I ♥ NORWALK

To: Norwalk Municipal Employees' Pension Board

From: Tina Fogell, Chief Human Resources Officer

Date: November 6, 2024

Subject: Pension Board Meeting – Wednesday, November 13, 2024 - Hybrid meeting

A meeting of the Norwalk Municipal Employees' Pension Board will be held on **Wednesday, November 13, 2024 at 6:00 p.m.,** via zoom / Room 220.

To allow public access, anyone may access a meeting by telephone, Zoom, and/or the City of Norwalk YouTube channel. Specific instructions and links can be found at norwalkct.org/meetings

AGENDA

1. Call to Order and Approval of Minutes from October 9, 2024
2. Public Comments
3. Approval of Pension Applications
4. BlackRock Emerging Markets Equity Presentation
5. Performance Review
6. Approval of 2025 Schedule of Meetings
7. Adjourn

Next meeting scheduled for December 11, 2024.

cc: Mayor Harry Rilling
Irene Dixon, City Clerk
Britton Murdoch, Callan Associates Inc.
Kevin Schmidt, Callan Associates Inc.
Billy Ireland, Fire Union President
Al Palumbo, NASA President

CITY OF NORWALK
PENSION BOARD
REGULAR MEETING
OCTOBER 9, 2024

ATTENDANCE: Frank Nash, Chair; Charles Pirro, Richard Baskin, James Hendrickson, Robert Raleigh, David Pramer, Jared Schmitt

STAFF: Chitsamay Lam, Comptroller

OTHERS: Britton Murdoch, Callan LLC.; ~~Myrlin Valentin~~Kevin Schmidt, Callan LLC; Marni Harp, Principal Dynamic Growth Portfolio (Zoom); Chris Corbett, Principal Dynamic Growth Portfolio; Mark Shapiro, Principal Dynamic Growth Portfolio

CALL TO ORDER

Mr. Nash called the meeting to order at 6:00 p.m. There was a quorum present.

APPROVAL OF MINUTES

- **September 11, 2024**

Mr. Pirro noted that he had seconded the minutes but not the Pension Applications.

**** THERE WAS A MOTION TO APPROVE THE SEPTEMBER 11, 2024 MEETING MINUTES.**
**** THERE WAS A SECOND.**
**** THE MOTION TO APPROVE THE SEPTEMBER 11, 2024 MEETING MINUTES PASSED UNANIMOUSLY.**

PUBLIC COMMENTS

There was no one present from the public at this time.

PENSION APPLICATION

There were no applications to review at this time.

PRINCIPAL DYNAMIC GROWTH PORTFOLIO REVIEW.

Ms. Harp greeted the Board and introduced the members of her team, Chris and Mark, who were on site~~. The on-site Principal Dynamic Growth team then~~ reviewed the portfolio and performance with the Board Members. Questions and comments were fielded from the Board throughout the presentation.

PERFORMANCE REVIEW

Mr. ~~Valentin~~ Schmidt from Callen reviewed the asset allocation and performance for the Pension Plan as of August 2024. Questions and comments were fielded from the Board throughout the presentation.

PENSION PLAN FEE REVIEW

Mr. Nash announced that the Board would be entering Executive Session.

ADJOURNMENT

Next meeting scheduled for November 13, 2024.

**** THERE WAS A MOTION TO ADJOURN.**
**** THERE WAS A SECOND.**
**** THE MOTION PASSED UNANIMOUSLY.**

The meeting adjourned at 7:~~21p~~48p.m.

Respectfully submitted

S.L. Soltes
Telesco Secretarial Services

APPROVAL OF PENSION APPLICATIONS

MEETING OF: November

Name	Years of Service	Type of Pension	Option Selected
Mark Campaniello City of Norwalk Class I Mechanic Commencement date	20 years, 8 months 11/01/2024	Early	Option III
James McFadden BOE Custodian Commencement date	21 years, 0 months 08/28/2024	Normal	Option I

I ♥ NORWALK

OFFICE OF PERSONNEL AND LABOR RELATIONS

Schedule of Meetings for Pension Board
2025

2nd Wednesday each month
6:00 p.m.
(Hybrid – Zoom / Room 220)

January 8

February 12

March 12

April 9

May 14

June 11

September 10

October 8

November 12

December 10

November 2024

BlackRock

Systematic Active Equity

Emerging Markets Alpha Tilts

Q3 2024 Review

Contents

1. Platform Update

Systematic Active Equity Platform

SAE provides distinctive access to global investment opportunities

- Philosophy: Research driven investment culture leads to constant evolution of insights
- Our passion is combining insight and technology in seeking to generate investment returns across the broadest possible opportunity set
- Track Record: Over 35-year of innovation across global equity markets*
- Expertise: 100+ dedicated investment professionals

Systematic Active Equity Platform

$211 billion

Long Only Active
$195 billion

Alpha Tilts / Advantage Series
- Global / World / World ex-US
- US Large & Small Cap
- Emerging Markets
- China
- Index Plus

Partial Long/Short
$8 billion

Alpha Advantage
- Global
- World
- Emerging Markets
- Regional

Absolute Return
$8 billion

Cayman / UCITS / 40 Act
- Global (Levered / Unlevered)
- China
- Liquidity Provision
- Macro

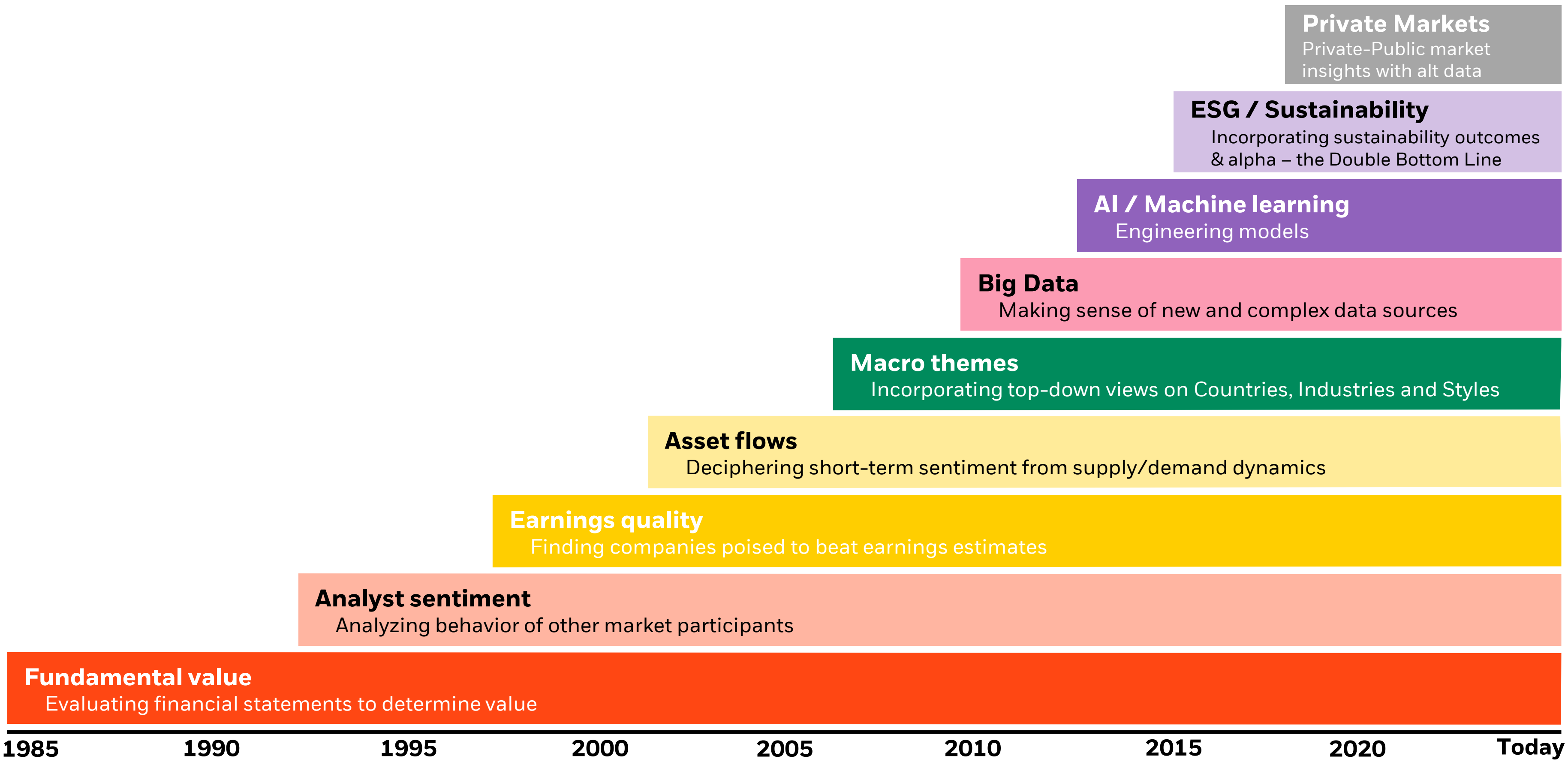
Flexible capabilities across regions, time horizons, market caps and the risk/return spectrum

All data as of 30 September 2024
*Including time within Barclays Global Investors and Wells Fargo Nikko Investment Advisors

SAE has a 35+ year track record of innovation*

- Discovering new market inefficiencies is a key to success as they can disappear as quickly as they are found
- We believe that an investment process underpinned by continual innovation is vital to our goal of delivering sustainable alpha to our clients

SAE adds new sources of information to its process as past techniques lose effectiveness



Source: BlackRock as of 30 September 2024; * Including time within Barclays Global Investors and Wells Fargo Nikko Investment Advisors

Systematic Active Equity

Global Leadership

Raffaele Savi
Sr. Managing Director
Co-Head of Investments
Systematic Active Equity

Jeff Shen
Managing Director
Co-Head of Investments
Systematic Active Equity

Investment Team

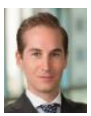
Core Research

Ron Kahn
Global Head of Equity Research

Bradley Betts
Data Science

Pierre Demartines
Yaki Tsaig

Gerry Garvey
ESG / Sustainability



Tom Morris
Stock Selection

Alessandro Beber
Stock Selection

Stephanie Lee
Macro / Factors

Ked Hogan
Thematics

10 Managing Directors
16 VP/Directors
14 Analyst/Associates

14 PhD
17 MS/MA
9 BS/BA

Portfolio Management

Global
Kevin Franklin

Richard Mathieson

Emerging Markets
David Piazza

Europe
Simon Weinberger

Rob Fisher

Macro / Factors
Philip Hodges

North America
Travis Cooke

Ali Almufti

China
Rui Zhao

Asia Pacific
Ryan Kim

ESG / Sustainability
Anna Hawley

17 Managing Directors
22 VP/Directors
9 Analyst/Associates

8 PhD
23 MS/MA
17 BS/BA

Investment Strategy

Michael Bishopp
Co-Head

Gerardo Rodriguez
Co-Head

Elaine Moore
US

Henry Shen
Asia / China / EM

Muzo Kayacan
EMEA

Chris DiPrimio
US Wealth / DC

2 Managing Directors
16 VP/Directors
5 Analyst/Associates

1 PhD
12 MS/MA
10 BS/BA

BlackRock Global Investment Platform

Risk and Quantitative Analysis (RQA)	BlackRock Solutions	Trading

All data as of 30 September 2024

Performance across investment strategies

Summary Performance As of September 30, 2024	Benchmark	1 year		3 year		5 year		10 year		Since inception					Inception Date
		Alpha[2] (Net)	Alpha (Gross)	Alpha[2] (Net)	Alpha (Gross)	Alpha[2] (Net)	Alpha (Gross)	Alpha[2] (Net)	Alpha (Gross)	Alpha[2] (Net)	Alpha (Gross)	Active Risk Ex-Post	IR (Gross)	IR (Net)	
Alpha Tilts - Enhanced															
World Alpha Tilts Enhanced – RA[1]	MSCI World	2.15	**2.45**	1.41	**1.67**	0.99	**1.25**	0.93	**1.18**	0.78	**1.03**	0.98	1.05	0.80	11/30/2005
World ex-US Alpha Tilts Enhanced – CTF[3]	MSCI World ex U.S.	1.63	**1.94**	2.01	**2.28**	1.46	**1.73**	1.26	**1.53**	1.18	**1.45**	1.13	1.28	1.04	11/30/2009
Russell 1000 Alpha Tilts Enhanced– RA[1]	Russell 1000	2.85	**2.99**	0.99	**1.10**	0.55	**0.66**	0.68	**0.79**	0.46	**0.58**	1.23	0.47	0.37	12/31/1994
Global Alpha Tilts Enhanced – RA[1]	MSCI ACWI	2.43	**2.83**	1.62	**1.95**	0.91	**1.25**	–	**–**	0.94	**1.28**	1.19	1.08	0.79	5/25/2016
Global ex-US Alpha Tilts Enhanced – RA[1]	MSCI ACWI-ex U.S.	1.10	**1.41**	1.50	**1.77**	1.09	**1.36**	1.12	**1.39**	0.89	**1.15**	0.96	1.20	0.93	9/24/2007
Emerging Markets ex China Alpha Tilts Enhanced – CTF[3]	MSCI EM ex China	-2.51	**-2.08**	–	**–**	–	**–**	–	**–**	-0.01	**0.36**	1.26	0.29	-0.01	3/31/2022
Emerging Markets Alpha Tilts Enhanced – CTF[3]	MSCI EM Index	-0.34	**0.10**	0.21	**0.56**	0.17	**0.54**	0.72	**1.08**	0.81	**1.18**	1.47	0.80	0.55	5/6/2011
Alpha Tilts															
Global Alpha Tilts – RA[1]	MSCI ACWI	1.50	**2.09**	1.41	**1.90**	0.18	**0.69**	0.12	**0.61**	0.77	**1.27**	1.69	0.75	0.46	2/4/2009
U.S. Alpha Tilts – CTF[3]	S&P 500	2.39	**2.75**	0.24	**0.55**	0.37	**0.68**	0.14	**0.44**	0.37	**0.67**	1.77	0.38	0.21	9/23/1985
Russell 1000 Alpha Tilts – CTF[3]	Russell 1000	2.77	**3.13**	0.66	**0.96**	0.41	**0.72**	0.42	**0.72**	0.46	**0.76**	1.75	0.43	0.26	9/30/1990
Russell 2000 Alpha Tilts – CTF[3]	Russell 2000	1.64	**2.21**	0.66	**1.12**	0.66	**1.16**	0.42	**0.91**	1.79	**2.28**	2.88	0.79	0.62	7/31/1990
Russell 2500 Alpha Tilts – CTF[3]	Russell 2500	-0.59	**-0.10**	0.99	**1.41**	0.96	**1.40**	–	**–**	0.69	**1.13**	1.92	0.59	0.36	6/30/2019
World Alpha Tilts – CTF	MSCI World	0.97	**1.56**	0.92	**1.42**	0.45	**0.95**	–	**–**	0.39	**0.90**	1.61	0.56	0.24	8/25/2015
International Alpha Tilts – CTF[3]	MSCI EAFE	1.29	**1.81**	1.82	**2.27**	1.05	**1.50**	1.09	**1.53**	0.88	**1.33**	1.66	0.80	0.53	1/31/1996
World ex-U.S. Alpha Tilts – CTF[3]	MSCI World ex U.S.	1.71	**2.24**	2.02	**2.48**	1.31	**1.76**	1.21	**1.66**	0.88	**1.33**	1.64	0.81	0.54	2/28/2002
Global ex-U.S. Tilts – CTF[3]	MSCI ACWI-ex U.S.	0.96	**1.52**	1.48	**1.95**	1.03	**1.52**	0.79	**1.27**	0.62	**1.10**	1.50	0.73	0.41	4/30/2002
Australian Alpha Tilts Fund – AUT[4]	S&P/ASX 300	0.37	**0.37**	0.09	**0.09**	0.25	**0.26**	0.69	**0.71**	1.33	**1.37**	1.56	0.88	0.85	10/31/1997
Japan Alpha Tilts – RA[1]	TOPIX	-0.42	**-0.08**	1.48	**1.82**	1.56	**1.91**	0.60	**0.93**	0.01	**0.33**	1.49	0.22	0.01	6/30/2004
Canadian Active Equity – CTF[3]	S&P/TSX	1.95	**2.29**	0.37	**0.67**	0.17	**0.47**	-0.13	**0.16**	0.93	**1.22**	1.59	0.77	0.58	9/30/1997
China Opportunities Fund – CF[5] (0.75)	MSCI China A	0.97	**1.83**	1.36	**2.09**	1.77	**2.58**	6.70	**7.53**	6.07	**6.91**	3.87	1.79	1.57	11/28/2012
All China Opportunities Fund – CTF	MSCI China All Shares	-0.69	**0.19**	1.62	**2.34**	–	**–**	–	**–**	1.01	**1.78**	3.82	0.47	0.26	12/17/2019
Europe Alpha Tilts – RA[1]	MSCI Europe Net TR in EUR	2.18	**2.68**	2.51	**2.97**	2.44	**2.90**	1.74	**2.20**	0.98	**1.43**	1.80	0.79	0.54	12/14/2004
Emerging Markets Alpha Tilts – CTF[3]	MSCI EM	-1.52	**-0.55**	-0.91	**-0.12**	-1.43	**-0.60**	-0.30	**0.53**	0.97	**1.81**	2.37	0.76	0.41	10/5/2009
Alpha Advantage															
Global Alpha Advantage – CTF[3]	MSCI ACWI	7.42	**8.45**	5.09	**5.94**	3.21	**4.08**	–	**–**	1.93	**2.76**	2.81	0.98	0.69	5/27/2015
Asia Alpha Advantage – CF[5] (1/20)	MSCI Asia xJ	8.85	**13.83**	2.81	**4.80**	3.21	**5.08**	1.97	**3.66**	3.99	**6.17**	3.68	1.68	1.08	8/8/2006
Emerging Markets Alpha Advantage – CF[5] (0.75/20)	MSCI EM	-1.38	**-0.44**	-0.84	**-0.09**	-0.06	**0.80**	0.33	**1.32**	2.43	**3.97**	3.20	1.24	0.76	2/3/2009
International Alpha Advantage – CTF[3]	MSCI EAFE	5.37	**6.33**	3.18	**3.99**	1.37	**2.19**	1.44	**2.25**	1.01	**1.80**	2.79	0.65	0.36	1/11/2013
Global ex-U.S. Alpha Advantage – CTF[3]	MSCI ACWI-ex U.S.	2.99	**3.94**	1.74	**2.54**	0.47	**1.28**	0.86	**1.66**	0.70	**1.49**	2.01	0.74	0.35	5/31/2007

Summary Performance As of September 30, 2024	Benchmark	1 year		3 year		5 year		10 year		Since inception					Inception Date
		Total Returns[2] (Net)	Total Return (Gross)	Total Returns[2] (Net)	Total Return (Gross)	Total Returns[2] (Net)	Total Return (Gross)	Total Returns[2] (Net)	Total Return (Gross)	Total Returns[2] (Net)	Total Return (Gross)	Active Risk Ex-Post	IR (Gross)	IR (Net)	
Absolute Return															
Systematic China Absolute Return Fund – CF (1.00/20)	FTSE 3-months T-bill Index	10.09	**12.52**	8.09	**10.23**	–	–	–	–	9.16	**11.77**	7.48	1.20	1.03	10/30/2020
Global Market Neutral† – CTF[3]	1 Month SOFR	9.68	**10.72**	5.79	**6.80**	3.76	**4.75**	2.22	**3.20**	2.88	**3.87**	2.53	0.82	0.43	1/31/2003
Global Alpha Opportunities Fund – CF[5] (1.5/20)	Fed Funds	31.88	**39.01**	16.35	**20.52**	11.88	**15.18**	7.42	**10.22**	6.71	**9.55**	7.95	1.20	0.84	2/28/2011
The 32 Capital Fund – CF[5] (2/20)	Fed Funds	21.55	**28.21**	12.97	**17.05**	10.64	**14.60**	5.03	**8.21**	5.75	**9.02**	8.38	1.08	0.69	8/1/2002
Emerging Markets Alpha Fund – CF[5] (1.5/20)	Fed Funds	18.17	**22.41**	13.53	**17.19**	11.33	**14.40**	5.61	**8.13**	6.85	**9.82**	8.19	1.05	0.73	2/25/2011

Past performance is not a guarantee or a reliable indicator of future results. All vehicles on this page were chosen because they have been identified objectively as flagship offerings, have the longest track record and largest AUM of all vehicles managed under the represented strategy. Gross performance results do not reflect the deduction of management/advisory fees, but may be net of other expenses; management/advisory fees and other expenses will reduce a client's return. For example, assuming an annual gross return of 8% and an annual management/advisory fee of 0.25%, the net annualized total return of the portfolio would be 7.74% over a 5-year period. All periods one year or longer are annualized.

