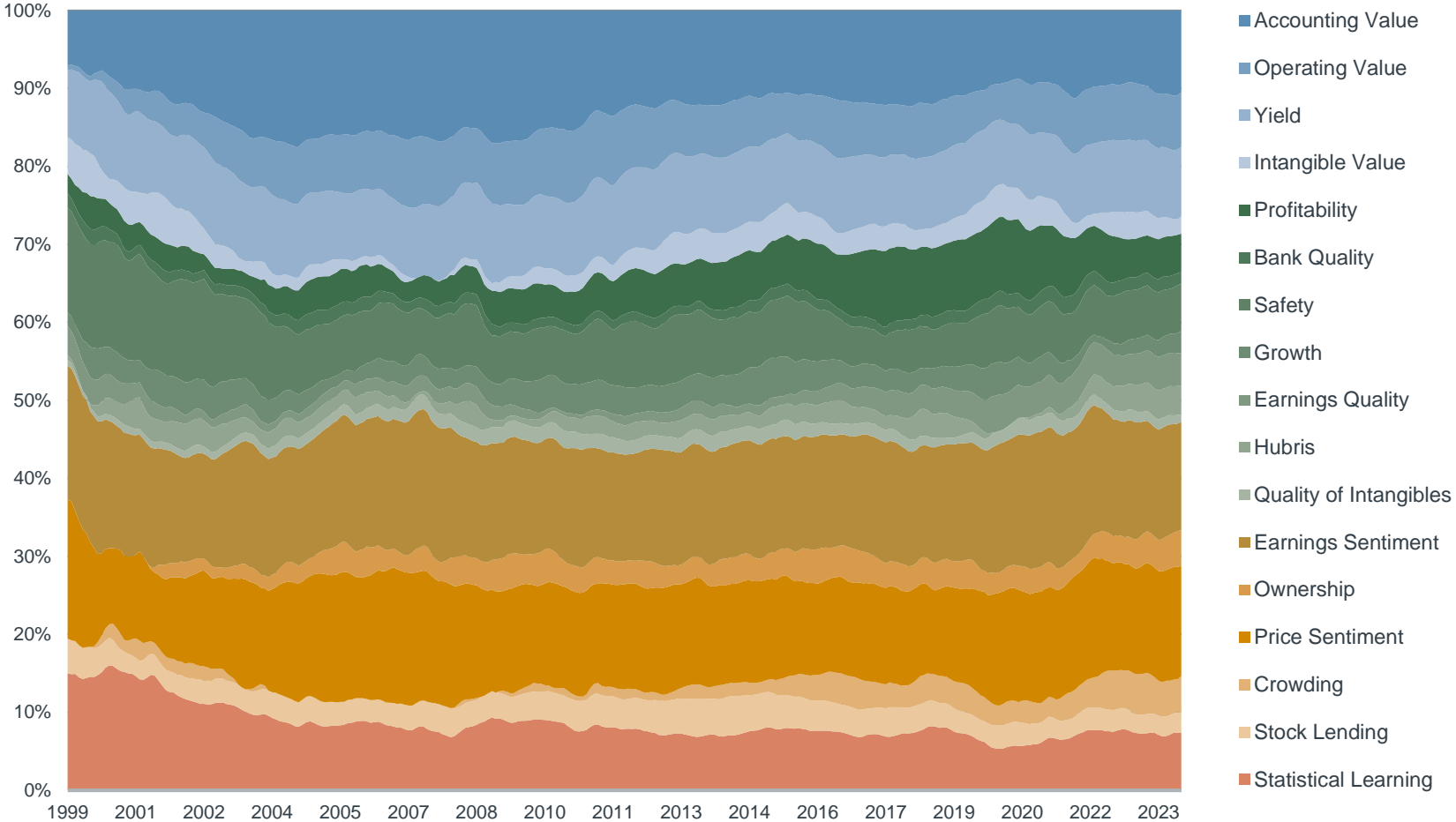
- Applied to forecast error
- Accounts for non-linearities

Individual assets: $i = 1, 2, \dots, M$
Given point in time: t
Individual factors: index for $R = 1, 2, \dots, N$

Emerging markets

Composition of factor premia over time

Alpha factor breakdown



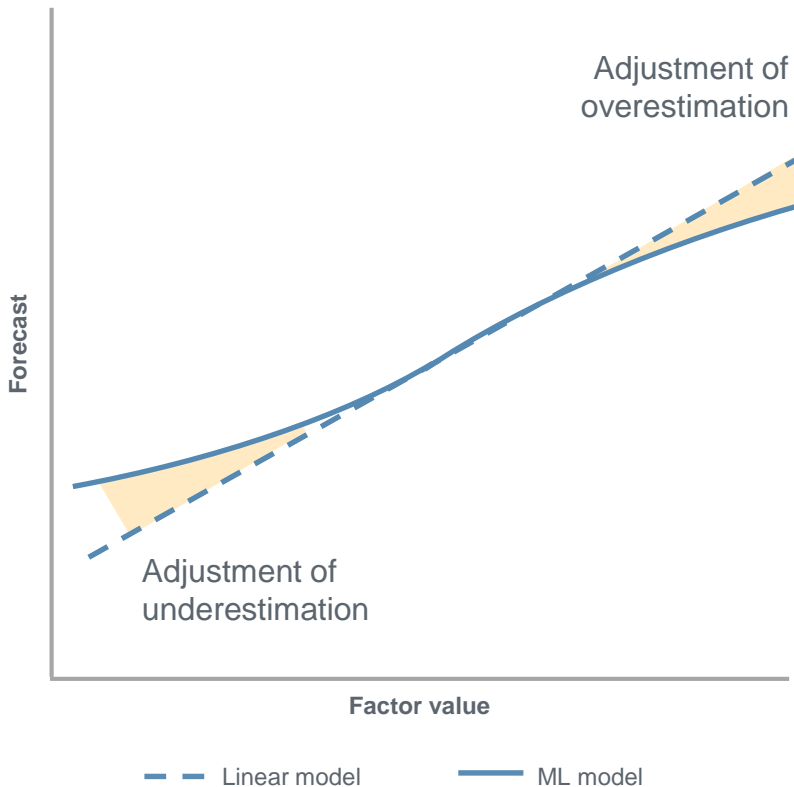
- Factor efficiency changes over time, but remains well balanced.
- This adaptation reflects long term changes in factor efficiency.
- Thus, there is a reaction to changes in the market without aggressive factor timing.

Emerging markets: Factor risk premia estimated in multivariate context over time, scaled to 100%; data as of 09.2024

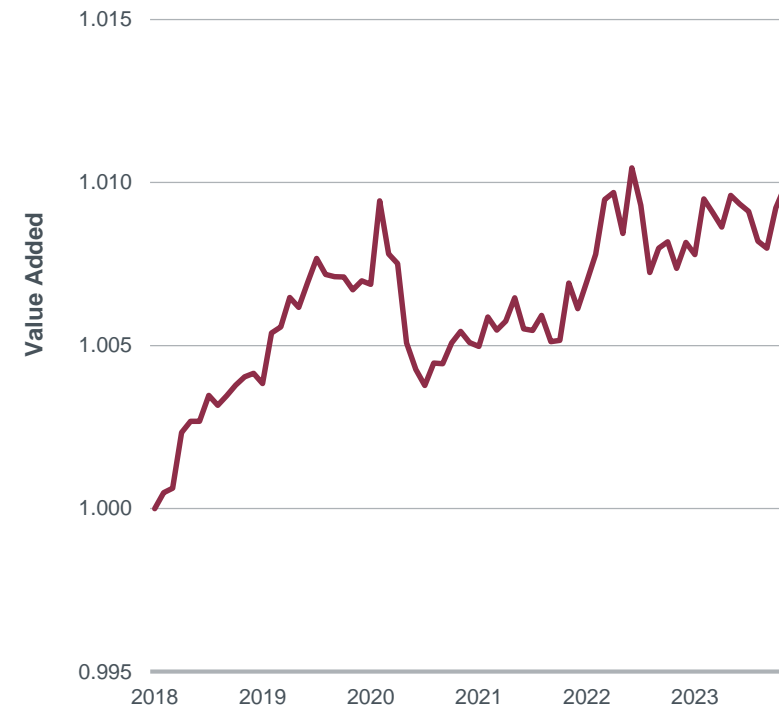
Machine learning

We have been using AI methodologies since 2018 to address non-linearities

Machine learning versus linear model



Machine learning boosts performance post-launch by 1%



Base model

- Linear forecasting model based on value, quality and sentiment factors

Residual

- Forecast errors not explained by base model

Machine learning

- Identifies non-linear relationships between factors and residual returns

Determined machine learning factor

- Explains a part of the residual, enhances base model, leading to higher overall predictive power

Source: Quoniam. Simulated active returns of factor portfolios against same-cap benchmark. Portfolios weighted with $\text{signal} * \text{Mcap}^{0.7}$, $\text{signal} > 0$, long-only. Benchmarks weighted with $\text{Mcap}^{0.7}$. European universe. Monthly re-balancing with 9m holding period. Comparison of two models, one with Machine Learning and one without. Period: Feb 2018 – Jan 2024.

The advantages of a quantitative approach to risk management

Multi-factor risk model

Market / macro



Factors

α

Industries



Countries



Currencies



Proprietary risk model: Motivation

Proactive instead of reactive

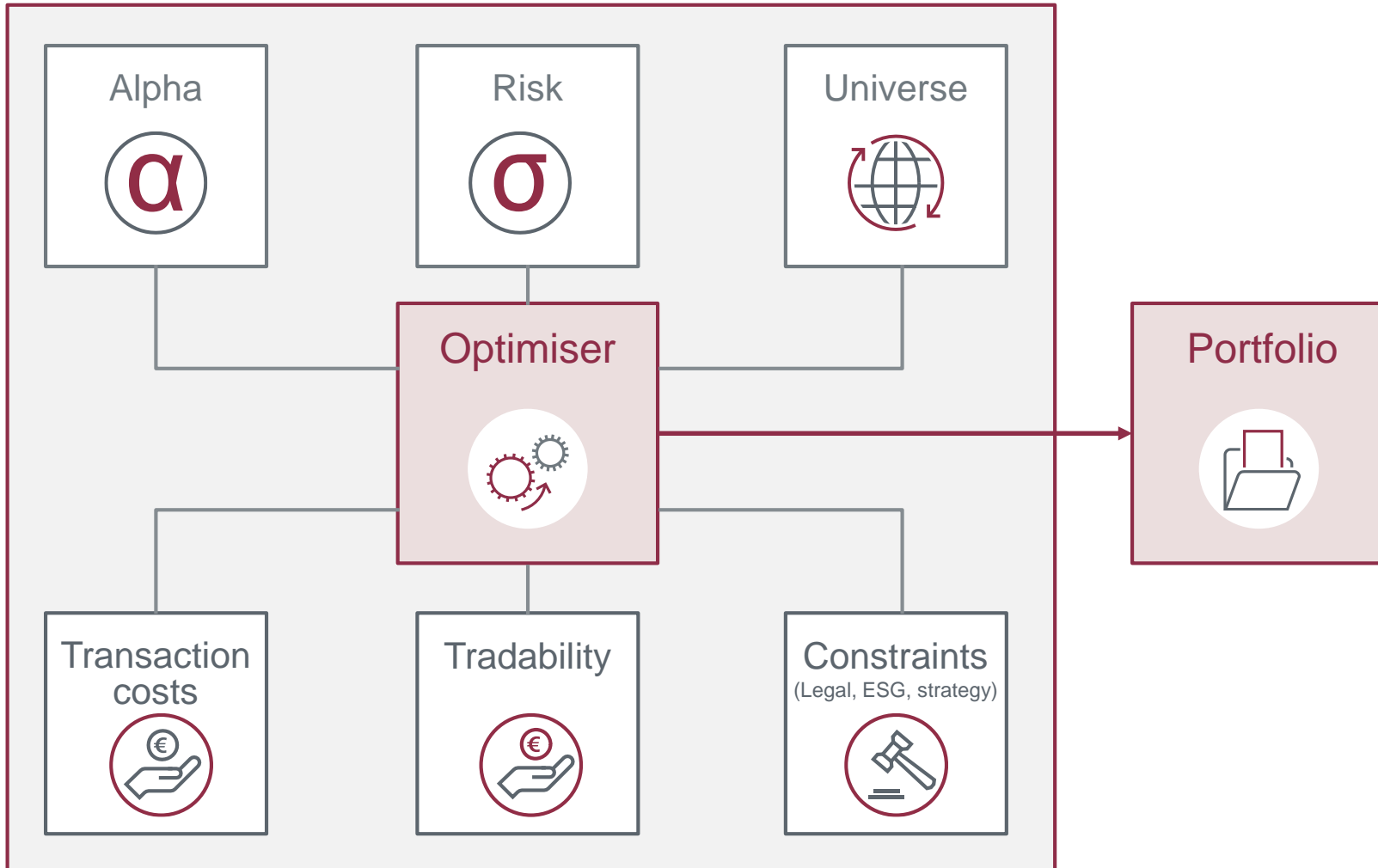
- Classic risk models often have time lags

Alpha risk management

- Diversification of alpha risks
- Avoidance of security-specific risks

Equity management is a multi-dimensional problem

Portfolio construction using optimisation is the best possible solution



- Simultaneous consideration of investment goals
- Trade-off between signal, risk and costs is considered
- Process is repeatable and transparent
- Cross-portfolio constraints (tradable volume) can be considered
- Everything is customisable

ESG commitment: Corporate governance and portfolio construction excellence



- Fully integrated ESG management
 - Excludes controversial weapons and controversies, can implement customised exclusion lists
- Corporate governance
 - Quoniam exercises voting rights in investor's best interests
 - Tailored agreements and engagement strategies with Union Investment (19 Analysts) to unlock advantages
 - Seamless regulatory compliance with customisable SI reporting
- Dynamic portfolio construction
 - Efficient implementation and ESG integration to mitigate unintended bets
- Innovative transformation offerings
 - Leveraging forward-looking ESG data for superior portfolio construction

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Quoniam Equities MinRisk Emerging Markets

Solid emerging market equities with low volatility


Aims:



To outperform the emerging market equity index over the longer term




Delivered using a minimum risk approach, which gives approximately 20% less absolute risk than the market



Target higher Sharpe ratio than benchmark

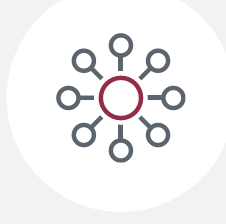
Key facts:



Advanced science & data-driven insights unlock new investment opportunities in a wide universe









Strategy inception in 2010 demonstrating significant experience in EM factor investing



Diversified portfolio of over 250 positions to reduce single name risk

Meeting the challenges

EM equities made easy: Quoniam MinRisk EM Strategy

The challenges	<h3>Vast universe</h3>  <p>3,000+ shares, 25 countries, multiple time zones</p> <ul style="list-style-type: none">▪ Classic, fundamental analysis is time-consuming and slower to respond	<h3>Concentrated indices</h3>  <p>The main EM indices are highly concentrated</p> <ul style="list-style-type: none">▪ Top 10 out of 1,500+ stocks > 22% of the index▪ Large caps, mostly cyclicals with high exposure to the global economy	<h3>High volatilities</h3>  <p>EM equities with the highest historical volatility</p> <ul style="list-style-type: none">▪ Risk budgets quickly exhausted, limiting the ability to take on further risk
Our solution	<h3>Quantitative approach</h3>  <ul style="list-style-type: none">▪ Real-time analysis of more than 10,000 data points for each of the 3,000 companies▪ Direct trading interface with live liquidity on the domestic market /secondary listing	<h3>Granular diversification through mid and small caps</h3>  <ul style="list-style-type: none">▪ Portfolio of 250-300 companies that participate in the growing wealth of regional consumers (examples: telecoms, food, local consumer goods)	<h3>LowVol approach</h3>  <ul style="list-style-type: none">▪ Systematic exploitation of the LowVol anomaly* to conserve risk budgets and outperform benchmarks

* The low-vol anomaly is a well-documented phenomenon, including in emerging markets, that low-vol stocks have higher average returns than higher-vol stocks, which capital market theory suggests should outperform: Source: MSCI, Thomson Reuters, Quoniam Asset Management GmbH

Why minimum risk/low vol approach in emerging markets?