RA = Representative Account; CTF = Common Trust Fund/Collective Investment Fund; CF = Cayman Fund; AUT = Australian Unit Trust.

1 SUPPLEMENTAL INFORMATION Representative accounts were chosen because they have the longest track records in their composites. They are shown as supplemental information to the BlackRock Systematic Active MSCI World Enhanced Composite disclosure slides,, the BlackRock Systematic Active Russell 1000 Enhanced Composite disclosure slides, the BlackRock Systematic Active MSCI ACWI Enhanced Composite disclosure slides, the BlackRock Systematic Active MSCI ACWI Composite disclosure slides, the BlackRock Systematic Active MSCI ACWI ex US Enhanced Composite disclosure slides, the Systematic Active Europe Large Cap Core MSCI Europe Net Composite disclosure slides, and the BlackRock Systematic Active Japan Equity Alpha Tilts Strategy Composite disclosure slides which are located at the end of this presentation.

2 Alpha refers to performance of a portfolio relative to its respective benchmark. Total return is defined as the rate of the return that includes the realized and unrealized gains and losses plus income for the measurement period. Collective Fund and Representative Account total returns are shown net of the highest applicable model fee. Collective Fund total net returns are calculated with the assumption that a $250 million investment was made at the inception of the fund. Cayman Fund performance is unaudited, and net of all fees and expenses, including management and incentive fees, for a representative investment since inception of the Fund, which is subject to an (annualized) management fee and an incentive fee as more fully described in the Fund's Confidential Memorandum. The fee schedule is listed as () by the name of the Fund.

3 Certain strategies include bank collective investment funds maintained and managed by BlackRock Institutional Trust Company, N.A. which are available only to certain qualified employee benefit plans and governmental plans and not offered or available to the general public. Accordingly, prospectuses are not required and prices are not available in local publications.

4 Australian funds are available to foreign and domestic investors, subject to normal regulatory restrictions; advice should be sought around tax and currency considerations as all redemptions are made in AUD.

5 Cayman Funds are only available to Qualified Investors.

† On 1/1/2022 the Fund began to track the 1 Month SOFR Compounded in Arrears. Historical index data prior to 1/1/2022 is for the 1 Month USD LIBOR Rate. Index data on and after 1/1/2022 is for the 1 Month SOFR Compounded in Arrears.

2. Investment Process

SAE Platform Objectives

Within SAE, our mission is to deliver consistent returns and differentiated alpha

- We have a research-driven investment culture which constantly innovates in seeking to generate alpha
- Our passion is combining insight and technology in seeking to deliver differentiated investment returns across the broadest possible opportunity set
- We systematically implement these insights into portfolios in a risk-managed and cost-controlled manner with the goal of delivering consistent returns over time

SAE Platform Goals

Consistent returns

Systematic process

- Risk managed
- Cost controlled
- Only compensated risks

Differentiated alpha

Differentiation is additive

- Differentiated capabilities
- Differentiated data sources

Clients need Alpha, not just Exposure

BlackRock as of 30 September 2024. There is no guarantee performance goals or a positive investment outcome will be achieved. Risk management and due diligence processes seek to mitigate, but cannot eliminate, risk nor do they imply low risk.

SAE Investment Process

Our investment process targets systematic exploitation of market inefficiencies, taking a disciplined approach to generating returns while managing risk and cost.

Trading cost

- Factor in trading costs before trading
- Use full range of trading strategies in seeking to minimize trading costs

Risk

- Fully invested at all times
- Many small bets, rather than concentrated positions
- Modest industry/sector deviations

Return

- Evaluate stocks in terms of their expected “alpha” or excess return
- A proven, research-driven process in seeking to identify drivers of active returns

Source: BlackRock. Risk management and due diligence processes seek to mitigate, but cannot eliminate, risk nor do they imply low risk. There is no guarantee that performance goals or a positive investment outcome will be achieved. Investment process provided for illustrative purposes only and is subject to change.

The world is changing with big data

We aim to harness an information advantage in an increasingly digital world

- Advances in machine learning and artificial intelligence now allow realistic simulations in high dimensional spaces
- We now have the ability to measure thousands of relevant attributes in real-time: consumer behaviors, product developments, company trends, regional features, macroeconomic indicators, etc.
- New opportunities for forecasting and constructing portfolios are emerging at a rapid pace

For illustrative purposes only. Not intended to be investment advice or a recommendation to take any particular investment action.

What type of stocks does SAE invest in?

Stocks underpinned by attractive fundamentals

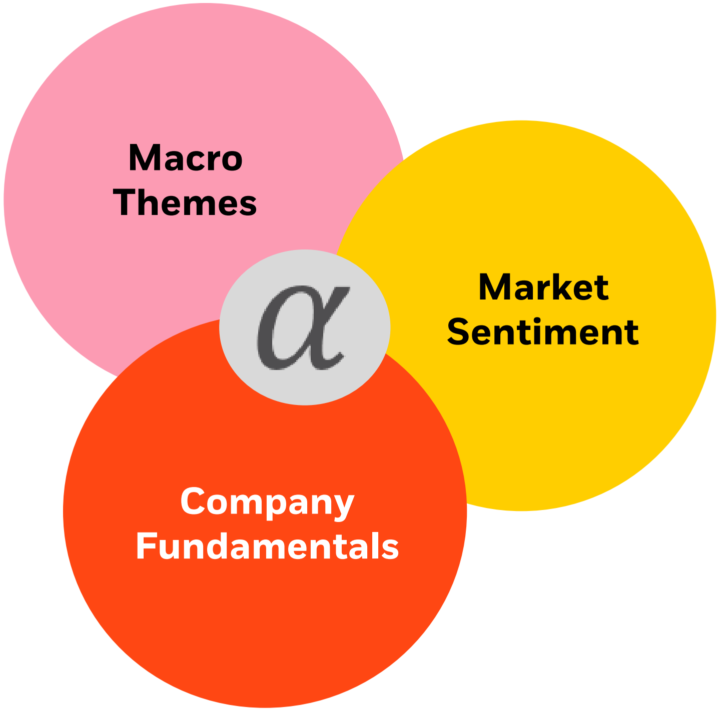
- Improving & persistent profits
- Rising earnings expectations
- Attractive valuations

Stocks supported by positive sentiment and market activity

- Views of market participants such as analysts
- Positioning of other investors and expectations of future flows
- Trading opportunities arising from short term liquidity effects
- Relationships between stocks and other asset classes

Stocks with positive exposure to macro themes

- Domestic economic conditions
- Exporters exposed to the external macro backdrop
- Industries, countries & styles



SAE has 35+ years of experience in understanding the drivers of equity returns*

Source: BlackRock as of 30 September 2024.
*Including time within Barclays Global Investors and Wells Fargo Nikko Investment Advisors

New tools to help answer age-old questions

To inform and blend our view of the changing market landscape, SAE harnesses technology in seeking to:

- Help answer fundamental questions: Is the stock attractively priced? Will the company have high quality earnings?
- Analyze unstructured data: Which stocks have strong fundamentals, offer positive sentiment, and are exposed to attractive macro themes?

COMPANY FUNDAMENTALS

Social media reviews

Use software to read online commentary to gain insights on customer and employee attitudes

MARKET SENTIMENT

Conference calls + news articles

Scan thousands of transcripts and articles to extract real-time insights and assign aggregate sentiment scores

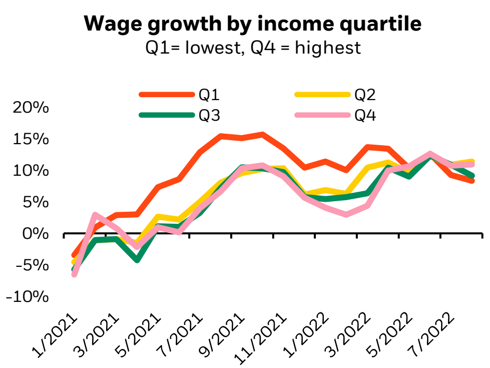
"We are increasing R&D into our hardware focus on electric vehicles, with a specific goal of increasing battery charging capacity by 20%."
- Quarterly Earnings Call for Company A

"Company B signs multi-year partnership to supply semiconductors to leading electric vehicle manufacturers."
- Financial News Provider

MACRO THEMES

Online job postings

Use online job postings to track the current pace of wage growth and strength of the labor market



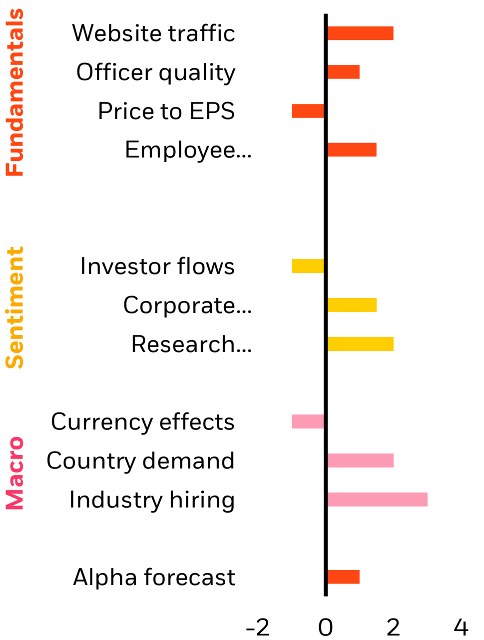
Source: BlackRock as of 30 September 2024. For illustrative purposes only, not meant to depict actual data.

Portfolio Construction

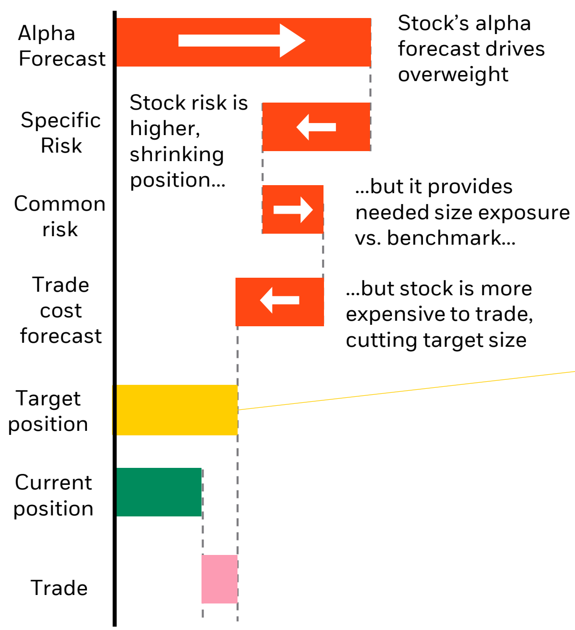
SAE evaluates and ranks +15,000 stocks across 44 countries, on a daily basis

- Portfolio managers combine alpha forecasts with cost and risk estimates to target an optimal portfolio
- An optimal portfolio is diversified, risk-managed, and targets a high Information Ratio (alpha per unit of active risk)
- Portfolio managers monitor markets, signals and stocks for risks outside the scope of our models

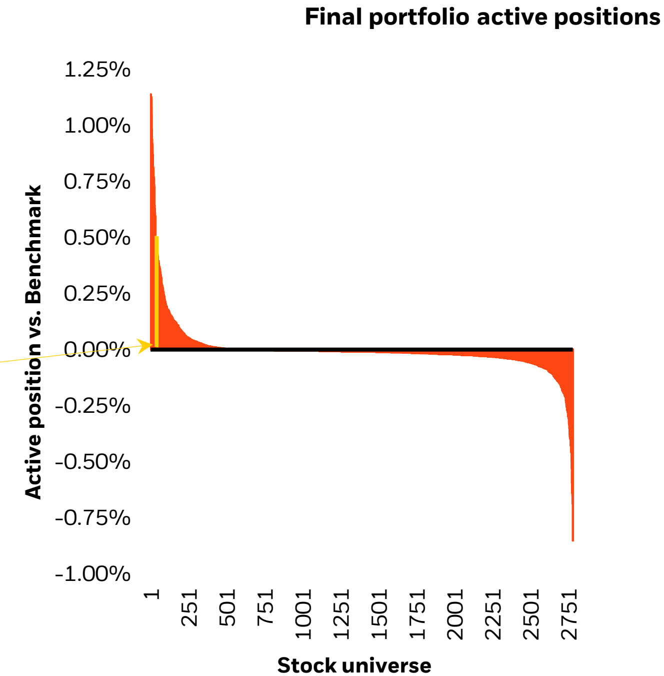
Example: Rating a compelling technology stock



Process transforms an alpha forecast into a target position



Systematic scoring occurs at the same time across all stocks, seeking optimal portfolios



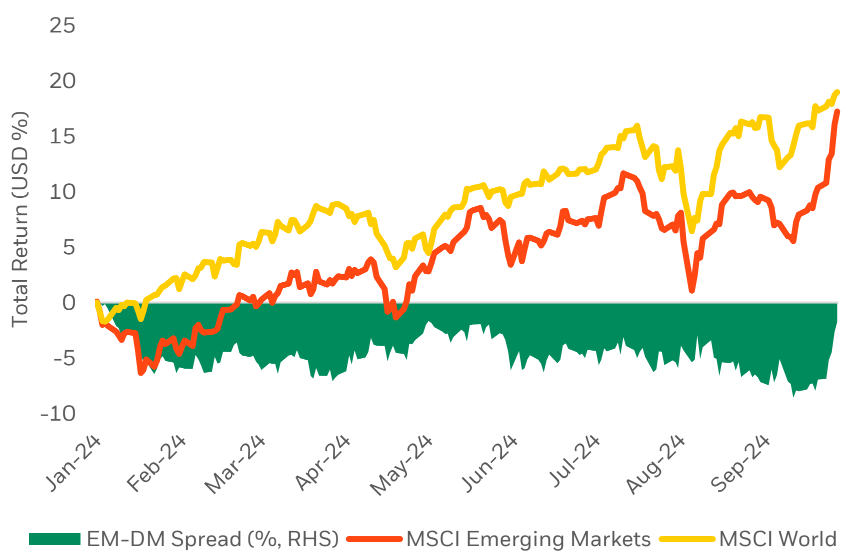
BlackRock as of 30 September 2024.
Note: Example investment model contains 10 signals due to formatting considerations. SAE investment models generally rate stocks across 20-80 investment signals.
The above sample analysis illustrates the investment process through the inclusion of a illustrative example and is subject to change.

3. Emerging Markets Alpha Tilts

Market Environment

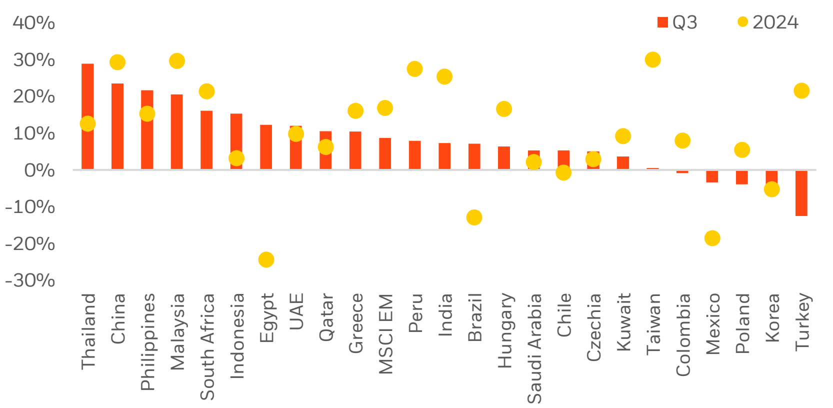
Emerging Markets Performance Summary: Q3 2024

Total Return in 2024 (%, Net USD)

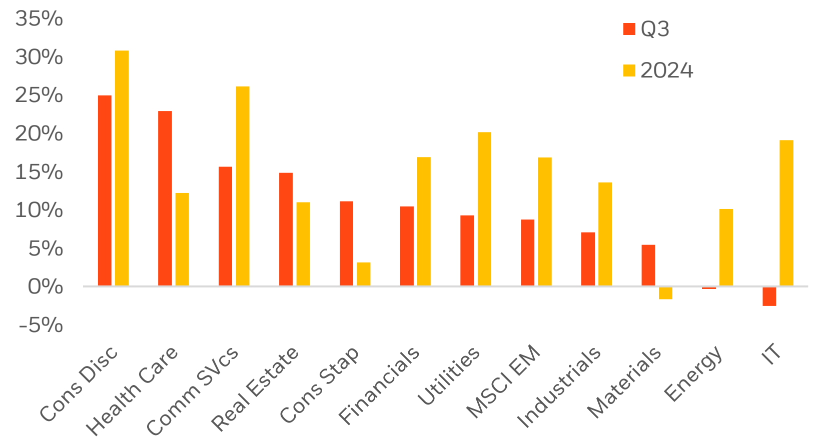


- Emerging Markets (EM) equities outperformed Developed Markets (DM) equities notably in Q3, nearly closing the gap on relative performance YTD. Over the quarter, EM experienced varied monetary policy actions; while some central banks maintained a cautious stance due to inflation concerns, others began easing policies in response to slowing economic growth.
- The Federal Reserve's rate cut in September provided some relief, leading to a more favorable environment for EM equities. However, geopolitical tensions and trade uncertainties continued to weigh on market confidence.
- The sharper turnaround in EM equities at the end of the quarter was driven by the announcement of Chinese stimulus, which included monetary easing measures (interest rate cuts and increased liquidity support) aimed at stabilizing the economy and supporting the property market. Speculation about further measures – including fiscal policy expansion – fueled the rally, though has led to some disappointment during early Q4.