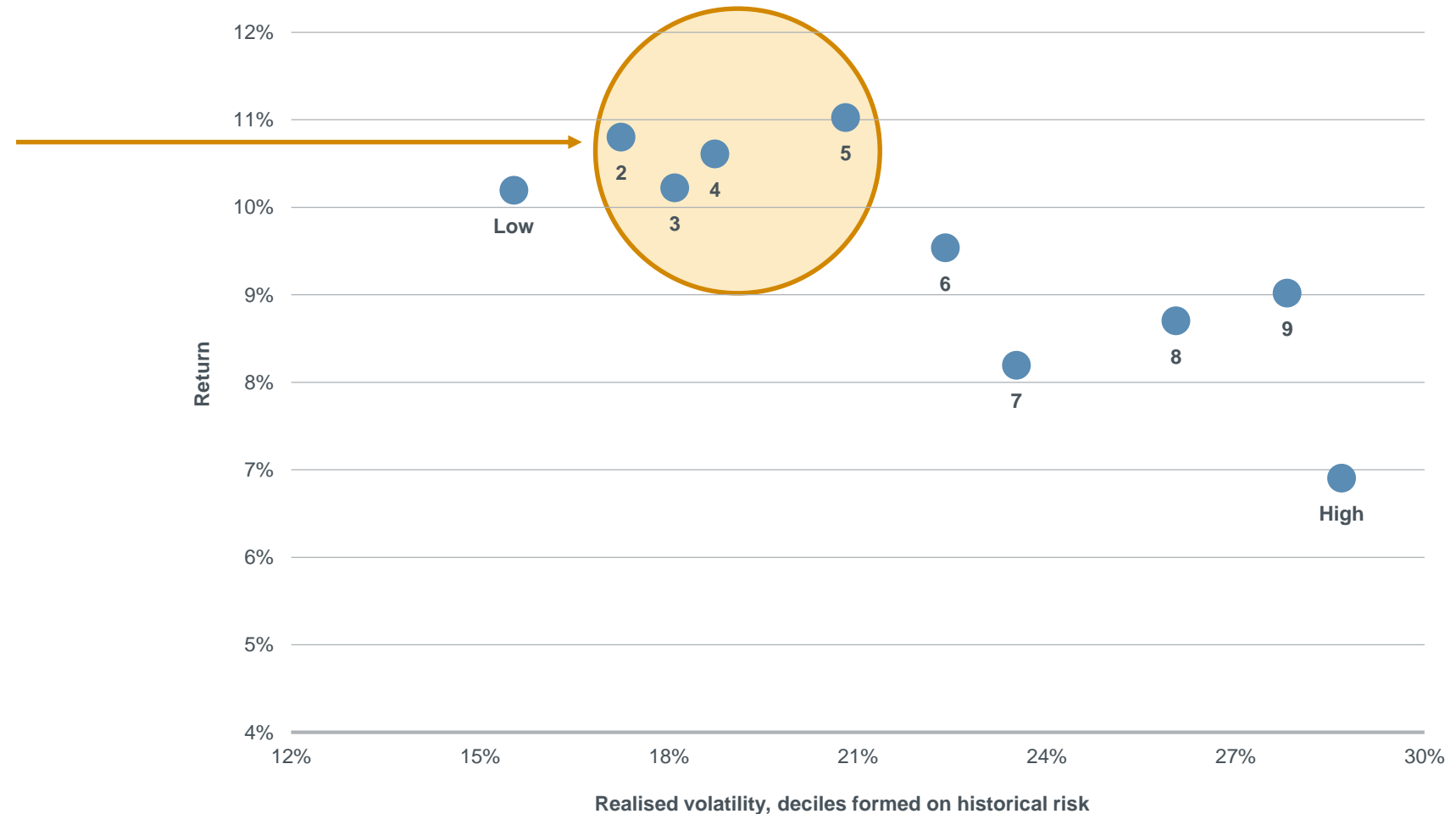
Systematic investing in low-volatility stocks avoids un-rewarded risks

Capital market theory indicates high volatility is rewarded with higher returns but.....

- History shows that lower volatility has outperformed higher volatility in emerging market equities
- Investors should look to avoid these higher risks as they are not rewarded

This is how Quoniam invests in emerging markets.

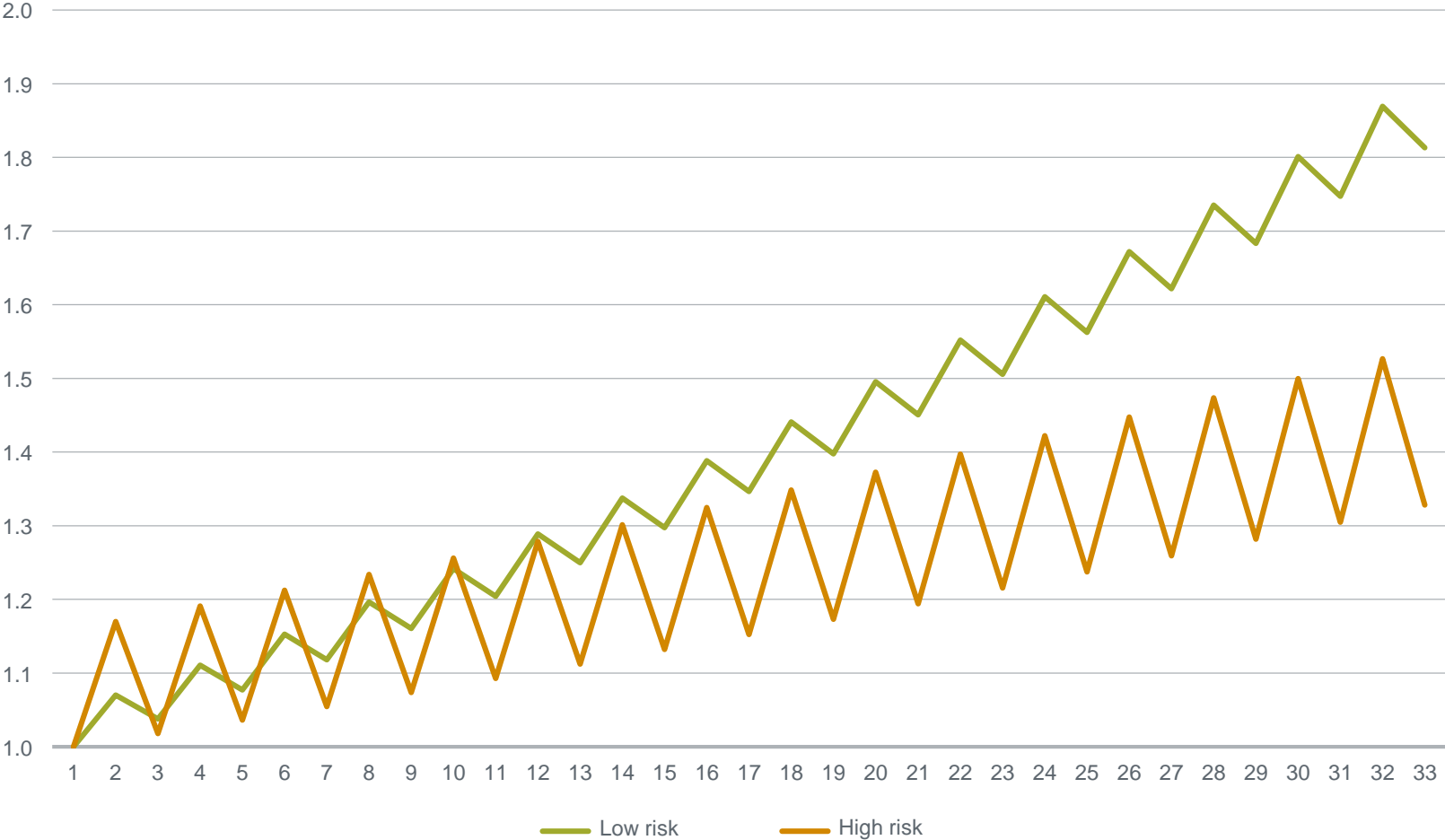
LowVol avoids unrewarded risks



Source: Quoniam Asset Management GmbH. Proprietary factor definitions as used in the investment process. Simulated returns, 1990 – 2023

Minimum risk portfolios benefit most from compounding

Example: High- and low-risk stocks compared



$$R_{geometric} \cong R_{arithmetic} - \frac{\sigma^2}{2}$$

- Assuming the same arithmetic return, the stock with lower risk has the higher geometric return
- In practice, the geometric return is captured over several periods

Example:

	Year 1 return	Year 2 return	Average return	Overall return
Fund 1	-50%	+90%	20%	-5.0%
Fund 2	-30%	+45%	7.5%	+1.5%

Why factor based investing in emerging markets?

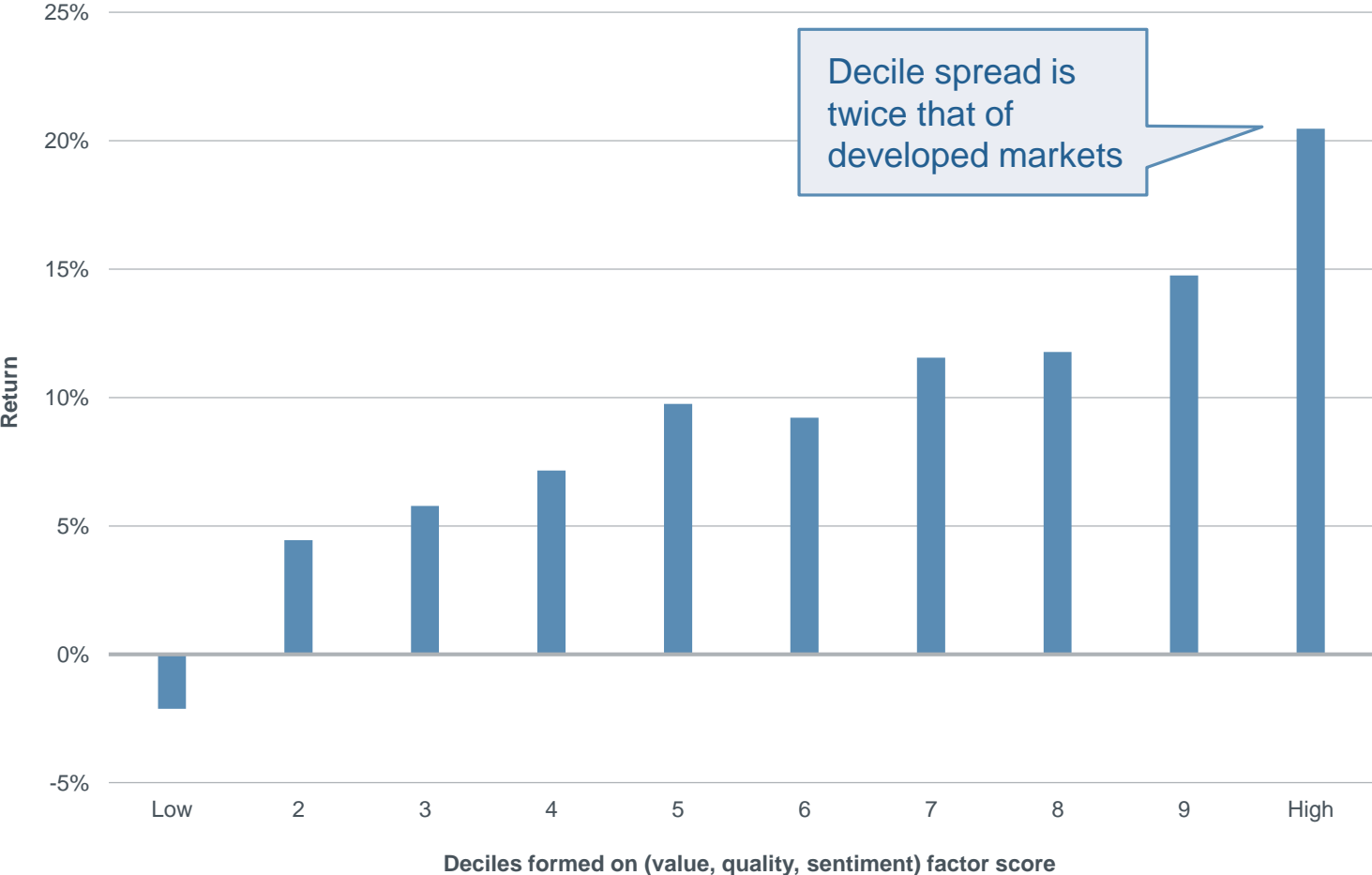
Value, quality and sentiment/momentum are well rewarded in emerging markets

Factors such as value, quality and momentum are proven to outperform over the long term

In emerging markets, the chart shows stocks with high exposure to these factors have a more profound positive performance

Quoniam implement a sophisticated approach to building exposure to these factors to provide a diversified range of alpha drivers

Factors increase returns



Source: Quoniam Asset Management GmbH. Proprietary factor definitions as used in the investment process. Simulated returns 1995 – 2023. Uses a combination of 16 value, quality and sentiment factors.

Local winners instead of global players

Diversified exposure to local consumption beats technology and cyclicals

- Quoniam Equities MinRisk Emerging Markets strategy benefits from the economic situation in local markets
- Less exposure to volatile large cap tech stocks
- Less concentration in the top 10 names, leading to more diversification and better risk adjusted returns

Key structural differences between Quoniam EM vs MSCI EM Index

Quoniam Equities MinRisk Emerging Markets	MSCI Emerging Markets
Local growth focused	Bias towards global players
14% in large cap tech stocks	20% in large cap tech stocks
11% in top 10 index stocks	26% in top 10 index stocks