MSCI EM Country Total Return: Q3 vs. 2024



MSCI EM Sector Total Return: Q3 vs. 2024

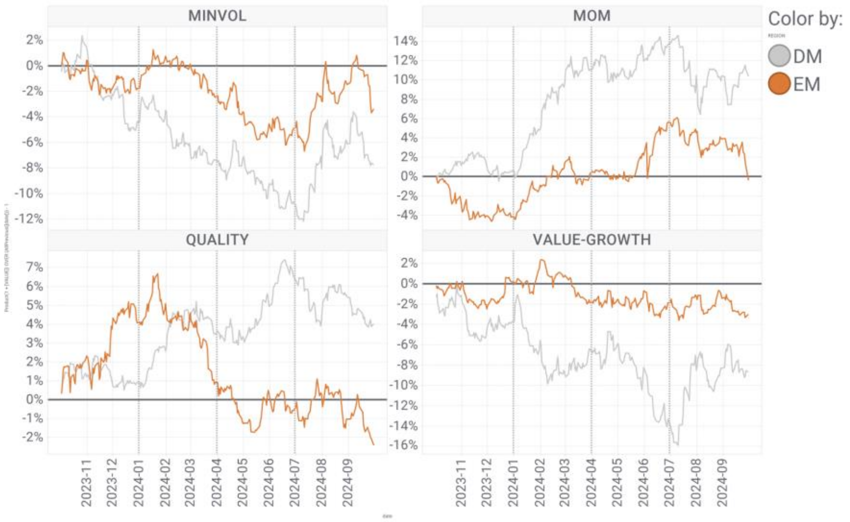


Source: BlackRock, MSCI, Bloomberg, Refinitiv as of 30 September 2024, return net dividends USD

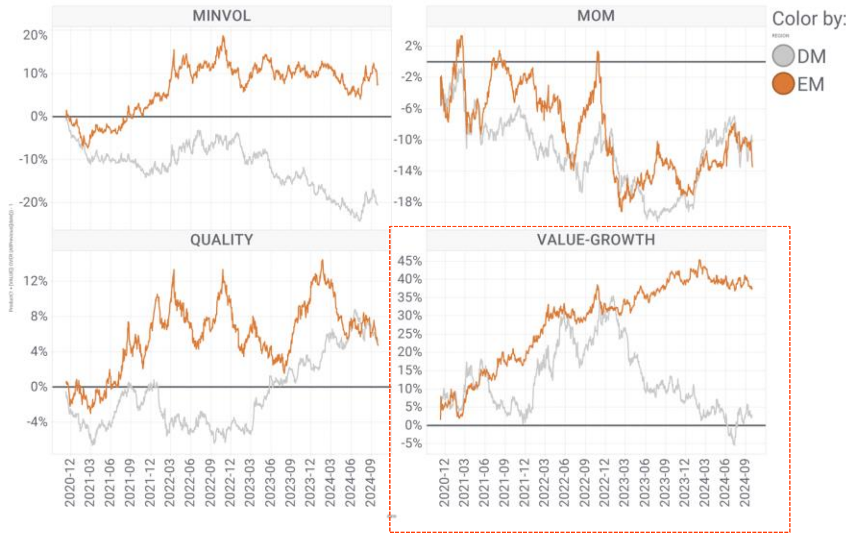
MSCI style performance: EM vs. DM comparison

- Q3 2024 was marked by generally flat-to-negative outcomes across MSCI EM style indices vs. the benchmark index.
- Over the past 12-months, quality and momentum have been notable laggards in EM vs. DM while the value-growth spread has been relatively flat (versus growth out-performing in DM).
- Since the announcement of the initial Pfizer COVID-19 vaccine on November 9th, 2020 there has been a very large gap between the value-growth spread in EM vs. DM.
- In EMs, this reversed the multi-year period of value underperformance in both EM + DM while value resumed under-performance in DMs post a brief recovery in 2022.
- Combined with a similarly sharp difference between SIZE factor performance in EM vs. DM (not pictured) – e.g. small out-performing large in EM vs. the opposite in DM – these have been strong relative tailwinds for "generic" EM quant processes.

Trailing 12-month style returns (vs. cap-weighted index) …



… post Pfizer vaccine news period (Nov 9th, 2020)



Source: BlackRock, MSCI, Refinitiv, as of 30 September 2024

Market environment: major market *relative* returns

Cumulative *demeaned* country "basket" returns (trailing 1YR)

Charts above depict the cumulative daily *relative* performance of major EM markets vs. the equal-weighted average; return is to a basket of firms domiciled in each country in our SAE EM investable universe. Some notable dynamics during the year:

- LatAm markets reversed 2023 out-performance on stubborn inflation + commodity sector weakness.
- After years underperformance, Chinese markets sharply rebounded at the end of the period on enthusiasm re: policy support.
- Poland outperformed on continued economic recovery post the onset of the Ukraine conflict; post election sentiment in South Africa has improved.

Source: BlackRock, MSCI, as of 30 September 2024, return net dividends USD. CHN = onshore China market; CHX = offshore China market. Country basket returns based on BARRA GEM3 country of risk, SAE's EM large cap investable universe, aggregated using square root of equity market capitalization.

Market environment: industries

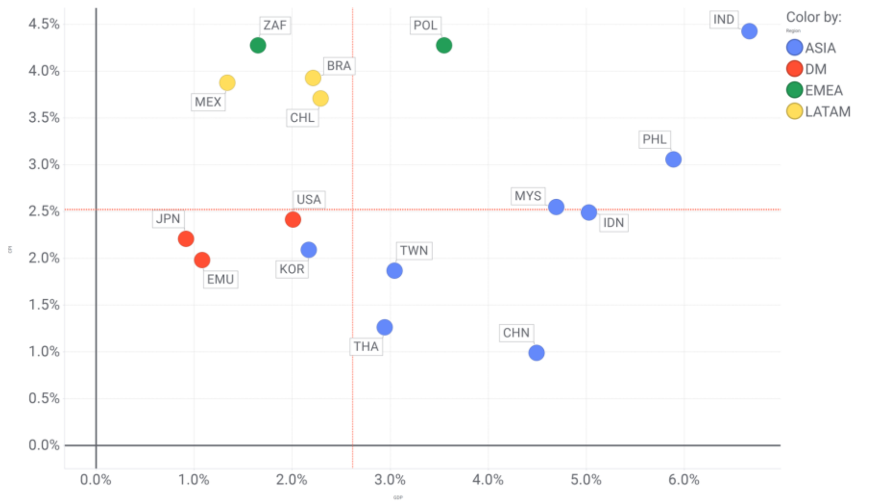
MSCI EM vs. World (DM) GICS Industry Group 1YR Returns

- Across the 24 GICS industry groups, the EM group out-performed its DM peer in only 5 over the past year.
- Expectations of policy stimulus in China caused a sharp rebound – and narrowing in the EM vs. DM gap – in many industries; the largest relative magnitude of these moves have been in consumer-facing industries, consistent with expectations of policy aiming to stimulate consumption and stabilize consumer sentiment re: the property market.

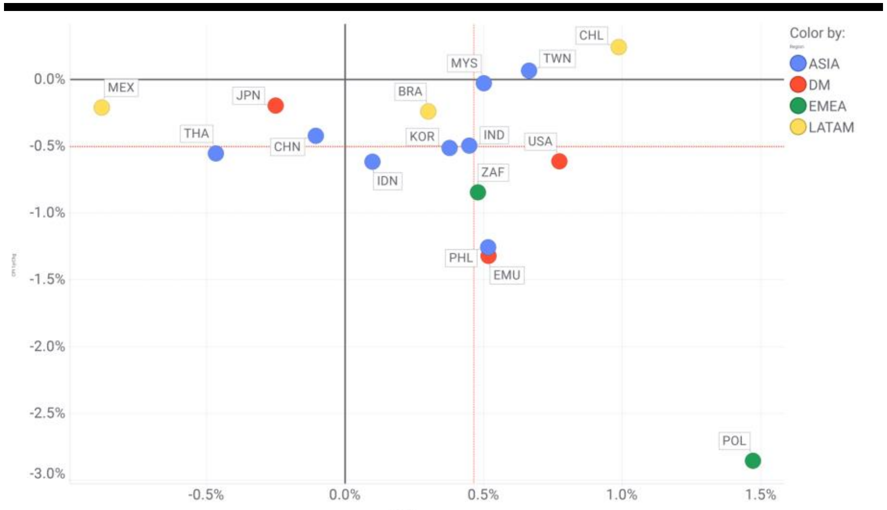
Source: BlackRock, MSCI, as of 30 September 2024, return net dividends USD

Growth, inflation, and monetary policy

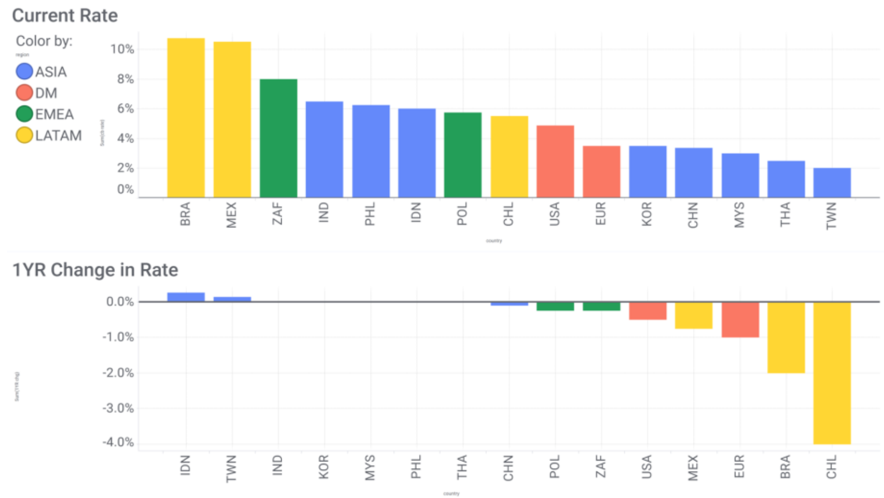
Consensus 12m forward GDP (x) vs. CPI (y)



1YR *change* *in* consensus 12m forward GDP (x) vs. CPI (y)



Key Central Bank Policy Rates



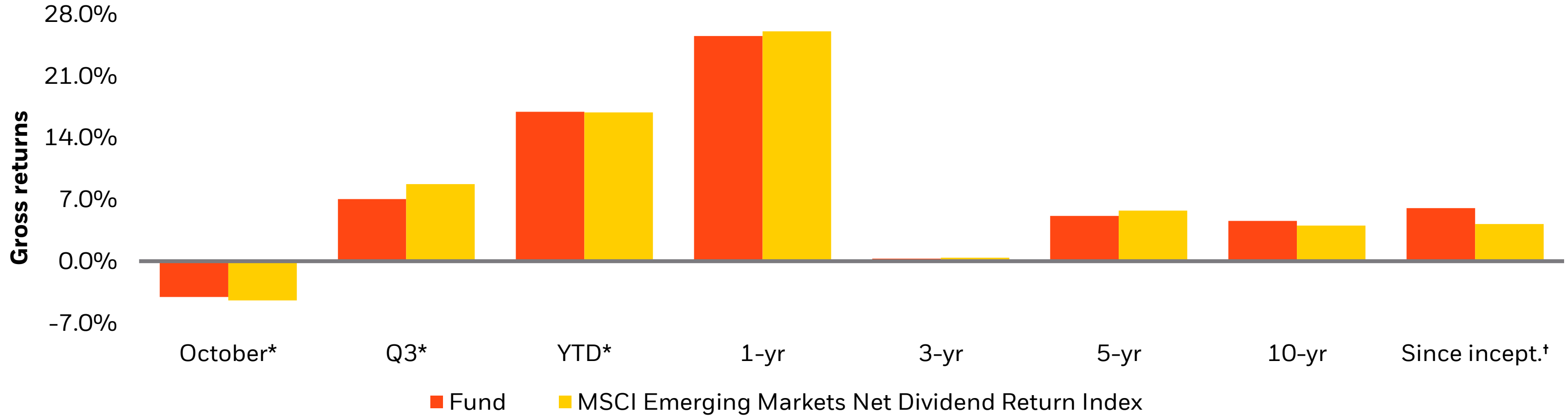
- The Fed and ECB have kicked off their easing cycles; easing efforts have stalled across most EMs and rates remain high in LatAm, EMEA, and higher growth parts of Asia.
- Inflation remains generally subdued across Asia (India the main exception); GDP growth expectations also relatively strong, though weakening in China and Thailand.
- Policy remains relatively accommodative across Asia given comparatively benign inflationary pressure, though notable dispersion (clearly correlated with inflation expectations).
- Weakness in Mexico growth dynamics + still-tight monetary policy helps to explain some of that market's under-performance YTD.

Source: BlackRock, Consensus Economics, BIS, as of 21 October 2024

Performance & Attribution

Emerging Markets Alpha Tilts Fund Performance

Gross total return in USD (annualized* %)



	Oct*	Q3*	YTD*	1-yr	3-yr	5-yr	10-yr	Since incept.†
Fund returns	-4.07%	7.03%	16.94%	25.50%	0.28%	5.15%	4.55%	6.02%
Benchmark returns	-4.45%	8.72%	16.86%	26.05%	0.40%	5.75%	4.02%	4.21%
Alpha	0.38%	-1.69%	0.08%	-0.55%	-0.12%	-0.60%	0.53%	1.81%
Active risk**				2.64%	2.46%	2.63%	2.27%	2.37%
Information ratio (IR)				-0.21	-0.05	-0.23	0.23	0.76

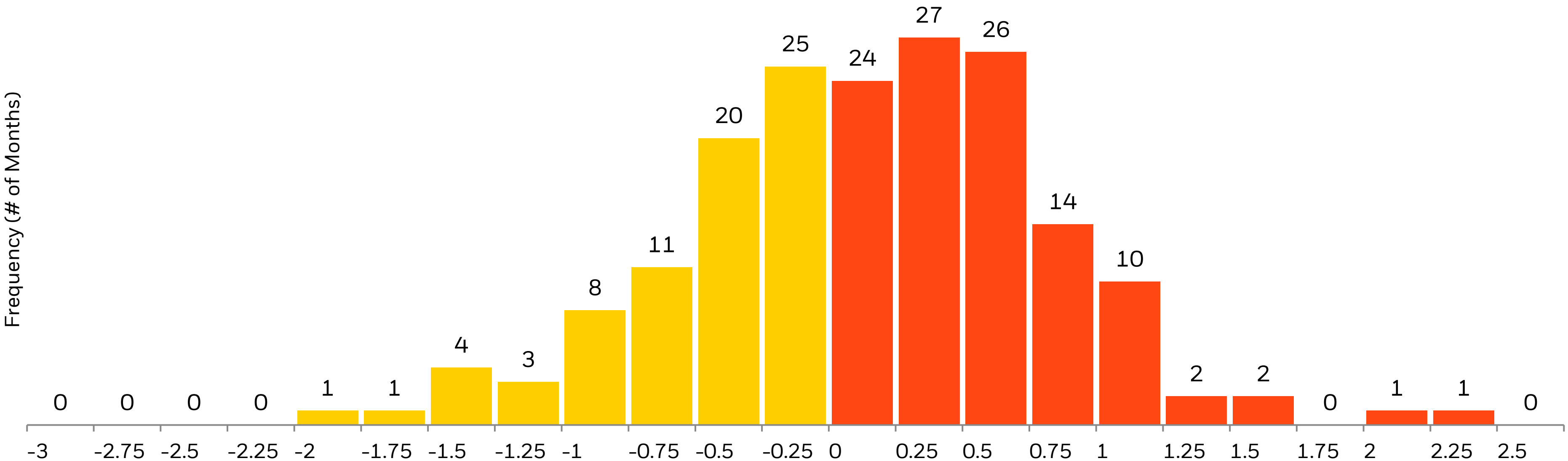
* Period returns for less than a year are cumulative
** Active risk is based on trailing monthly observations
† Fund inception date 05 October 2009
This information is unaudited, subject to change and intended for analytical purposes only. The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Indexes are unmanaged. It is not possible to invest directly in an index.
Sources: BlackRock, MSCI Inc.

As of 30 September 2024

Emerging Markets Alpha Tilts Fund Performance Distribution

Consistent outperformance is our primary focus

Monthly performance (gross of fees) vs. benchmark* since inception†



Since fund inception†	Percent
Average monthly excess return (gross of fees)	**+0.15%**
% of outperforming months (gross of fees)	**59%**

Source: BlackRock, MSCI Inc.

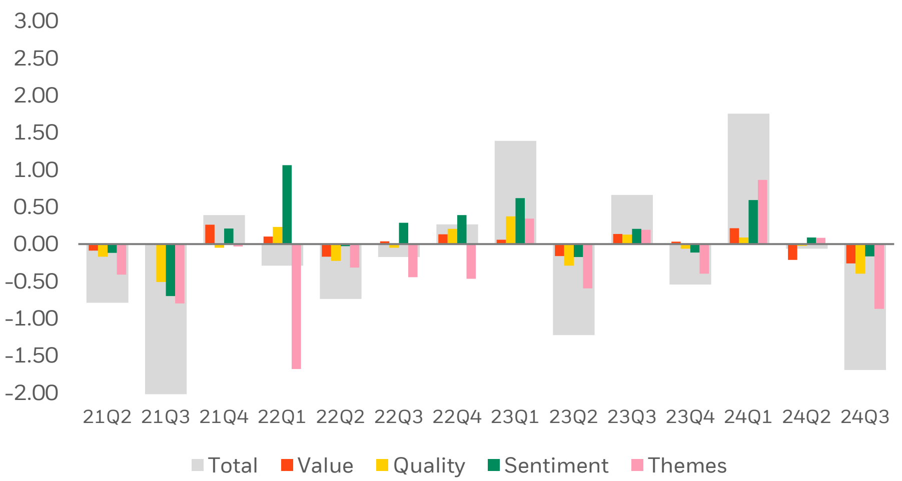
The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Index returns are for illustrative purposes only. It is not possible to invest directly in an index.