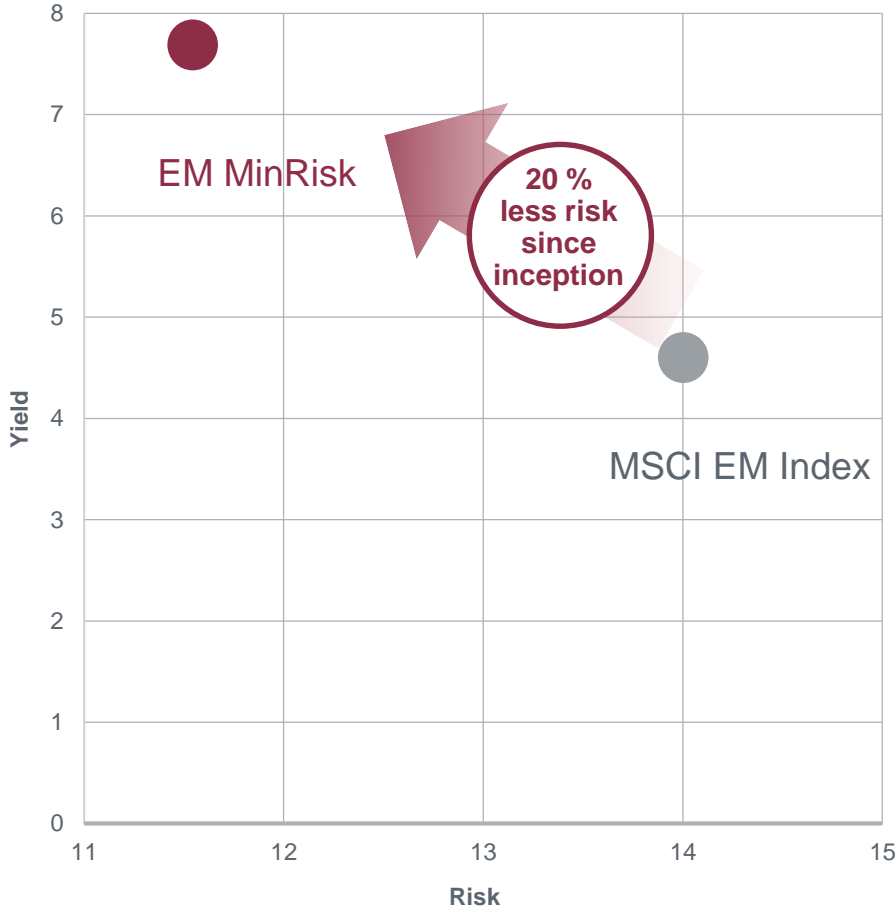
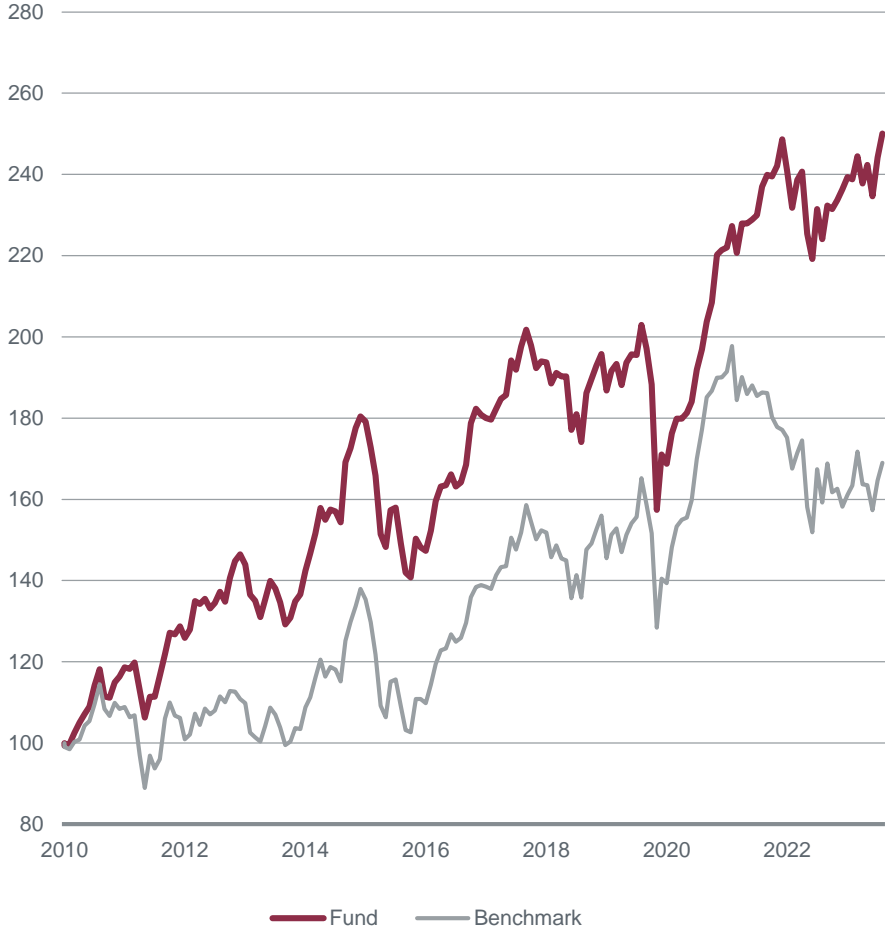
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Strong performance both absolute and relative with a 14-year track record

Reduce risks, increase returns and boost diversification

Since its launch, the strategy has generated solid returns due to its defensive positioning and has outperformed both the benchmark and the peer group.

> 100% higher performance than the MSCI EM in 14 years of track record

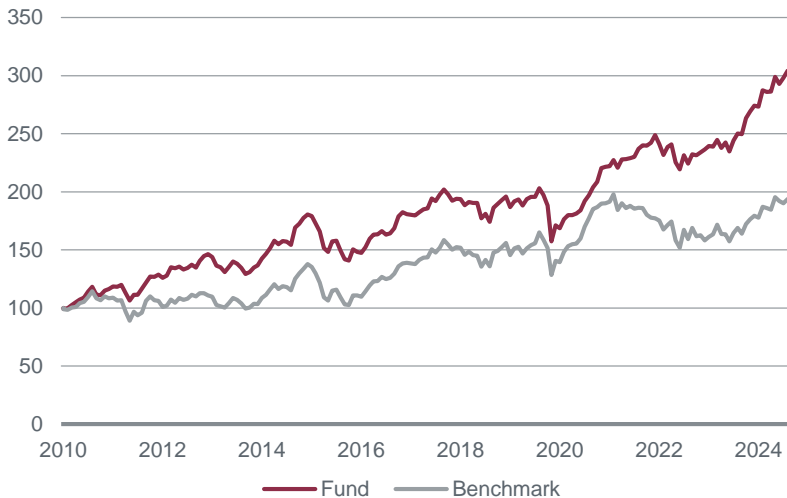


Fund: QFS SICAV - Emerging Markets Equities MinRisk EUR (I) / Benchmark index: MSCI Emerging Markets. Performance (gross returns) since inception 05.2010 to 10.2024. Source: Quoniam Asset Management GmbH

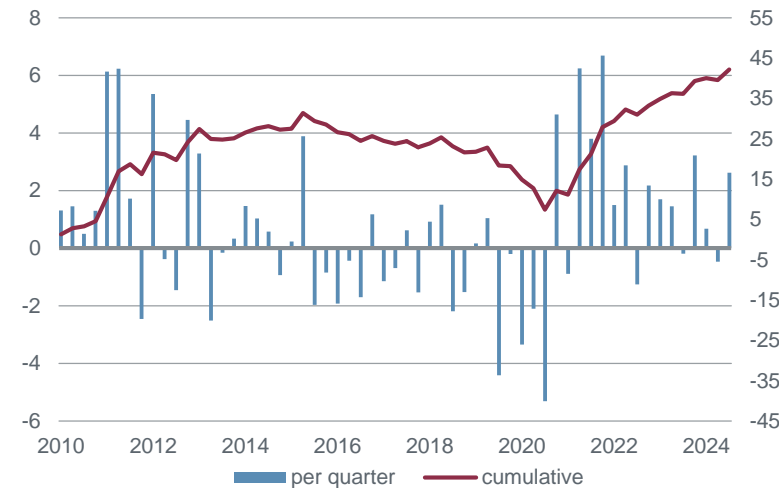
Performance overview - QFS SICAV - Emerging Markets Equities MinRisk EUR I dis | Brutto