* Fund Benchmark: MSCI Emerging Markets Total Return (net) Index

† Fund inception date 05 October 2009

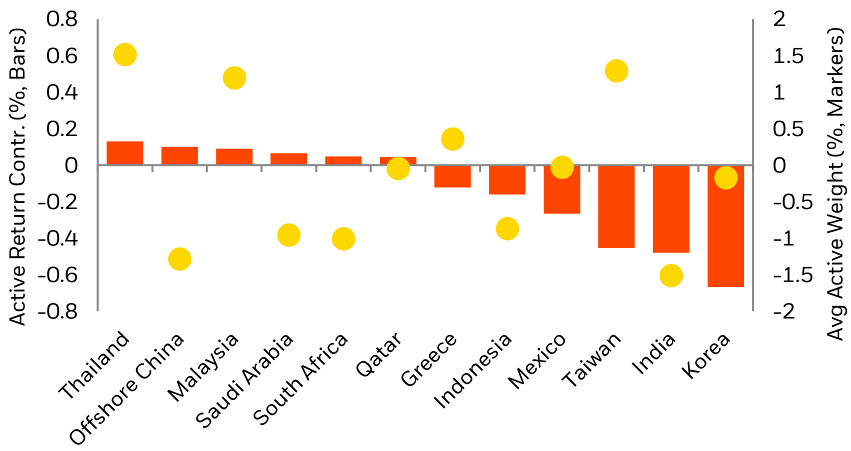
Emerging Markets Alpha Tilts Fund Performance Attribution

Attribution (%) by insights over time

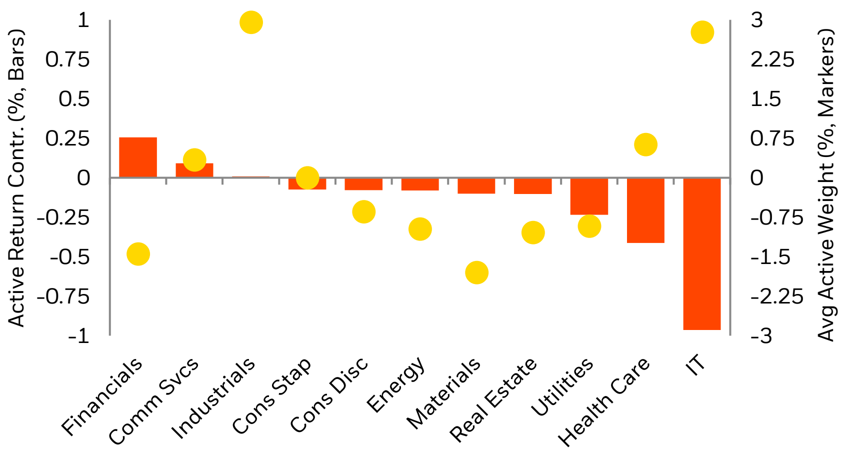


- All insights detracted this Quarter as market volatility increased and YTD trends reversed. Losses in Q3 were led by **Macro-Thematic** insights, driven by weakness in our Industry and Country timing models. The former underperformed as momentum and growth trades YTD stalled driven by growth concerns, rising geopolitical influence in markets, and shifting Central Bank policies.
- **Country-and-sector-specific Quality** signals such as those that track mobile app usage or China domestic leaders struggled, while traditional **Value** measures and long-term reversal signals worked well.
- Despite negative returns, **Sentiment** held up relatively better helped by our machine-learned signal combination models and **trending Sentiments** such as analyst revisions and ML-based broker and conference call measures, which correctly identified the shift in market environment.

Q3 '24 Top/Bottom Country Attribution vs. Avg Positioning



Q3 '24 GICS Sector Attribution vs. Avg Positioning

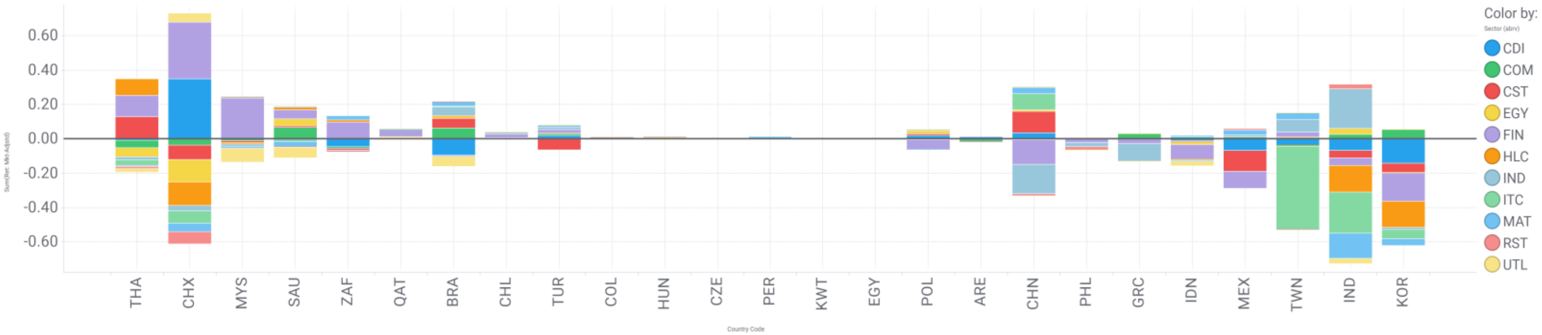


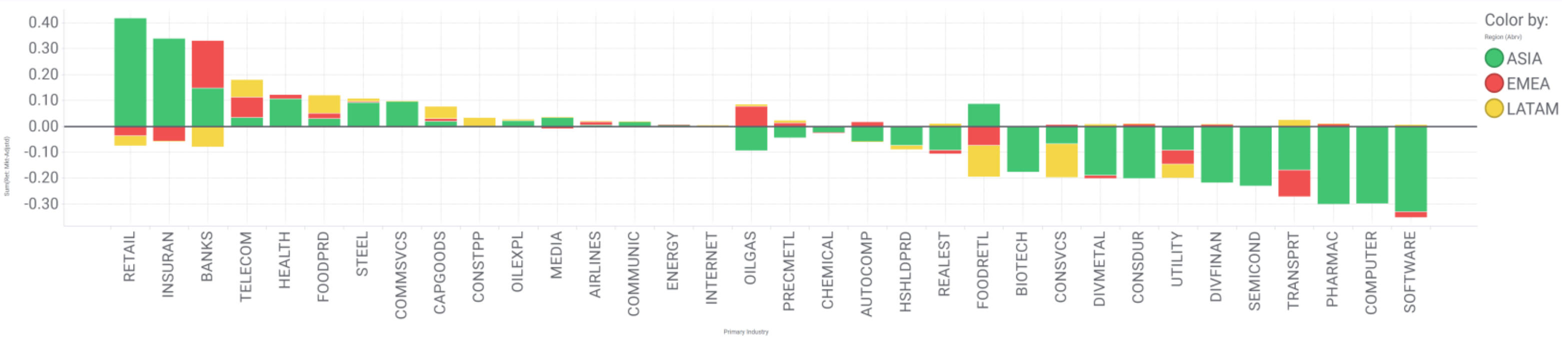
Source: LOEMA, BlackRock Holdings Based Attribution (estimated and excludes the impact of transactions costs). CHX=offshore China; CHN=onshore China.

Emerging Markets Alpha Tilts Fund
Evaluating our insights – Attribution

As of 30 September 2024

Q3 Attribution by Country-Sector & Industry-Region





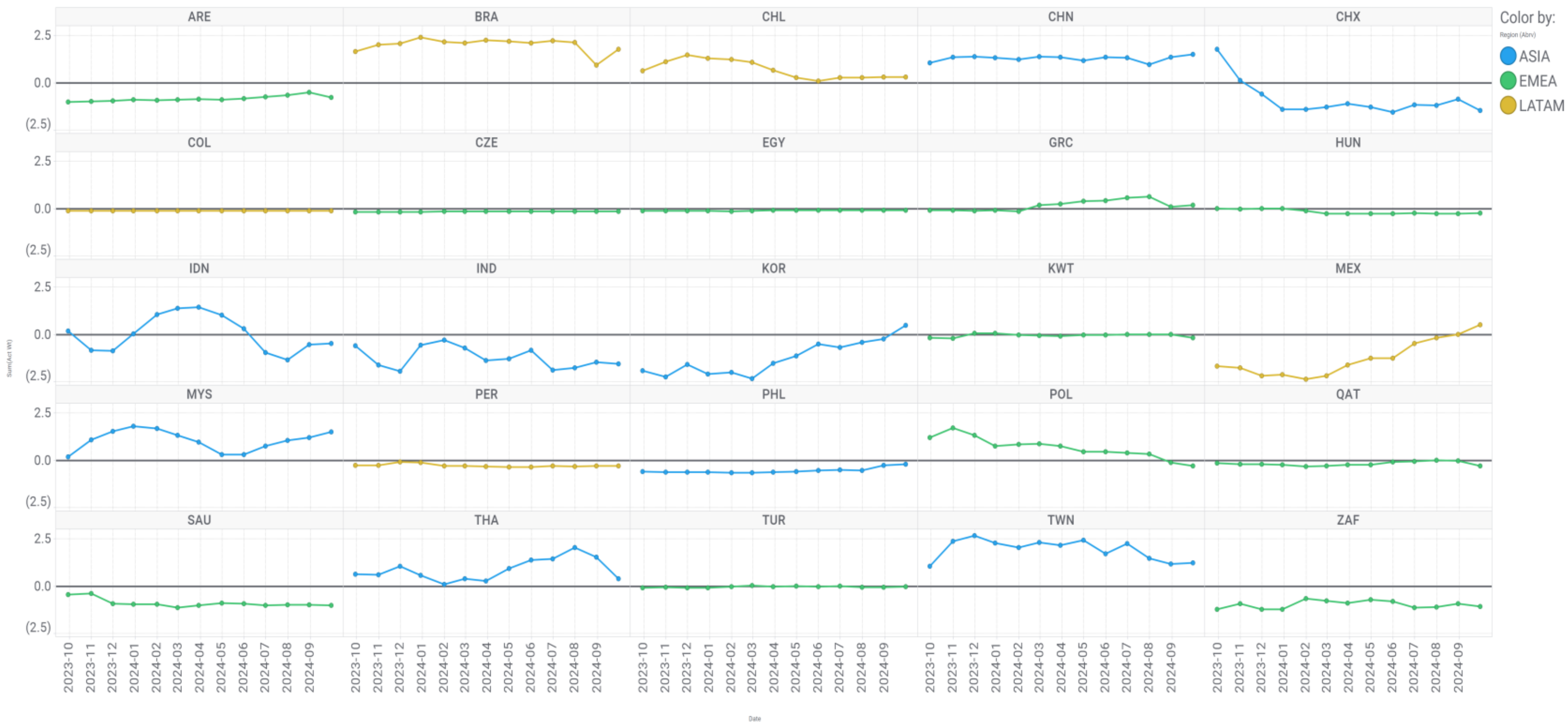
- Overweight in Thailand benefited from allocation to Food Retail, Banks, and Health Care industries, driven by Thematic insights that correctly identified positive investor sentiment after the appointment of new Prime Minister and accelerated budget disbursements.
- **Offshore China** contributions were driven by August performance, where our signals correctly identified positive shift in consumer confidence for the market.
- Weakness in **Korea** was driven by positioning within Auto Components and Pharmaceutical stocks. Specifically, our machine-learned signal combination models struggled driven by weakness in our Value and trending Sentiment signals while Thematic signals provided some relief.
- **Indian** equity market continued to grind higher in September, extending the positive momentum since May and negatively impacted our underweight positioning.

Source: EMAT-AGG, BlackRock Holdings Based Attribution (excludes the impact of transactions costs).

Country & Industry Positioning

As of 30 September 2024

Active Country Exposures: Trailing 12-Months



Highest conviction views in country model are best expressed as spreads between relatively highly correlated country "pairs." The most notable spreads remain consistent with Q423:

- O/W Brazil vs. U/W Mexico
- O/W Taiwan vs. U/W Korea
- O/W onshore China vs. U/W offshore China

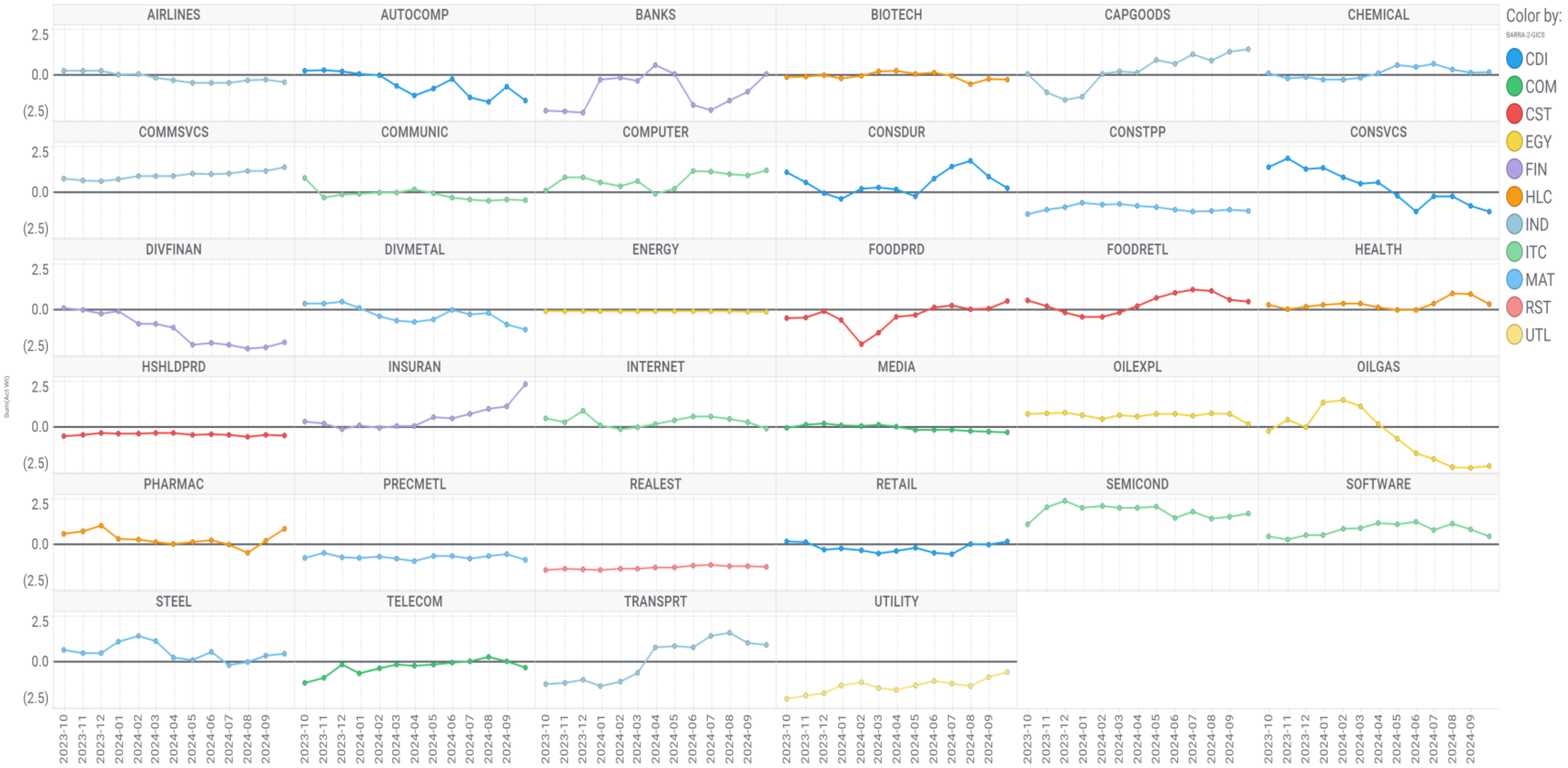
We have taken in underweight legs of the first two pair trades over the last few months driven by improving fundamentals and broadening out of alpha opportunities.

Source: EMAT-AGG, BlackRock Holdings Based Attribution (estimated and excludes the impact of transactions costs). CHX=offshore China; CHN=onshore China.

Country & Industry Positioning

As of 30 September 2024

Active BARRA GEM3 Industry Exposures: Trailing 12-Months



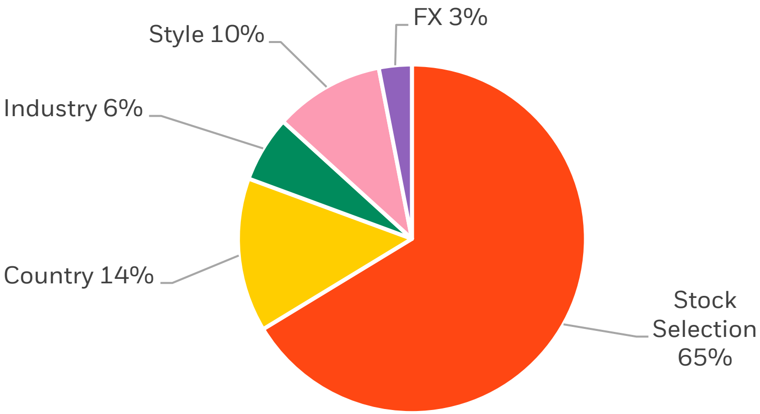
Remain O/W traditionally growthier sectors – e.g. tech (ITC) – versus more interest rate sensitive groups – e.g. real estate (RST) and utilities (UTL)

- This is not as momentum-y an exposure as it sounds as GROWTH (per both MSCI and GEM3 definitions) underperformed in EM during 2023
- During the rotation in December and in Q1 of 2024 – two notably different environments re: changes in US rate expectations – EM Real Estate stocks lagged the broader market (though Utilities out-performed)
- Hence the sector-level positioning combines aspects of this trade that we expect to revert (Utilities) and others where we expect continuation of last year's trend (Tech and Real Estate)

Source: EMAT-AGG, BlackRock Holdings Based Attribution (estimated and excludes the impact of transactions costs).

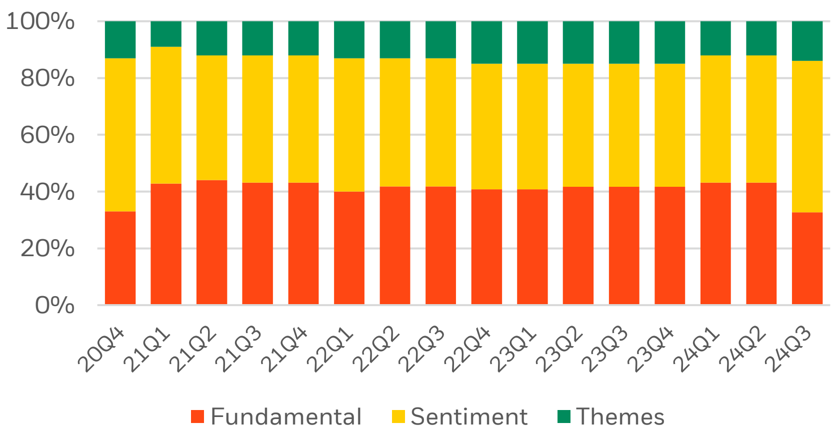
Emerging Market Alpha Tilts Fund Risk Profile & Model Management

Active Risk Decomposition

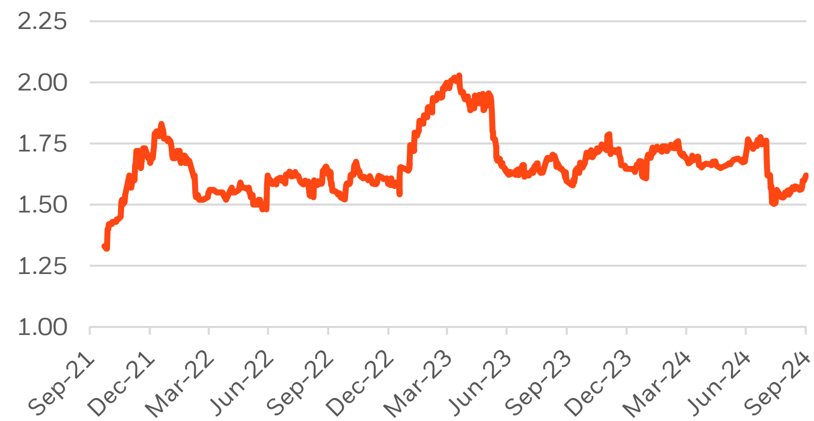


- Risk characteristics are very consistent with strategic norms: total ex-ante near 150bps and the deployment of that risk budget concentrated in idiosyncratic security selection.
- In Q3 we reduced ex-ante tracking error in response to adverse market conditions.
- RQA macro stress test exposures to aggregate market shocks remained broadly neutral.
- During Q3 we increased weight on the composite of ML signal combination models within the sentiment category as the expense of some low breadth fundamental insights.

EM Alpha Model Input Risk Budget



Ex-Ante Tracking Error (%)

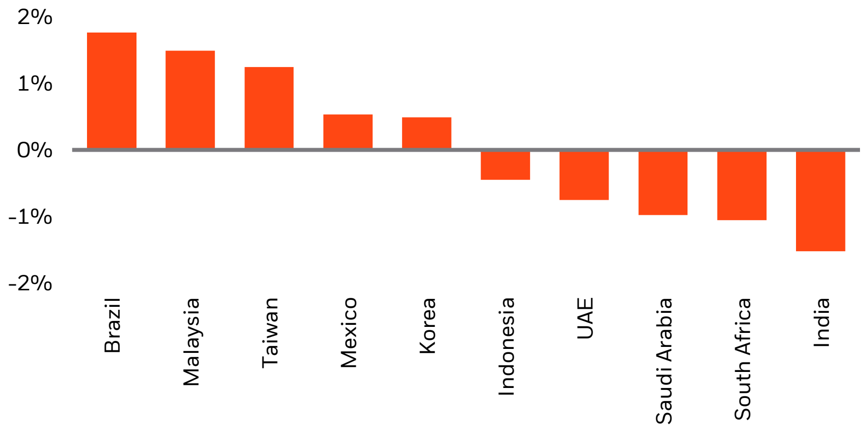


Emerging Markets Alpha Tilts Fund Characteristics

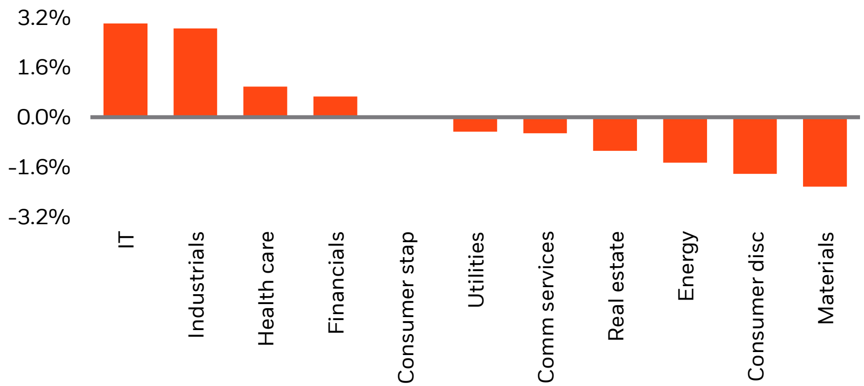
Fund information

	Emerging Markets Alpha Tilts Fund	MSCI Emerging Markets Net Dividend Return Index
Diversification		
Number of securities	238	1,277
% In benchmark by total market cap	78%	
Style match		
Price/earnings ratio (excl. neg. earnings)	14.0	15.6
EPS growth — 5 years	12.1	13.4
Price/book ratio	1.8	1.9
Dividend Yield	3.0	2.5
Market exposure		
Weighted average capitalization (B)	$155.13	$150.21
Expected beta	1.00	
Strategy details		
Annual turnover rate	150-180%	
Active risk	Target 3%	

Largest country active exposures



Sector active exposures



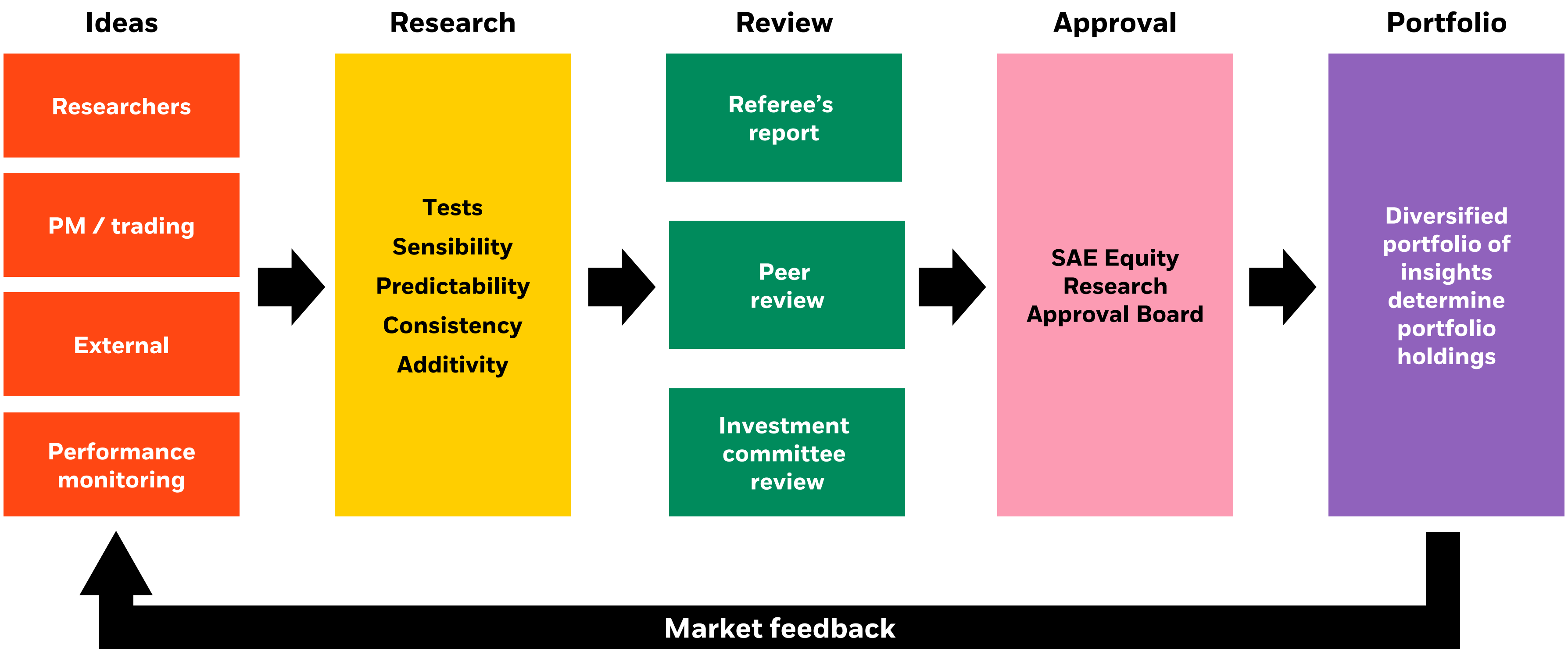
Fund inception 05 October 2009
Data is used for analytical purposes only. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF, and statistically immaterial factors.
Sources: BlackRock, MSCI Inc.

4. Research Update

SAE Research Process

Return sources can decay as markets progress. We emphasize constant innovation in our research process.

- SAE researcher and PM signal ideas seek to capture new alpha sources that have sound economic rationale
- Each new signal must seek to be Sensible, Predictive, Consistent, and Additive (SPCA)
- We validate each idea empirically. We subject each new signal to peer review and senior vetting prior to inclusion. Research and PM teams work together to monitor the market for signal degradation and new opportunity



BlackRock, as of 30 September 2024. Research process subject to change.

SAE Research Agenda 2024

Key Themes

- Leverage our skills and experience in **GenAI** to further its deployment throughout SAE, including stock selection, macro, and privates. Systematize its use as possible.

- Continue our efforts developing new signals from a wide variety of **alternative datasets** across regions and strategies. Expand the use of FIT to prioritize new data acquisition. Research new B-to-B datasets.

- Continue the expansion of SAE into **private equity** and **real estate**.

- **Evolve our research development and approval processes** to fully reflect our operations that now involve many thousands of potential datasets, thousands of signals, and many learners. The key metric for new signals should be able to improve aggregate alpha. Apply GenAI as appropriate to improve efficiency of the research approval process.

GenAI

Alpha

- Systematize use starting with Tactical Robot and Scenario-driven recs
- Apply transformers to time-series analysis.
- Tabular data
- Customized LLMs
- LLM views from public versus proprietary data
- Modeling moats

Efficiency

- Automate/improve parts of research approval process as appropriate.

Feature Generation

Alternative Data

Macro / Market-Aware

- Machine learning for macro
- Fast macro insights
- Long-dated economic similarity

Security Selection

- Fundamental targets, KPIs
- Worker safety inspections and violations

New Public Equity Markets

- India, Saudi/GCC, Mexico

Beyond Public Equities

- Private Equity
- Public and Private Credit

Systems & Data

Augmented investment management

- AIM for privates, macro
- Augmented Credit trading
- Produce holdings directly in AIM
- Learning to rank

Fast Insights Testing (FIT)

- Prioritize new data acquisition

Oxygen and Hydrogen

- Enhanced data publication
- Fixed income, privates
- Enhanced simulation engine for NN training

Implementation/ Execution

Trading Innovation

- Crystal Pool
- ML for trade timing
- Liquidity provision targeted at events, large flows
- Expand efforts beyond equities

Portfolio Construction

- Private Equity
- Public and Private Credit
- Volatility as an asset class

Source: BlackRock February 2024. For illustrative purposes only. Subject to change.
Acronyms – GenAI: Generative AI. LLM: Large Language Model. ML: Machine Learning. AIM: Augmented Investment Manager. NN: Neural Network. GCC: Gulf Corporation Council.

Review of EM model enhancements over past 1yr

Large language model (LLM) innovations

- Upgraded our broker research and conference call transcript sentiment measures to versions leveraging the latest LLM technologies
- Signal based on LLM-derived aspects of sentiment from news headlines

Machine learned (ML) signal combination innovations

- Introduced two new components that consume pre-processed stock features from external vendors
- Further diversified set of ML models optimally combining SAE features along forecast horizon dimension, including one new component targeting longer investment horizon using solely balance sheet and income statement features

Increased breadth of signals based on country-specific insights and data

- India: corporate governance measures (mutual fund voting, auditor independence, promoter pledging)
- Korea: unique dataset measuring domestic firm-level employee sentiment
- Brazil: dataset capturing firm-level short borrow activity of local investors via domestic counterparties

Blending of global EM alphas with country/region specific alphas

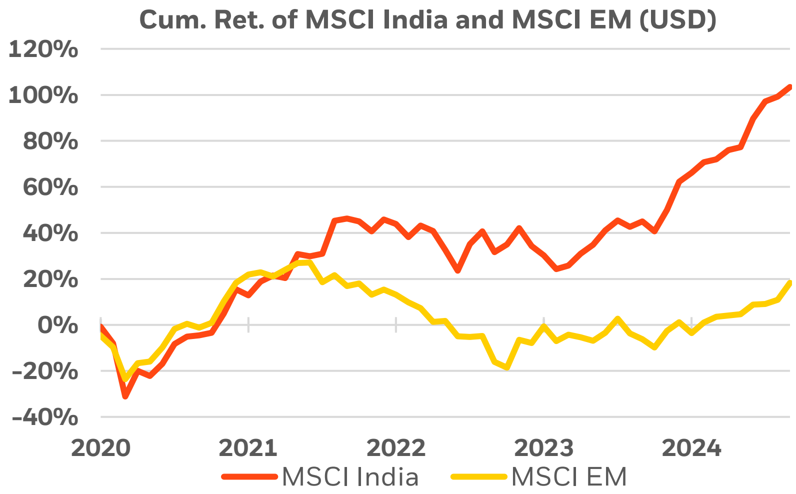
- Beyond onshore China, began blending alpha models customized to India, offshore China, and Pan Asia universes with our global EM alpha model (we find these locally-optimized alpha models are additive to the globally-optimized model)

Country selection model additions

- Industry-implied vs. country return reversion
- Sovereign CDS signal

Tax aware portfolio optimization: India case study

India equity investors have substantial capital gains tax liability



India tax policy is a high hurdle

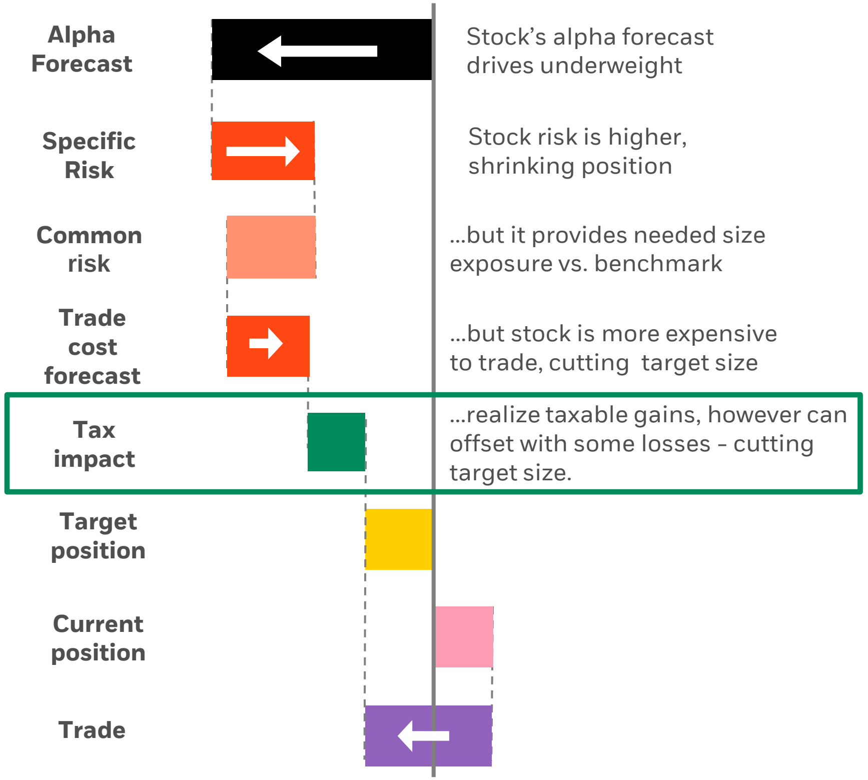
- In July 2024 Tax authorities raised short + long-term CGTs by 5%, effective immediately.

	Old	New
Short Term (< 1yr)	15%	20%
Long Term (> 1 yr)	10%	12.5%

- Limited tax treaties means investors of all types from nearly all domiciles are impacted.

Tax aware optimization maximizes alpha net of taxes

- Tax impact is optimized jointly with alpha and risk.
- Netting of losses and gains is considered allowing higher turnover with lower tax impact.



Source: Bloomberg, BlackRock, as of 30 September 2024.

Large Language Models (LLM) remove the need for local language experts

An innovative approach to tracking evolving sentiment

Analyze: Mexican Stock Example

```
prompt = """
Score the company discussed in the article below on the following aspects:
###
- Sales growth
- Future revenue outlook
- Cost pressure
- Cash flow quality
###
The score should be integers in the range of [-5, +5].
If there is no information in the article about a particular aspect, assign score 0.
Include a specific one-sentence rationale for each score.
Use csv format with | delimiter and columns: ASPECT|SCORE|SHORT RATIONALE
Base scores on information in this article:
###
{article}
"""
article = """
El Grupo Aeroportuario del Pacífico (GAP) reportó una utilidad neta de 2 mil 488 millones de p
un avance del 5.2 por ciento en el segundo trimestre del año, esto en comparación con igual pe
De acuerdo con su reporte enviado a la Bolsa, la empresa se benefició de mayores ingresos dura
los cuales aumentaron 26.5 por ciento durante el periodo, una situación que contrastó con
el aumento de los gastos de operación de la empresa que subieron 42.5 por ciento en el periodo

En tanto, el flujo operativo de GAP se ubicó en 4 mil 576 millones de pesos,
un crecimiento del 12.1 por ciento con respecto al segundo trimestre del año pasado.

Durante el periodo marzo-junio de este año, los aeropuertos que mayor crecimiento registraron
los puertos aéreos que administra GAP están el de Guanajuato y el Mexicali,
que incrementaron en 26.5 por ciento el flujo de pasajeros con respecto al mismo periodo del 2
"""
prompt = prompt.format(article=article)
result = model.generate(prompt)
```

Output

Aspect	Score	Rationale
Sales growth	4	The company reported a 26.5% increase in revenues during the second quarter, indicating strong sales growth.
Future revenue outlook	3	The article does not provide explicit information about the future revenue outlook, but the company's strong sales growth suggests a positive outlook.
Cost pressure	-2	The company's operating expenses increased by 42.5% during the period, indicating significant cost pressure.
Cash flow quality	2	The article mentions a 12.1% growth in the company's operating cash flow, indicating decent cash flow quality.

For illustrative purposes only

Source: BlackRock, as of 30 September 2023. The above chart is being shown to illustrate how the signal works and is not based on actual performance or data..

LLMs for mapping industry-level series

Government statistical agencies, survey providers, etc. often provide data at the industry level

- These can be ‘hard’ fundamental data that are frequently available on a more frequent (e.g. monthly) and timely (versus actual activity reference period) basis versus bottom-up alternatives.
- Also include ‘soft’ data on e.g. the aggregate sentiment of purchasing managers or other corporate ‘insiders’ that is additive to other sources of market sentiment towards industries.
- But mapping these data to tradeable industry baskets has mainly been a manual undertaking based on text descriptions provided by each source (especially outside the U.S.).

Solution: leverage LLMs to match industry descriptions from data providers to company descriptions

- Allows for scalable mapping of industry-level macro series to tradeable industry baskets of firms based on an accurate, ‘bottom-up’ pairing of data to firms.
- First foray has been in Japan (per below) where the volume and quality of industry-level government data is unusually high, but efforts already underway to extend this approach to Taiwan, Korea, Brazil, India, and China.

Example: mapping METI industry-level producer inventory ratio data to Japanese firms + industries

	series_name	rationale
0	PIR: Mfg: CH: Paints & Printing Inks	This series is relevant because it captures the production of paints and coatings, which is a major product of companies like Nippon Paint Holdings Co Ltd and Kansai Paint Co Ltd.
1	PIR: Mfg: CH: Petrochemical Base Products	This series is relevant because it captures the production of petrochemicals, which is a major product of companies like Mitsui Chemicals Inc.
2	PIR: Mfg: CH: Inorganic & Organic Chemicals	This series is relevant because it captures the production of various chemicals, which is a major product of companies like Mitsubishi Chemical Group Corp and Tosoh Corp.
3	PIR: Mfg: CH: Plastic	This series is relevant because it captures the production of plastics, which is a major product of companies like Mitsui Chemicals Inc.
4	PIR: Mfg: CH: Chemical excl. Inorganic, Organic Chemicals & Medicine	This series is relevant because it captures the production of various chemicals excluding inorganic, organic chemicals, and medicine, which is a major product of companies like JSR Corp.

Source: BlackRock, as of 29 March 2024

More LLM-related research in progress

Text-Based Similarity

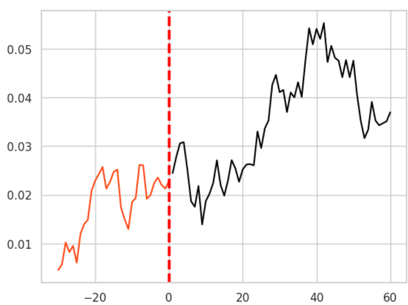
- LLMs allow for more accurate measures of similarity between documents.
- Idea combines our experience with regime similarity modeling and LLM advancements: for document today (e.g. conference call transcript), identify most similar past documents among relevant peer group, and anticipate a repeat of past outcomes in those instances.

Pairwise Country Comps

- Engineer prompt to directly compare two assets; construct pairwise matrix of preferences.
- Useful to emphasize cross-sectional comparisons when assets are highly correlated.
- Initial exploration on fiscal (below) & monetary policy: text especially additive for measuring fiscal; traditional measures of monetary policy a useful benchmark.