	Performance				Performance annualised			Volatility / TE		Risk adj. perf.		
	Reporting period	Current month	Current quarter	Current year	1 year	3 years	5 years	Since incept.	3 years	Since incept.	SR since incept.	IR since incept.
Fund Net	20.47	1.95	1.55	20.47	20.47	7.68	7.44	6.93	9.74	11.48	0.57	0.00
Fund Gross	21.58	2.03	1.79	21.58	21.58	8.66	8.42	7.88	9.74	11.49	0.65	0.00
Benchmark	14.71	1.88	-0.83	14.71	14.71	1.33	3.25	4.62	13.66	13.93	0.30	0.00
Alpha	6.87	0.15	2.62	6.87	6.87	7.33	5.17	3.26	6.67	5.56	0.00	0.59

Absolute performance (gross)



Active performance (gross)



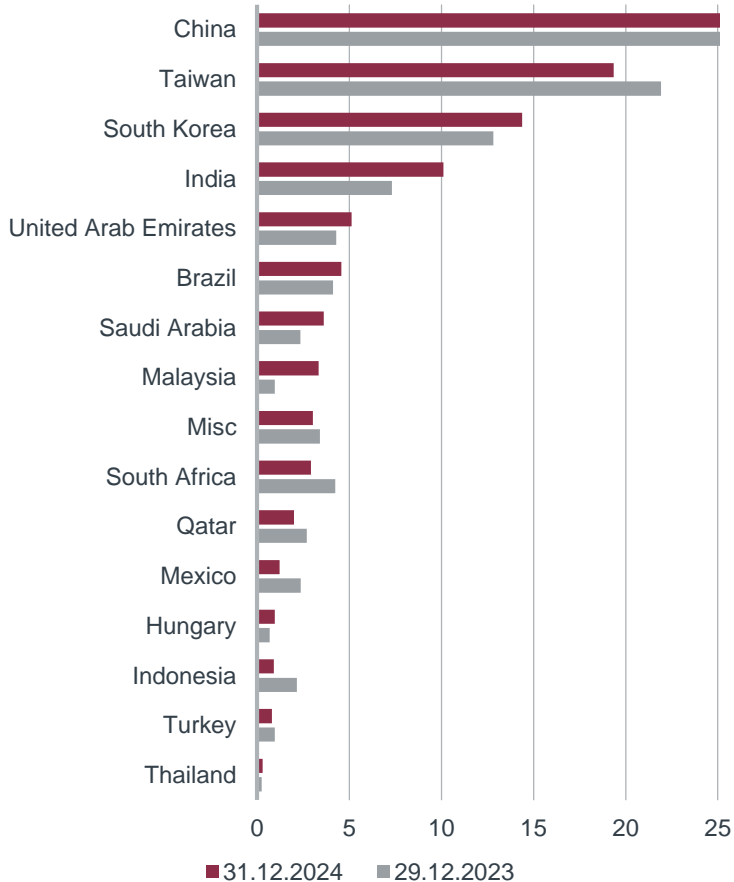
Calendar years

Year	Fund (gross)	Bench mark	Difference (gross)	NAV in m EUR
2016	10.01	15.43	-5.42	2065.19
2017	20.36	20.59	-0.22	2380.14
2018	-11.88	-10.58	-1.31	1758.87
2019	16.56	21.67	-5.11	1779.23
2020	-3.00	7.21	-10.21	1076.21
2021	20.40	5.18	15.22	717.99
2022	-5.45	-14.52	9.07	503.30
2023	11.59	6.11	5.48	490.12
2024	21.58	14.71	6.87	397.27
last				397.27

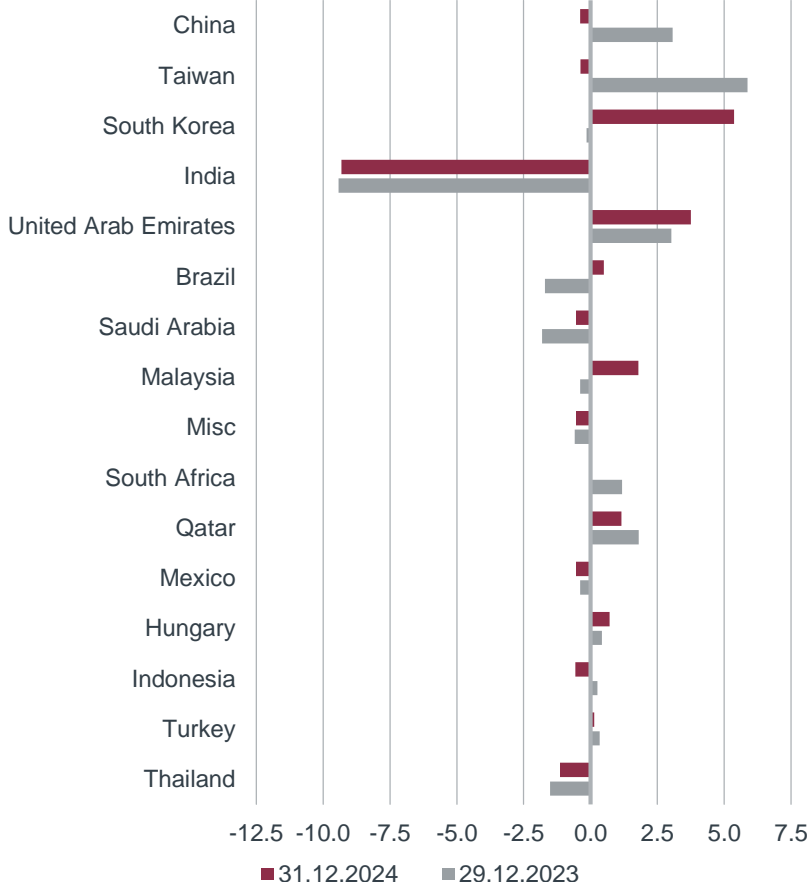
Fund: QFS SICAV - Emerging Markets Equities MinRisk EUR I dis / Benchmark: MSCI Emerging Markets / Period: 29.12.2023 - 30.12.2024 / Foundation Date: 28.11.2014 / Fund currency: EUR

Country allocation

Weight in fund (%)



Difference to benchmark (%)

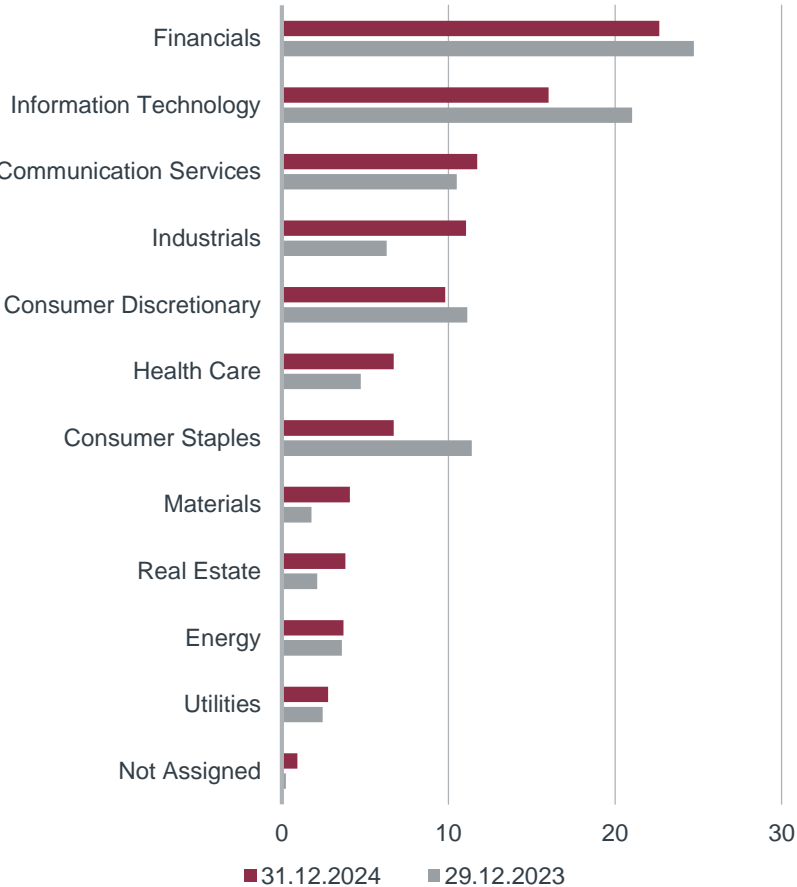


	31.12.2024			29.12.2023		
	Fund (%)	BM (%)	Diff. (%)	Fund (%)	BM (%)	Diff. (%)
China	27.40	27.79	-0.39	29.56	26.48	3.08
Taiwan	19.34	19.72	-0.37	21.92	16.05	5.87
South Korea	14.38	9.02	5.37	12.82	12.97	-0.15
India	10.11	19.43	-9.32	7.32	16.75	-9.42
United Arab Emirates	5.12	1.37	3.75	4.28	1.26	3.03
Brazil	4.57	4.07	0.50	4.11	5.81	-1.70
Saudi Arabia	3.61	4.16	-0.55	2.34	4.15	-1.82
Malaysia	3.33	1.54	1.79	0.95	1.33	-0.38
Misc	3.02	3.56	-0.54	3.40	3.99	-0.59
South Africa	2.92	2.93	-0.01	4.25	3.07	1.18
Qatar	2.00	0.84	1.16	2.69	0.89	1.80
Mexico	1.22	1.76	-0.54	2.36	2.75	-0.39
Hungary	0.96	0.24	0.71	0.68	0.26	0.42
Indonesia	0.90	1.48	-0.57	2.15	1.89	0.26
Turkey	0.80	0.66	0.14	0.95	0.61	0.34
Thailand	0.30	1.45	-1.14	0.24	1.75	-1.51

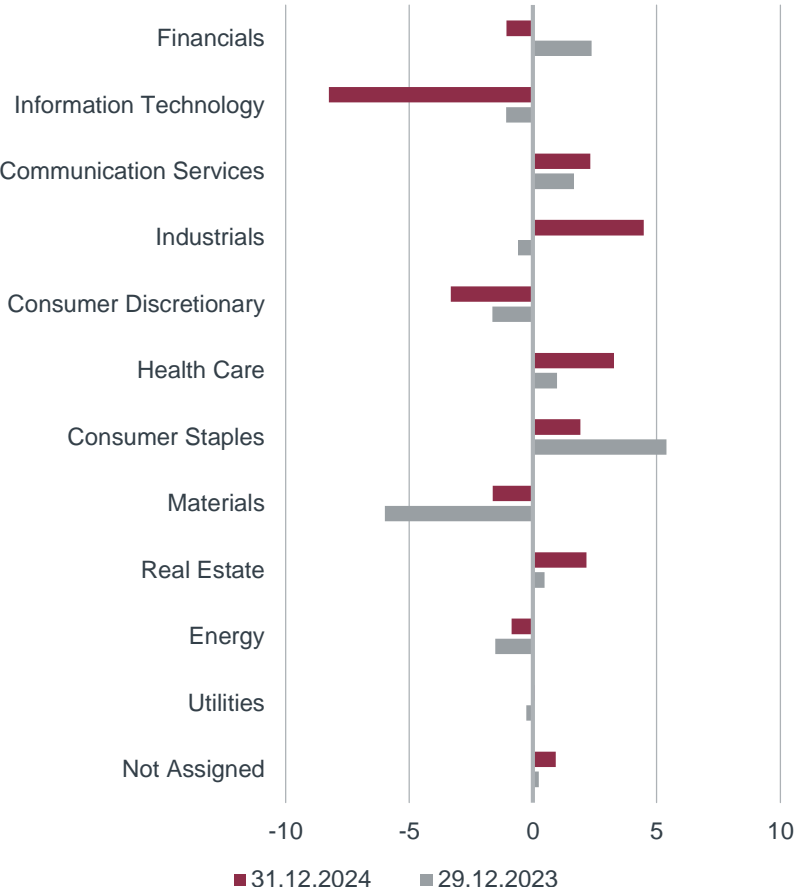
Fund: QFS SICAV - Emerging Markets Equities MinRisk / Benchmark: MSCI Emerging Markets / Period: 29.12.2023 - 31.12.2024

Sector allocation

Weight in fund (%)



Difference to benchmark (%)