Semi Industry Example

Excess returns: 30 most similar text occurrences



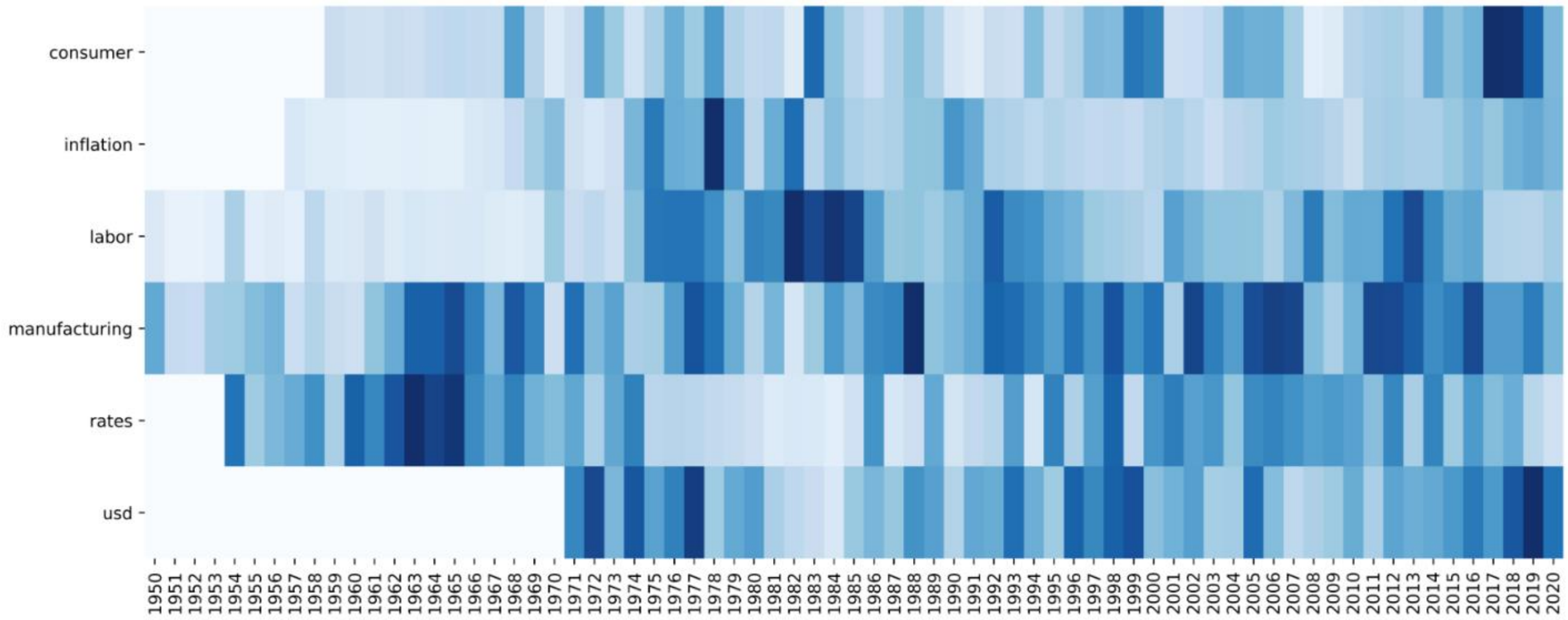
India vs. Brazil: Fiscal Dec-2023

```
fiscal-v1 2023-12-31 00:00:00
{'choice': 'India',
 'reason': "India's fiscal policy shows a significant increase in direct tax "
           'collection, contraction in fiscal deficit, and commitment to '
           'supporting the fiscal needs of states, which could stimulate '
           'economic growth and equity market returns. The increase in '
           'spending on urban ministries could present opportunities in '
           "sectors related to urban development. On the other hand, Brazil's "
           'fiscal outlook is not favorable due to higher rates, increasing '
           'interest expenses, a rigid expenditure structure, and lower '
           "economic growth. The government's fiscal and tax reforms could "
           "potentially impact companies' productivity and the overall market "
           'negatively.'}
```

Source: BlackRock. As of 31 March 2024 For illustrative purposes only.

Economic regimes for industry selection

Q2 2024 U.S. economic regime similarity



- Model measures the similarity of key aspects of today's economic environment to all past periods since 1950.
- Industry-timing model is based on industry returns in the months following the most similar regimes historically.
- Regime similarity and expected industry returns based on U.S. data given the unique ability to extend the sample over ~75 years; views are relevant to Emerging Markets given high cross-border correlation of industry returns.

For illustrative purposes only
Source: BlackRock, as of 31 May 2024.

Country-specific model blending

Summary

- Emerging Market equities as an asset class is arguably becoming more fragmented.

- Style factor and signal performance outcomes have recently exhibited divergence across countries which we believe is likely to continue, motivating the additivity of *single country models*.

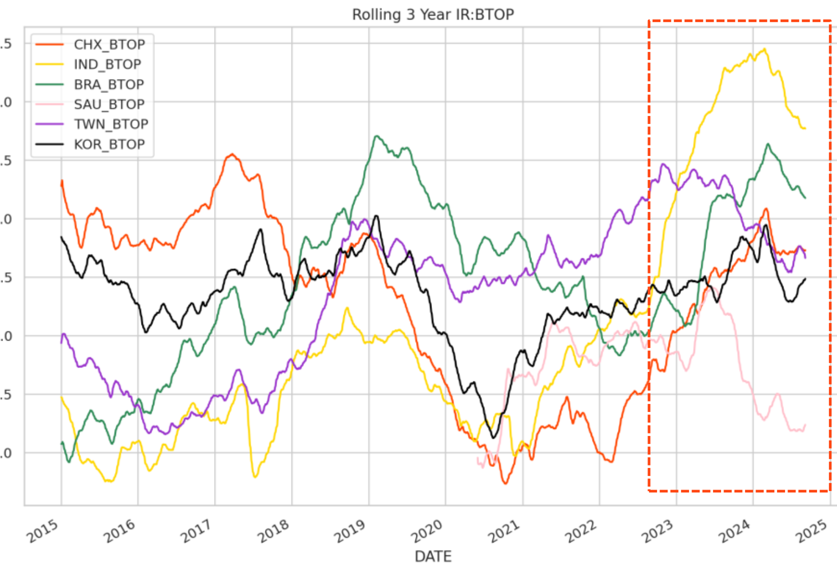
- Single country models appear additive when blended with our global EM model; local models in countries where we deploy significant active capital – e.g. those with higher breadth and liquidity – have the potential to be impactful.

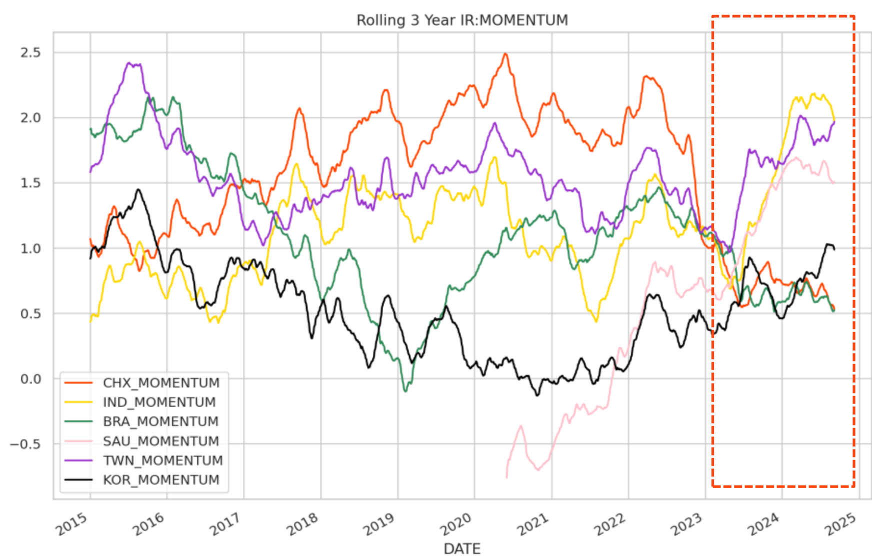
- Single country models are additive via both:
  1. Different optimal combination of signals for global EM universe versus country-specific cases
  2. Different funding portfolios (cross-border funding vs. entirely intra-market) of same signals

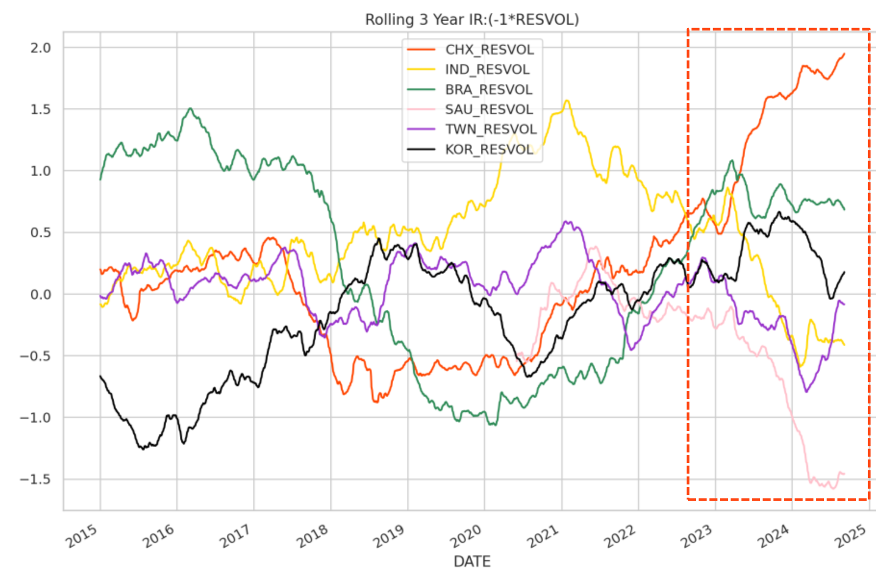
- This is an extension of the approach we originally took to the onshore China market where we assign 100% weight to our China A model given the uniqueness of that market, difficulty in making cross-market comparisons historically, and our highly customized alpha model; we envision global/local model blending being less binary in other cases.

Factor return divergences between major markets

- We have historically run a single global EM model excluding onshore China, with alphas from the standalone China A model “tacked on”.
- The intuition for the above has been the uniqueness of the onshore China market and our highly customized alpha model for that market.
- In more recent years, we have blended offshore China and APAC regional alphas into our global EM alpha model to adopt some degree of differentiation.
- Recent dispersion in factor outcomes across EM markets + new SAE single country efforts in India and Saudi Arabia have encouraged us to further extend this blended “global + local” modeling approach.

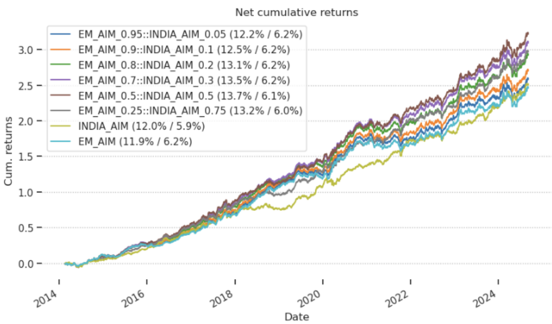


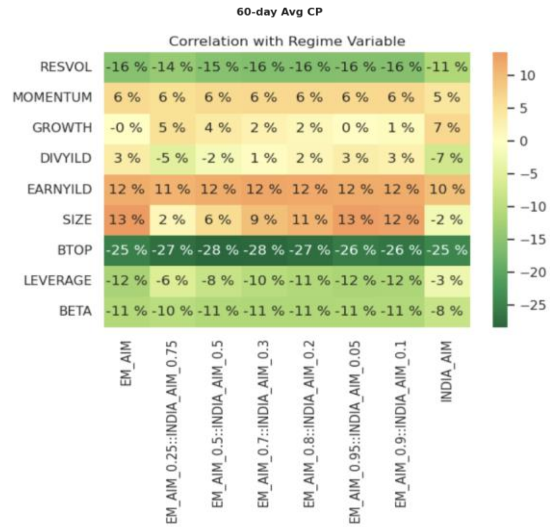


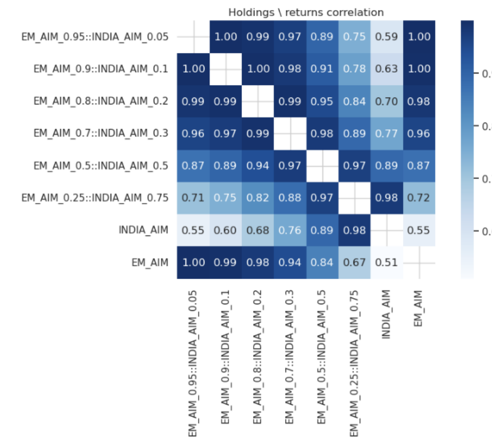


Global vs. local AIM models: India example

- Example: EM (training universe = full EM universe) vs. INDIA (training universe = India names) AIM
- Only 50% Alpha correlation in overlapping names and additive based on IR







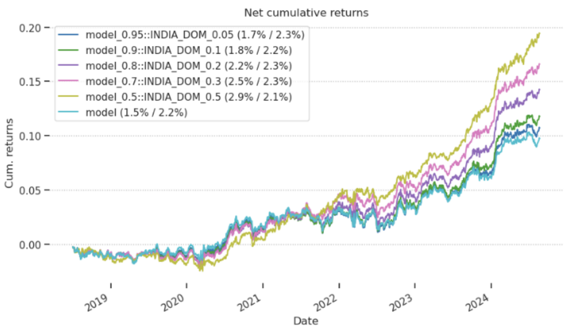
	fund		time	periods		annualized gross			annualized net			annualized			per-period
	init value (mm $)	start	end	total	rebalancing	IR	ret (%)	risk (%)	IR	ret (%)	risk (%)	turnover (%)	# assets	# assets w95%	leverage
EM_AIM_0.95::INDIA_AIM_0.05	1000.0	2014-02-18	2024-09-05	2653	2682	1.97	12.2	6.2	1.97	12.2	6.2	451.0	312.5	230.1	2.17
EM_AIM_0.9::INDIA_AIM_0.1	1000.0	2014-02-18	2024-09-05	2653	2682	2.02	12.5	6.2	2.02	12.5	6.2	454.0	312.5	230.1	2.18
EM_AIM_0.8::INDIA_AIM_0.2	1000.0	2014-02-18	2024-09-05	2653	2682	2.11	13.1	6.2	2.11	13.1	6.2	459.0	312.5	230.0	2.19
EM_AIM_0.7::INDIA_AIM_0.3	1000.0	2014-02-18	2024-09-05	2653	2682	2.18	13.5	6.2	2.18	13.5	6.2	465.0	312.5	230.1	2.20
EM_AIM_0.5::INDIA_AIM_0.5	1000.0	2014-02-18	2024-09-05	2653	2682	2.25	13.7	6.1	2.25	13.7	6.1	473.0	312.5	229.7	2.22
EM_AIM_0.25::INDIA_AIM_0.75	1000.0	2014-02-18	2024-09-05	2653	2682	2.19	13.2	6.0	2.19	13.2	6.0	478.0	312.5	228.2	2.24
INDIA_AIM	1000.0	2014-02-18	2024-09-05	2653	2682	2.02	12.0	5.9	2.02	12.0	5.9	475.0	310.8	227.2	2.26
EM_AIM	1000.0	2014-02-18	2024-09-05	2653	2682	1.92	11.9	6.2	1.92	11.9	6.2	448.0	312.5	230.2	2.17

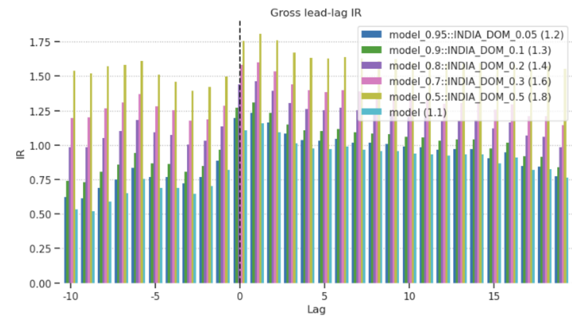
The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results.
Source: BlackRock, 30 September 2024.

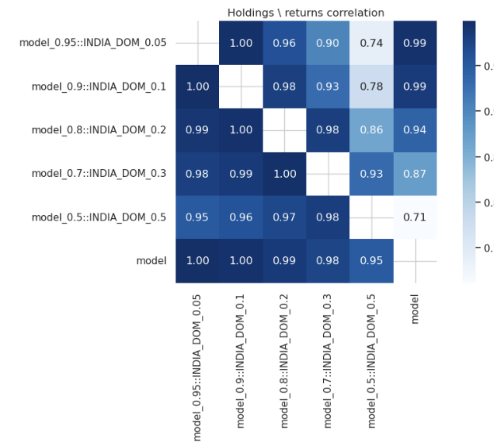
Full India model additivity to global EM model

- Significant uplift in simulated performance; net IR increases up to 50% input weight on local India model.
- Caveat: the India uplift is somewhat biased in this example given e.g. the inclusion of India-specific signals researched over this period (back-test period is partially in-sample for some signals).

Standard Risk Long-only





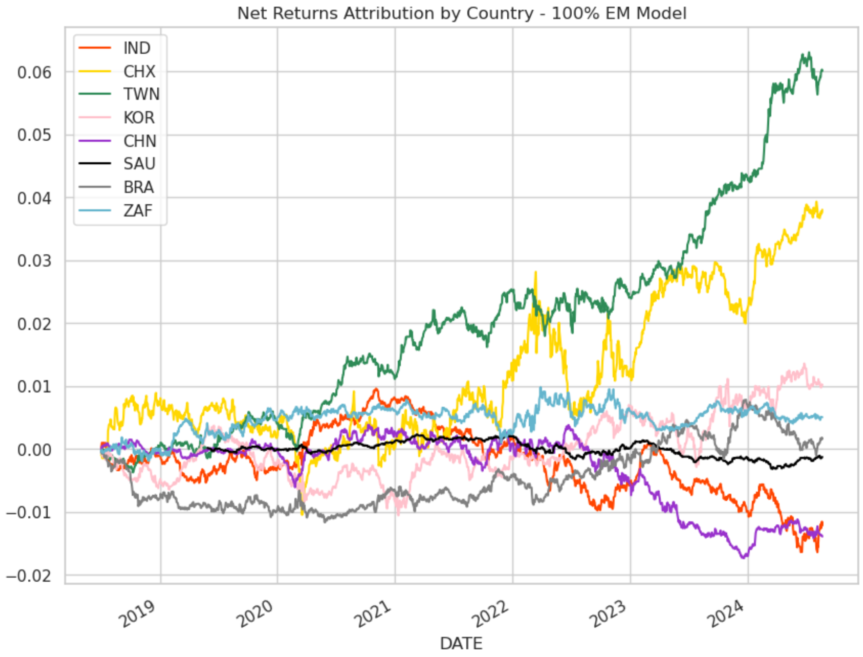


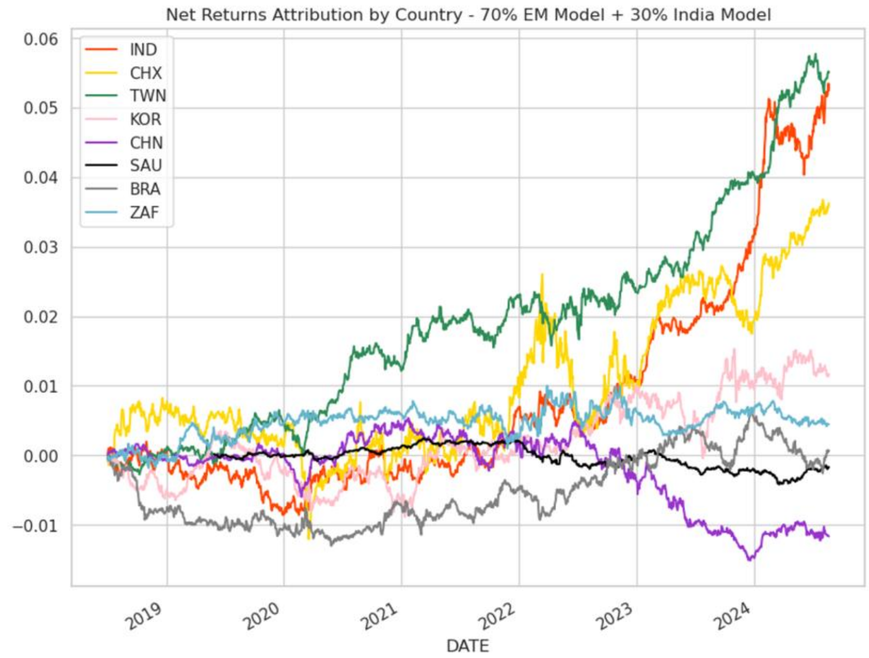
	fund	time			periods	annualized gross			annualized net			annualized				per-period
	init value (mm $)	start	end	total	rebalancing	IR	ret (%)	risk (%)	IR	ret (%)	risk (%)	turnover (%)	t-cost (%)	# assets	# assets w95%	leverage
model_0.95::INDIA_DOM_0.05	17000.0	2018-07-03	2024-08-20	1542	1542	1.20	2.7	2.2	0.74	1.7	2.3	143.0	1.00	2230.4	218.1	1.0
model_0.9::INDIA_DOM_0.1	17000.0	2018-07-03	2024-08-20	1542	1542	1.27	2.9	2.2	0.81	1.8	2.2	142.0	1.00	2230.4	218.5	1.0
model_0.8::INDIA_DOM_0.2	17000.0	2018-07-03	2024-08-20	1542	1542	1.44	3.2	2.3	0.97	2.2	2.3	145.0	1.04	2230.4	214.6	1.0
model_0.7::INDIA_DOM_0.3	17000.0	2018-07-03	2024-08-20	1542	1542	1.58	3.6	2.3	1.10	2.5	2.3	147.0	1.08	2230.4	212.4	1.0
model_0.5::INDIA_DOM_0.5	17000.0	2018-07-03	2024-08-20	1542	1542	1.75	3.7	2.1	1.36	2.9	2.1	110.0	0.81	2230.4	252.1	1.0
model	17000.0	2018-07-03	2024-08-20	1542	1542	1.11	2.4	2.2	0.70	1.5	2.2	130.0	0.87	2230.4	228.1	1.0

The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results.
Source: BlackRock, 30 September 2024.

Attributed returns: GEM vs. blended global/India model

- Global EM model has experienced negative performance directly attributed to India over the last 3yr.
- As expected, the majority of the performance uplift is attributable to India (red) positioning while contributions across other markets do not significantly change (i.e. blending India model does not materially influence exposures ex-India).





The figures shown relate to past performance. Past performance is not a reliable indicator of current or future results.
Source: BlackRock, 30 September 2024. Note: equal-weighted universe return used to de-mean stock-level returns for attribution above.

Appendix

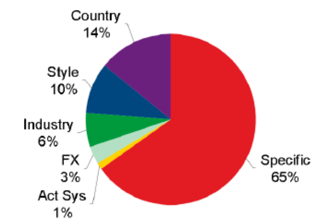
As of 30 September 2024

Emerging Markets Alpha Tilts Fund Active Risk Decomposition

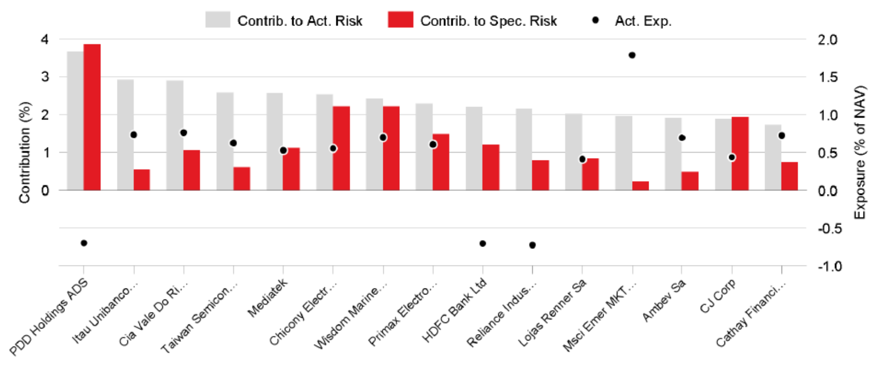
Emerging Markets Alpha Tilts Fund (Jacket) (EMAT-AGG)
Benchmark: MSCI Emerging Markets Index (Net) (MS_EM-NET)
Active Risk: **1.63%** Portfolio Beta: **1.01**

370 Assets
Base Currency: USD

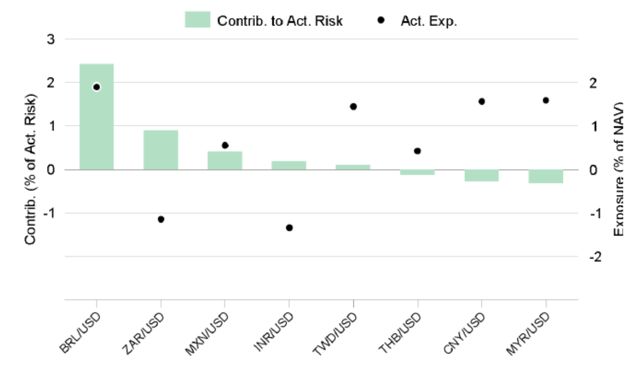
Risk Contributions by Block



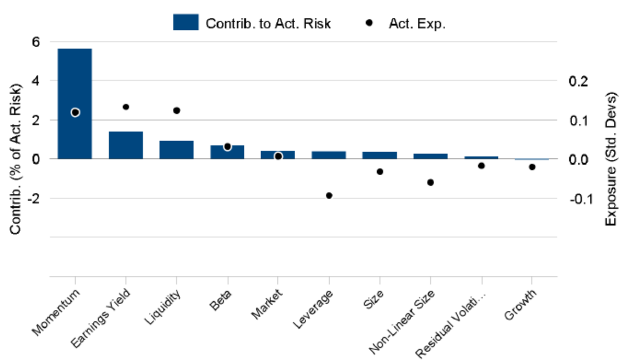
Top Asset Contributions



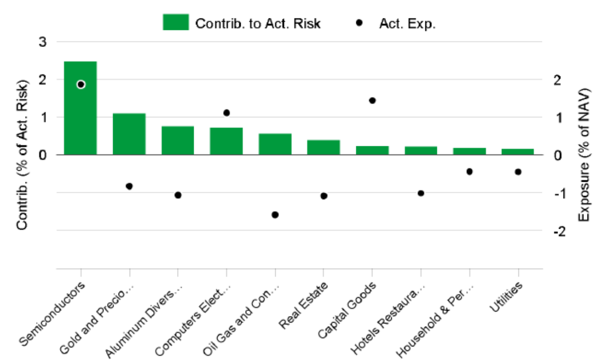
Top & Bottom FX Contributions



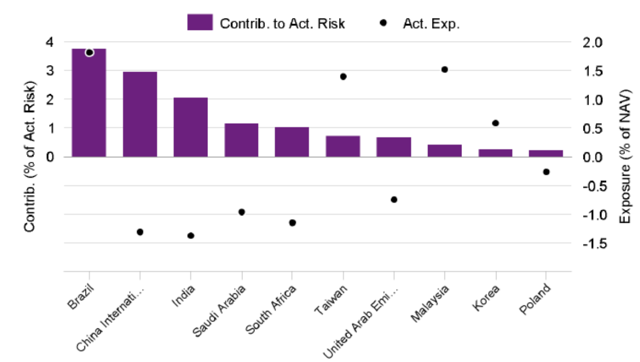
Top Style Contributions



Top Industry Contributions



Top Country Contributions

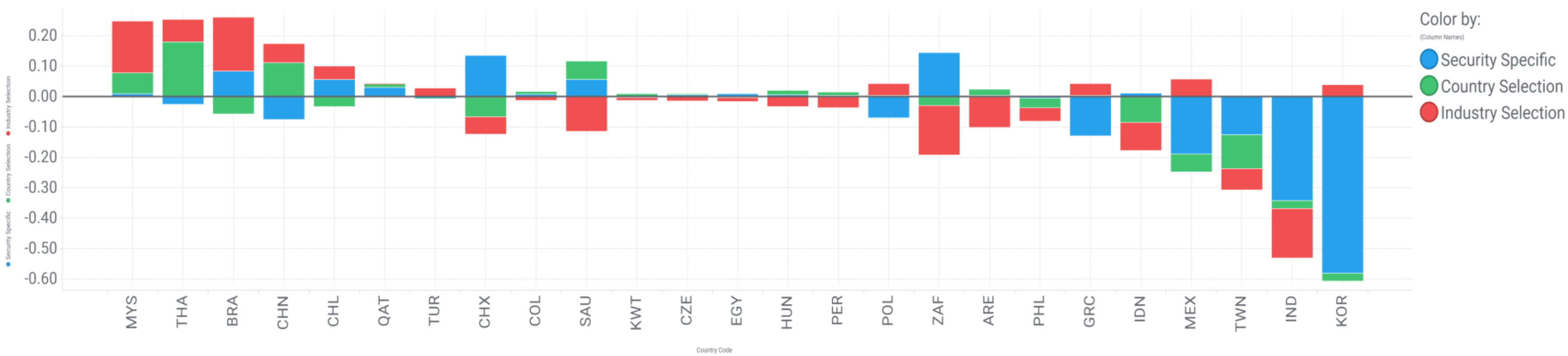


Sources: BlackRock.
The top asset contributions represent the 15 highest contributors to active risk at a stock level. **Past performance is no guarantee of current or future results.** Actual client portfolios may differ due to timing of client investment, client-imposed restrictions, and differences in market conditions. Holdings are for informational purposes only and should not be deemed as a recommendation to buy or sell the securities mentioned or securities in the industries shown above. A list of all contributors and detractors is available upon request .References to specific securities and their issuers are for illustrative purposes only and are not intended and should not be interpreted as recommendations to purchase or sell such securities. BlackRock may or may not own the securities referenced and, if such securities are owned, no representation is being made that such securities will continue to be held. The information expressed herein is subject to change.

Emerging Markets Alpha Tilts Fund
Evaluating our insights – Attribution

As of 30 September 2024

Q3 attribution by country & industry by risk factor group contribution



Source: EMAT-AGG, BlackRock Holdings Based Attribution (estimated and excludes the impact of transactions costs). CHX=offshore China; CHN=onshore China.

SAE Emerging Markets Alpha Tilts Biographies

David Piazza, Managing Director, is a member of the Systematic Active Equity (SAE) division within BlackRock's Active Equities Group. He is responsible for SAE's Emerging Market Equity Strategies.

Mr. Piazza's service with the firm dates back to 1997, including his years with Barclays Global Investors (BGI), which merged with BlackRock in 2009. Prior to assuming his current role, he led the Equity Investments team within the Global Market Strategies (GMSG) business of BlackRock's Multi-Asset Investments Group. In earlier roles within the Multi-Asset organization, he led the creation of various new investment strategies, including sector and industry selection, and global tactical asset allocation models. Previously, Mr. Piazza was a portfolio manager for global tactical asset allocation overlay accounts for BGI's Asset Allocation Strategies Group (AASG).

Mr. Piazza earned a BA degree in political science from Emory University 1994.

Henry Shen**,** Director, is a senior investment strategist within BlackRock's Systematic Active Equity (SAE) group. He is responsible for the growth of SAE's investment platform, with primary focuses on China-A, Asia Pacific, and Global Equity strategies.

Prior to his current role, Mr. Shen was a member of BlackRock's Asia ex-Japan Institutional Client Business group, responsible for developing and maintaining institutional relationships with clients and prospects in Taiwan and China. Before joining BlackRock in 2012, Mr. Shen was a researcher at the Duke Medical Center and the University's Department of Biomedical Engineering. He is a published author for the Journal of Biomechanics.

Mr. Shen studied Biomedical Engineering and Economics, and received a Bachelor of Science in Engineering degree from Duke University.

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Index

It is not possible to directly invest in an unmanaged index.

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Historical data
BlackRock Systematic Active MSCI ACWI Composite

Calendar year	Gross of fee composite return (%)	Net of fee composite return (%)	Benchmark return (%)	Number of portfolios	Composite dispersion (%)	Composite 3 yr annualized standard deviation (%)**	Benchmark 3 yr annualized standard deviation (%)**	Total assets at end of period (USD millions)	Percentage of firm assets
2010	13.11	12.55	12.67	2	0.02	N/A	N/A	643	<1
2011	-4.48	-4.95	-7.35	2	0.04	N/A	N/A	612	<1
2012	20.22	19.62	16.13	2	0.00	17.60	17.13	733	<1
2013	29.05	28.40	22.80	4	0.01	14.26	13.94	1,128	<1
2014	7.56	7.05	4.16	7	0.38	10.69	10.50	2,634	<1
2015	-2.80	-3.26	-2.36	10	0.22	10.81	10.79	3,819	<1
2016	6.14	5.63	7.86	12	0.19	10.97	11.06	4,979	<1
2017	30.02	29.34	23.97	11	0.41	10.49	10.36	7,323	<1
2018	-11.09	-11.72	-9.41	11	0.41	10.87	10.48	5,601	<1
2019	26.67	25.77	26.60	11	0.39	11.47	11.22	5,443	<1
2020	15.84	14.98	16.25	10	0.54	18.52	18.13	5,908	<1

The figures shown relate to past performance. Past Performance is not a reliable indicator of future results and should not be the sole factor of consideration when selecting a product or strategy.

Please see the following page for important disclosures related to this composite.
* Data shown may be subject to revisions from time to time based on availability of new information. Any such revisions are not material.
** N/A – 36 months of data is not available for that period.

BlackRock Systematic Active MSCI ACWI Composite

Notes

1. For purposes of compliance with the Global Investment Performance Standards (GIPS®), the "firm" refers to the investment adviser and national trust bank subsidiaries of BlackRock, Inc., located globally. This definition excludes: i) BlackRock subsidiaries that do not provide investment advisory or management services, ii) the Absolute Return Strategies (funds-of-hedge-funds) business unit under the "BlackRock Alternative Advisers" platform, iii) BlackRock Capital Investment Corporation, LLC, iv) FutureAdvisor, Inc., and v) Retail mutual funds and separately managed accounts within BlackRock México Operadora, S.A. de C.V., Sociedad Operadora de Fondos de Inversión.
2. BlackRock claims compliance with the GIPS standards and has prepared and presented this report in compliance with the GIPS standards. BlackRock has been independently verified for the periods 1 January 1993 through 31 December 2018. The verification reports are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. The firm is verified annually by Deloitte & Touche LLP.
3. BlackRock uses a time-weighted linked rate of return formula with adjustments for cash flows to calculate rates of return. Trade date accounting has been used since the inception of the composite. The currency used to calculate performance is US dollars.
4. The benchmark index shown is the MSCI ACWI Index US Net Dividend®.
5. Composite dispersion measures represent the consistency of a firm's composite performance results with respect to the individual portfolio returns within a composite. Dispersion is represented by the asset-weighted standard deviation of only portfolios that have been included in the composite style for a full year. For composites containing only one account, a measure of dispersion is not meaningful (NM).
6. Percentage of Firm Assets are rounded to the nearest whole percent.
7. There have been no alterations of the composite due to changes in personnel or other reasons.
8. When permitted by investment guidelines, derivatives may be used in the portfolio, but are not integral to the investment process. Shorting and leverage are not allowed.
9. Gross of fee performance results are presented before management and custodial fees and net of broker fees, transaction costs, and withholding taxes (if applicable). Certain portfolios may have custodial fees included. Net performance reflects the deduction of the highest management fee per the strategy fee schedule. The standard management fee schedule for this strategy for an institutional investor in a pooled fund is 0.71 of 1% of all assets. Separate accounts may be charged additional management fees depending on complexity. Additional fees are generally in the range of 2-4 bps.
10. A complete list and description of all composites maintained by BlackRock and the related performance results are available upon request. Additional information regarding policies for calculating and reporting returns as well as valuation policies is also available upon request.

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    As of 4/1/2018, the BlackRock Systematic Active MSCI ACWI Tilts Composite has been renamed to the BlackRock Systematic Active MSCI ACWI Composite.

    Performance presented for periods prior to 1 December 2009 occurred while members of the portfolio management team were affiliated with Barclays Global Investors ("Prior Firm"). Such members of the portfolio management team were responsible for investment management decisions for the Systematic Active MSCI ACWI Composite at the Prior Firm and the decision making process has remained intact and independent within BlackRock. The performance presented is for those portfolios that were brought over to BlackRock from the Prior Firm. In BlackRock management's opinion, such performance track record conforms to the GIPS standards with regard to the portability of investment results, and, as such, all historical performance results from the Prior Firm have been linked to the on-going performance results of the composite. Performance records of the Prior Firm are available upon request.

Historical data
BlackRock Systematic Active Russell 1000 Low Risk Composite

Calendar year	Gross of fee composite return (%)	Net of fee composite return (%)	Benchmark return (%)	Number of portfolios	Composite dispersion (%)	Composite 3 yr annualized standard deviation (%)	Benchmark 3 yr annualized standard deviation (%)	Total assets at end of period (USD millions)	Percentage of firm assets
2010	13.53	13.32	16.10	1	NM	22.15	22.29	2,582	<1
2011	2.02	1.83	1.50	1	NM	19.24	18.95	2,141	<1
2012	19.14	18.92	16.42	1	NM	15.94	15.40	2,548	<1
2013	33.38	33.14	33.11	1	NM	12.62	12.26	2,935	<1
2014	14.45	14.25	13.24	1	NM	9.30	9.12	2,492	<1
2015	0.90	0.71	0.92	1	NM	10.61	10.48	2,512	<1
2016	12.65	12.45	12.05	1	NM	10.90	10.69	1,768	<1
2017	25.04	24.82	21.69	1	NM	10.25	9.97	1,026	<1
2018	-4.17	-4.35	-4.78	1	NM	11.24	10.95	946	<1
2019	30.46	30.22	31.43	1	NM	11.99	12.05	1,232	<1
2020	20.82	20.60	20.96	1	NM	19.03	19.10	1,527	<1

The figures shown relate to past performance. Past Performance is not a reliable indicator of future results and should not be the sole factor of consideration when selecting a product or strategy.

Please see the following page for important disclosures related to this composite.
* Data shown may be subject to revisions from time to time based on availability of new information. Any such revisions are not material.