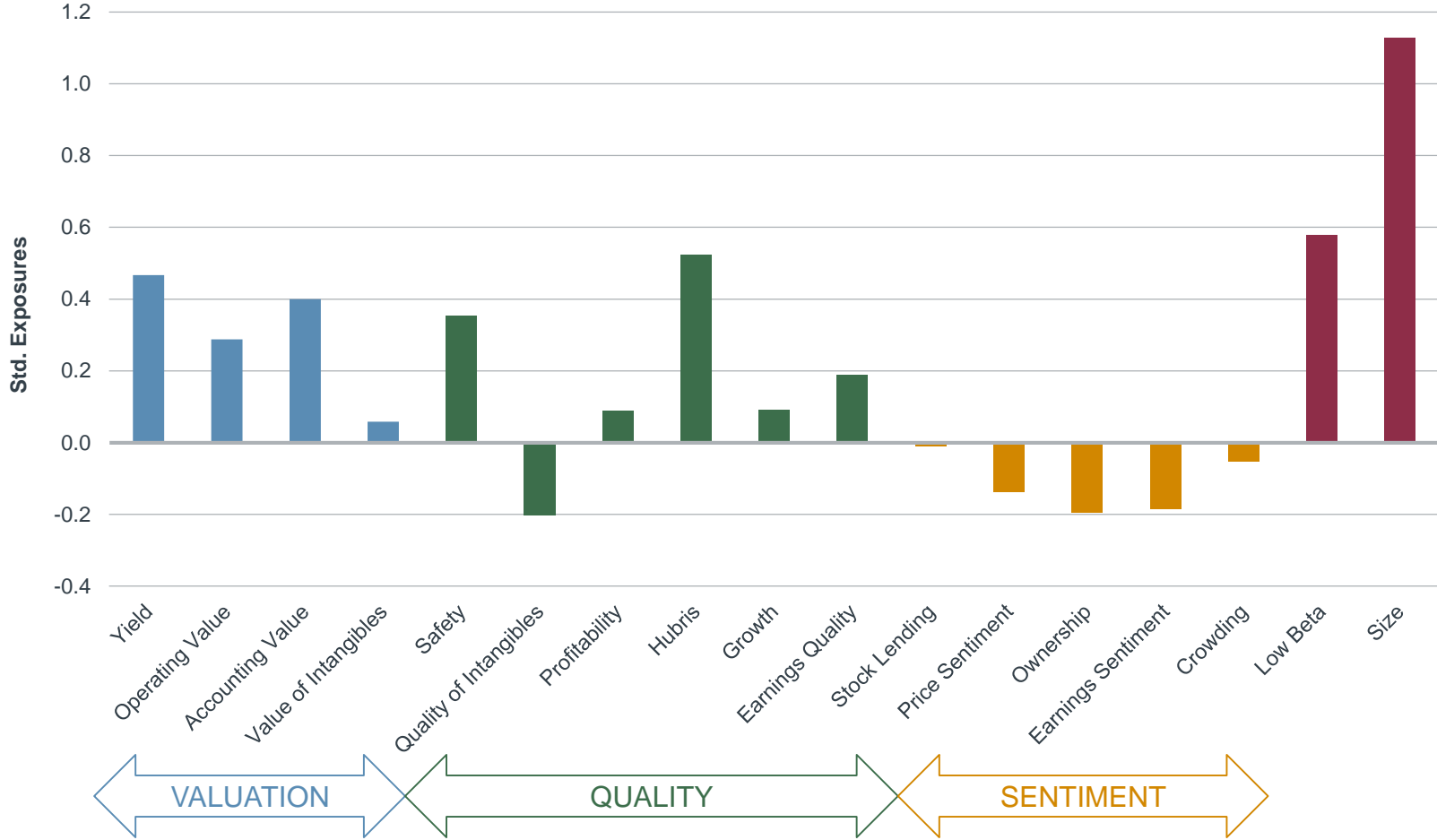


	31.12.2024			29.12.2023		
	Fund (%)	BM (%)	Diff. (%)	Fund (%)	BM (%)	Diff. (%)
Financials	22.66	23.73	-1.07	24.73	22.35	2.37
Information Technology	16.01	24.25	-8.25	21.02	22.11	-1.09
Communication Services	11.73	9.42	2.32	10.50	8.84	1.66
Industrials	11.06	6.59	4.47	6.29	6.90	-0.61
Consumer Discretionary	9.80	13.12	-3.32	11.14	12.78	-1.64
Health Care	6.72	3.45	3.27	4.74	3.76	0.98
Consumer Staples	6.71	4.79	1.92	11.40	6.01	5.39
Materials	4.09	5.71	-1.62	1.78	7.77	-5.99
Real Estate	3.81	1.65	2.16	2.12	1.65	0.47
Energy	3.70	4.56	-0.87	3.60	5.12	-1.52
Utilities	2.78	2.72	0.06	2.44	2.71	-0.27
Not Assigned	0.93	0.00	0.93	0.23	0.00	0.23

Fund: QFS SICAV - Emerging Markets Equities MinRisk / Benchmark: MSCI Emerging Markets / Period: 29.12.2023 - 31.12.2024

Fund ratios - QFS SICAV - Emerging Markets Equities MinRisk

Portfolio characteristics



Factor	Port- folio	Bench- mark
Price/Earnings	10.56	13.25
Price/Book	1.30	1.87
Dividend Yield	3.89	2.55
EV/EBITDA	6.68	9.03
Price/Cash Flow	5.98	9.46
Price/Sales	0.89	1.46
Return on Equity	16.87	16.18
R. on Assets (Cash)	21.40	16.93
Debt/Assets	6.39	6.91
Accruals (inverted)	5.58	4.93
IBES Up/Dn	6.89	3.60
Earnings Moment.	2.60	3.20
Momentum	23.65	20.01
Beta 3 Years	0.70	0.94
Market Cap (FF)	61.93	128.85
Num. of stocks	245	1252

Date: 31.12.2024

Benchmark: MSCI Emerging Markets

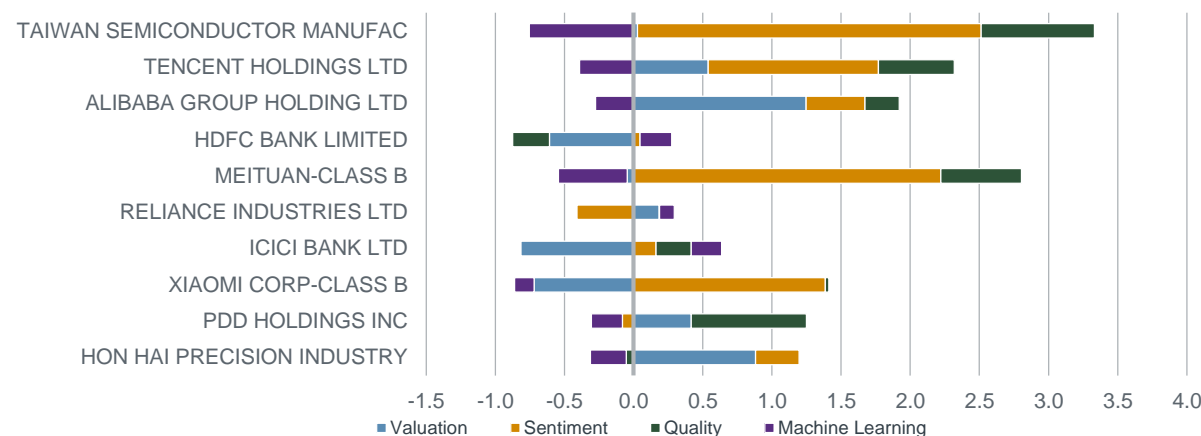
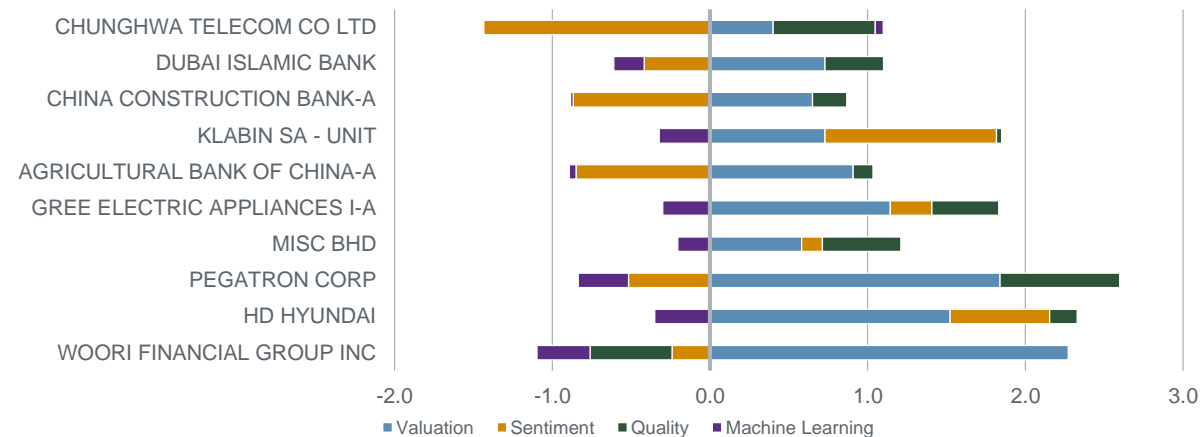
Over and underweights

Top 10 overweights

NAME	Fund weight (%)	BM weight (%)	Act. weight (%)
CHUNGHWA TELECOM CO LTD	1.66	0.19	1.47
DUBAI ISLAMIC BANK	1.43	0.07	1.36
CHINA CONSTRUCTION BANK-A	1.25	0.01	1.24
KLABIN SA - UNIT	1.20	0.04	1.16
AGRICULTURAL BANK OF CHINA-A	1.17	0.05	1.12
GREE ELECTRIC APPLIANCES I-A	1.10	0.01	1.09
MISC BHD	1.10	0.03	1.07
PEGATRON CORP	1.13	0.07	1.06
HD HYUNDAI	1.04	0.03	1.01
WOORI FINANCIAL GROUP INC	1.08	0.09	1.00

Top 10 underweights

NAME	Fund weight (%)	BM weight (%)	Act. weight (%)
TAIWAN SEMICONDUCTOR MANUFAC	5.40	10.67	-5.26
TENCENT HOLDINGS LTD	2.15	4.56	-2.41
ALIBABA GROUP HOLDING LTD	0.46	2.24	-1.78
HDFC BANK LIMITED	0.00	1.53	-1.53
MEITUAN-CLASS B	0.00	1.27	-1.27
RELIANCE INDUSTRIES LTD	0.00	1.12	-1.12
ICICI BANK LTD	0.00	1.03	-1.03
XIAOMI CORP-CLASS B	0.00	0.88	-0.88
PDD HOLDINGS INC	0.00	0.85	-0.85
HON HAI PRECISION INDUSTRY	0.17	0.92	-0.75



Date: 31.12.2024 Benchmark: MSCI Emerging Markets

Disclaimer

The use of investment services as well as investments in financial instruments are conjoint with risks. For more information and guidance on opportunities and risks, please visit www.quoniam.com/riskstatement

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