BlackRock Systematic Active Russell 1000 Low Risk Composite

Notes

1. For purposes of compliance with the Global Investment Performance Standards (GIPS®), the "firm" refers to the investment adviser and national trust bank subsidiaries of BlackRock, Inc., located globally. This definition excludes: i) BlackRock subsidiaries that do not provide investment advisory or management services, ii) the Absolute Return Strategies (funds-of-hedge-funds) business unit under the "BlackRock Alternative Advisers" platform, iii) BlackRock Capital Investment Corporation, LLC, iv) FutureAdvisor, Inc., and v) Retail mutual funds and separately managed accounts within BlackRock México Operadora, S.A. de C.V., Sociedad Operadora de Fondos de Inversión.
2. BlackRock claims compliance with the GIPS standards and has prepared and presented this report in compliance with the GIPS standards. BlackRock has been independently verified for the periods 1 January 1993 through 31 December 2017. The verification reports are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. The firm is verified annually by Deloitte & Touche LLP.
3. BlackRock uses a time-weighted linked rate of return formula with adjustments for cash flows to calculate rates of return. Trade date accounting has been used since the inception of the composite. The currency used to calculate performance is US dollars.
4. The benchmark index shown is the Russell 1000 Index®.
5. Composite dispersion measures represent the consistency of a firm's composite performance results with respect to the individual portfolio returns within a composite. Dispersion is represented by the asset-weighted standard deviation of only portfolios that have been included in the composite style for a full year. For composites containing only one account, a measure of dispersion is not meaningful (NM).
6. Percentage of Firm Assets are rounded to the nearest whole percent.
7. There have been no alterations of the composite due to changes in personnel or other reasons.
8. When permitted by investment guidelines, derivatives may be used in the portfolio, but are not integral to the investment process. Shorting and leverage are not allowed.
9. Gross of fee performance results are presented before management and custodial fees and net of broker fees, transaction costs, and withholding taxes (if applicable). Certain portfolios may have custodial fees included. Certain, but not all, accounts in the composite, may pay incentive-based performance fees. The standard management fee schedule for this strategy for an institutional investor in a pooled fund is as follows: 0.18 of 1% of all assets. Comparable incentive-based fee pricing options are also available. Separate accounts may be charged additional management fees depending on complexity. Additional fees are generally in the range of 2-4 bps.
10. A complete list and description of all composites maintained by BlackRock and the related performance results are available upon request. Additional information regarding policies for calculating and reporting returns as well as valuation policies is also available upon request.

    The **BlackRock Systematic Active Russell 1000 Low Risk Composite** is comprised of all fully discretionary, institutional equity portfolios which are actively managed and seek to exceed the performance of the Russell 1000 Index® or similar index while incurring a low level of risk. All accounts included in the composite follow a similar investment philosophy. This composite may include separate accounts and pooled funds with multiple investor types which can have different withholding tax rates applied. The creation date of the composite is 1 December 2010. The composite does not have a Significant Cash Flow Policy.

    Performance presented for periods prior to 1 December 2009 occurred while members of the portfolio management team were affiliated with Barclays Global Investors ("Prior Firm"). Such members of the portfolio management team were responsible for investment management decisions for the Systematic Active Russell 1000 Low Risk Composite at the Prior Firm and the decision making process has remained intact and independent within BlackRock. The performance presented is for those portfolios that were brought over to BlackRock from the Prior Firm. In BlackRock management's opinion, such performance track record conforms to the GIPS standards with regard to the portability of investment results, and, as such, all historical performance results from the Prior Firm have been linked to the on-going performance results of the composite. Performance records of the Prior Firm are available upon request.

Historical data
BlackRock Systematic Active MSCI World Minimum Volatility Global Defensive Alpha Composite

Calendar year	Gross of fee composite return (%)	Net of fee composite return (%)	Benchmark return (%)	Number of portfolios	Composite dispersion (%)	Composite 3 yr annualized standard deviation (%)**	Benchmark 3 yr annualized standard deviation (%)**	Total assets at end of period (USD millions)	Percentage of firm assets
01/11/16 - 31/12/16	1.34	1.26	0.69	1	NM	N/A	N/A	25	<1
2017	21.35	20.81	17.32	1	NM	N/A	N/A	31	<1
2018	-0.86	-1.31	-2.03	1	NM	N/A	N/A	30	<1
2019	22.96	22.41	23.17	1	NM	7.68	7.63	37	<1
2020	5.73	5.26	2.61	1	NM	13.16	12.52	13	<1

The figures shown relate to past performance. Past Performance is not a reliable indicator of future results and should not be the sole factor of consideration when selecting a product or strategy.

Please see the following page for important disclosures related to this composite.
* Data shown may be subject to revisions from time to time based on availability of new information. Any such revisions are not material.
** N/A – 36 months of data is not available for that period.

BlackRock Systematic Active MSCI World Minimum Volatility Global Defensive Alpha Composite

Notes

1. For purposes of compliance with the Global Investment Performance Standards (GIPS®), the "firm" refers to the investment adviser and national trust bank subsidiaries of BlackRock, Inc., located globally. This definition excludes: i) BlackRock subsidiaries that do not provide investment advisory or management services, ii) the Absolute Return Strategies (funds-of-hedge-funds) business unit under the "BlackRock Alternative Advisers" platform, iii) BlackRock Capital Investment Corporation, LLC, iv) FutureAdvisor, Inc., and v) Retail mutual funds and separately managed accounts within BlackRock México Operadora, S.A. de C.V., Sociedad Operadora de Fondos de Inversión.
2. BlackRock claims compliance with the GIPS standards and has prepared and presented this report in compliance with the GIPS standards. BlackRock has been independently verified for the periods 1 January 1993 through 31 December 2018. The verification reports are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. The firm is verified annually by Deloitte & Touche LLP.
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4. The benchmark index shown is the MSCI World Minimum Volatility Index US Net Dividend®.
5. Composite dispersion measures represent the consistency of a firm's composite performance results with respect to the individual portfolio returns within a composite. Dispersion is represented by the asset-weighted standard deviation of only portfolios that have been included in the composite style for a full year. For composites containing only one account, a measure of dispersion is not meaningful (NM).
6. Percentage of Firm Assets are rounded to the nearest whole percent.
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8. When permitted by investment guidelines, derivatives may be used in the portfolio, but are not integral to the investment process. Shorting and leverage are not allowed.
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10. A complete list and description of all composites maintained by BlackRock and the related performance results are available upon request. Additional information regarding policies for calculating and reporting returns as well as valuation policies is also available upon request.

    The **BlackRock Systematic Active MSCI World Minimum Volatility Global Defensive Alpha Composite** is comprised of all fully discretionary, institutional equity portfolios which are actively managed and seek to exceed the performance of the MSCI World Minimum Volatility Index US Net Dividend® or similar index while incurring a low level of risk. This seeks to deliver equity-like returns with lower volatility and drawdown mitigation. All accounts included in the composite follow a similar investment philosophy. This composite may include equity portfolios that are managed against non-material guideline constraints, and include separate accounts and pooled funds with multiple investor types which can have different withholding tax rates applied. The creation date of the composite is 19 January 2017. The composite does not have a Significant Cash Flow Policy.

    As of November 1, 2017, the BlackRock Scientific Active MSCI World Minimum Volatility Global Defensive Alpha Composite has been renamed the BlackRock Systematic Active MSCI World Minimum Volatility Global Defensive Alpha Composite.

Historical data
BlackRock Systematic Active MSCI World Low Risk Composite

Calendar year	Gross of fee composite return (%)	Net of fee composite return (%)	Benchmark return (%)	Number of portfolios	Composite dispersion (%)	Composite 3 yr annualized standard deviation (%)	Benchmark 3 yr annualized standard deviation (%)	Total assets at end of period (USD millions)	Percentage of firm assets
2010	13.13	12.87	11.76	1	NM	23.60	23.72	978	<1
2011	-3.90	-4.12	-5.54	1	NM	20.04	20.15	1,128	<1
2012	16.99	16.72	15.83	1	NM	16.88	16.74	1,316	<1
2013	29.00	28.70	26.68	3	NM	13.66	13.54	4,637	<1
2014	7.48	7.24	4.94	3	0.08	10.30	10.23	5,402	<1
2015	0.25	0.02	-0.87	3	0.07	10.93	10.80	5,409	<1
2016	7.22	6.98	7.51	3	0.07	11.09	10.92	5,689	<1
2017	26.27	25.98	22.40	3	0.04	10.47	10.23	7,010	<1
2018	-9.07	-9.27	-8.71	3	0.01	10.60	10.38	6,366	<1
2019	28.67	28.38	27.67	6	0.06	11.22	11.14	9,655	<1
2020	16.31	16.05	15.90	8	0.14	18.55	18.27	11,464	<1

The figures shown relate to past performance. Past Performance is not a reliable indicator of future results and should not be the sole factor of consideration when selecting a product or strategy.

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BlackRock Systematic Active MSCI World Low Risk Composite

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3. BlackRock uses a time-weighted linked rate of return formula with adjustments for cash flows to calculate rates of return. Trade date accounting has been used since the inception of the composite. The currency used to calculate performance is US dollars.
4. The benchmark index shown is the MSCI World Index Net Dividend®.
5. Composite dispersion measures represent the consistency of a firm's composite performance results with respect to the individual portfolio returns within a composite. Dispersion is represented by the asset-weighted standard deviation of only portfolios that have been included in the composite style for a full year. For composites containing only one account, a measure of dispersion is not meaningful (NM).
6. Percentage of Firm Assets are rounded to the nearest whole percent.
7. There have been no alterations of the composite due to changes in personnel or other reasons.
8. When permitted by investment guidelines, derivatives may be used in the portfolio, but are not integral to the investment process. Shorting and leverage are not allowed.
9. Gross of fee performance results are presented before management and custodial fees and net of broker fees, transaction costs, and withholding taxes (if applicable). Certain portfolios may have custodial fees included. Certain, but not all, accounts in the composite, may pay incentive-based performance fees. Net performance reflects the deduction of the highest management fee per the strategy fee schedule. The standard management fee schedule for this strategy for an institutional investor in a pooled fund is as follows: 0.23 of 1% of all assets. Comparable incentive-based fee pricing options are also available. Separate accounts may be charged additional management fees depending on complexity. Additional fees are generally in the range of 2-4 bps.
10. A complete list and description of all composites maintained by BlackRock and the related performance results are available upon request. Additional information regarding policies for calculating and reporting returns as well as valuation policies is also available upon request.

    The **BlackRock Systematic Active MSCI World Low Risk Composite** is comprised of all fully discretionary, institutional equity portfolios which are actively managed and seek to exceed the performance of the MSCI World Index Net Dividend® or similar index while incurring a low level of risk. All accounts included in the composite follow a similar investment philosophy. This composite may include separate accounts and pooled funds with multiple investor types which can have different withholding tax rates applied. The creation date of the composite is 1 December 2010. The composite does not have a Significant Cash Flow Policy.

    Performance presented for periods prior to 1 December 2009 occurred while members of the portfolio management team were affiliated with Barclays Global Investors ("Prior Firm"). Such members of the portfolio management team were responsible for investment management decisions for the Systematic Active MSCI World Low Risk Composite at the Prior Firm and the decision making process has remained intact and independent within BlackRock. The performance presented is for those portfolios that were brought over to BlackRock from the Prior Firm. In BlackRock management's opinion, such performance track record conforms to the GIPS standards with regard to the portability of investment results, and, as such, all historical performance results from the Prior Firm have been linked to the on-going performance results of the composite. Performance records of the Prior Firm are available upon request.

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Investment Manager Asset Allocation

The table below contrasts the distribution of assets across the Fund’s investment managers as of September 30, 2024, with the distribution as of August 31, 2024. The change in asset distribution is broken down into the dollar change due to Net New Investment and the dollar change due to Investment Return.

Asset Distribution Across Investment Managers

	September 30, 2024					August 31, 2024		
	Market Value	Weight	Target	Net New Inv.	Inv. Return	Market Value	Weight	Target
Total Equity	**$381,097,576**	**68.83%**	**65.00%**	**$(667,106)**	**$6,654,550**	**$375,110,131**	**68.47%**	**65.00%**
U.S. Equity	**$207,750,065**	**37.52%**	**35.00%**	**$(72,352)**	**$3,591,492**	**$204,230,924**	**37.28%**	**35.00%**
BR Russell 1000 Index Non-Lend	155,761,831	28.13%		0	3,258,705	152,503,126	27.84%	
LSV	26,391,475	4.77%		(54,128)	(107,400)	26,553,003	4.85%	
Principal Dynamic Growth	25,596,759	4.62%		(18,224)	440,187	25,174,796	4.60%	
International Equity	**$128,501,538**	**23.21%**	**23.00%**	**$(41,754)**	**$2,773,943**	**$125,769,348**	**22.96%**	**23.00%**
Developed Markets	**$105,425,078**	**19.04%**	**-**	**$(41,754)**	**$1,416,748**	**$104,050,083**	**18.99%**	**-**
Silchester	67,332,778	12.16%		(41,754)	1,316,325	66,058,206	12.06%	
Walter Scott	38,092,300	6.88%		0	100,423	37,991,877	6.93%	
Emerging Markets	**$23,076,460**	**4.17%**	**-**	**$0**	**$1,357,195**	**$21,719,265**	**3.96%**	**-**
BlackRock EM Alpha Tilts	23,076,460	4.17%		0	1,357,195	21,719,265	3.96%	
Global Equity/Long Short	**$23,413,001**	**4.23%**	**4.00%**	**$0**	**$289,115**	**$23,123,887**	**4.22%**	**4.00%**
ABS Global	23,413,001	4.23%		0	289,115	23,123,887	4.22%	
Private Equity*	**$21,432,972**	**3.87%**	**3.00%**	**$(553,000)**	**$0**	**$21,985,972**	**4.01%**	**3.00%**
Pantheon USA IV	20,827	0.00%		0	0	20,827	0.00%	
Pantheon USA VI	132,634	0.02%		0	0	132,634	0.02%	
Pantheon USA VII	421,616	0.08%		(178,000)	0	599,616	0.11%	
Pantheon Europe Fund V A	282,856	0.05%		0	0	282,856	0.05%	
Pantheon Global Fund III	59,955	0.01%		0	0	59,955	0.01%	
Pantheon US Select 2014	20,515,084	3.71%		(375,000)	0	20,890,084	3.81%	
Domestic Fixed-Income	**$91,553,176**	**16.53%**	**19.00%**	**$0**	**$1,273,704**	**$90,279,472**	**16.48%**	**19.00%**
Prudential Cons Core Bond	40,559,377	7.32%		0	532,135	40,027,242	7.31%	
Metropolitan West CIT	50,993,799	9.21%		0	741,569	50,252,230	9.17%	
Absolute Return	**$35,414,026**	**6.40%**	**6.00%**	**$0**	**$281,115**	**$35,132,911**	**6.41%**	**6.00%**
UBS AIS	35,414,026	6.40%		0	281,115	35,132,911	6.41%	
Real Assets	**$36,450,926**	**6.58%**	**6.00%**	**$0**	**$685,808**	**$35,765,118**	**6.53%**	**6.00%**
PIMCO All Asset	36,450,926	6.58%	6.00%	0	685,808	35,765,118	6.53%	6.00%
Cash	**$9,197,584**	**1.66%**	**4.00%**	**$(2,412,451)**	**$46,712**	**$11,563,323**	**2.11%**	**4.00%**
Cash Account	9,197,584	1.66%		(2,412,451)	46,712	11,563,323	2.11%	
Total Fund	**$553,713,288**	**100.0%**	**100.0%**	**$(3,079,557)**	**$8,941,889**	**$547,850,955**	**100.0%**	**100.0%**

*Market values are preliminary and adjust for asset flows.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended September 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended September 30, 2024

	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months	Last 84 Months
Total Equity	**6.49%**	**26.36%**	**6.60%**	**11.29%**	**9.55%**
U.S. Long Equity	**6.42%**	**32.68%**	**8.86%**	**14.96%**	**13.17%**
Russell 3000 Index	6.23%	35.19%	10.29%	15.26%	13.74%
BR Russell 1000 Index Non-Lendable	6.08%	35.69%	10.84%	15.65%	14.18%
Russell 1000 Index	6.08%	35.68%	10.83%	15.64%	14.18%
LSV	8.17%	24.93%	9.36%	11.32%	7.12%
Russell 2000 Value Index	10.15%	25.88%	3.77%	9.29%	6.60%
Principal Dynamic Growth	6.74%	24.28%	(0.96%)	15.84%	14.56%
Russell 2500 Growth Index	6.99%	25.20%	(0.75%)	9.75%	9.43%
International Equity	**8.37%**	**22.65%**	**4.83%**	**7.43%**	**5.60%**
MSCI ACWI ex US Index	8.17%	25.96%	4.67%	8.10%	5.95%
Developed Markets	**8.67%**	**22.05%**	**5.87%**	**7.90%**	**6.22%**
MSCI EAFE Index	7.26%	24.77%	5.48%	8.20%	6.00%
Silchester	10.07%	19.84%	8.54%	9.48%	6.46%
MSCI EAFE Val Idx	8.89%	23.14%	8.94%	8.27%	5.02%
Walter Scott	6.08%	25.74%	-	-	-
MSCI EAFE Index	7.26%	24.77%	5.48%	8.20%	6.00%
MSCI EAFE Growth	5.68%	26.54%	1.92%	7.74%	6.66%
Emerging Markets	**6.79%**	**24.80%**	**0.30%**	**5.37%**	**2.86%**
BlackRock EM Alpha Tilts	6.79%	24.80%	0.30%	5.37%	-
MSCI Emerging Mkts Idx	8.88%	26.54%	0.82%	6.15%	4.05%
Global Equity/Long Short	**3.55%**	**18.03%**	**1.70%**	**6.17%**	**5.03%**
HFRI FOF: Strategic Index	3.42%	15.00%	1.67%	5.89%	4.34%
ABS Global	3.56%	18.31%	3.72%	6.75%	5.40%
MSCI World Index	6.36%	32.43%	9.08%	13.04%	11.11%
Private Equity(1)	**0.00%**	**4.74%**	**3.37%**	**13.88%**	**13.45%**
Pantheon USA IV	0.00%	(8.50%)	(4.92%)	(0.50%)	(0.59%)
Pantheon USA VI	0.00%	(6.01%)	(8.11%)	(13.24%)	(7.90%)
Pantheon USA VII	0.00%	(5.87%)	(2.38%)	7.42%	7.39%
Pantheon Europe Fund V A	0.00%	7.46%	(2.82%)	10.07%	12.07%
Pantheon Global Secondary Fund III	0.00%	0.00%	(2.17%)	(2.77%)	0.81%
Pantheon US Select 2014	0.00%	5.25%	3.92%	16.41%	17.54%
Private Equity Benchmark(2)	0.00%	4.74%	3.37%	13.88%	13.45%

*Fiscal year starts 7/1 and ends 6/30.
(1) Private Equity has a 1 quarter lag in valuation.
(2) Private Equity benchmark is a composite of Private Equity performance.

Investment Manager Returns

The table below details the rates of return for the fund's investment managers over various time periods ended September 30, 2024. Negative returns are shown in red, positive returns in black. Returns for one year or greater are annualized. The first set of returns for each asset class represents the composite returns for all the fund's accounts for that asset class.

Returns for Periods Ended September 30, 2024

	Fiscal YTD	Last 12 Months	Last 36 Months	Last 60 Months	Last 84 Months
Domestic Fixed Income	**5.60%**	**12.44%**	**(1.57%)**	**0.44%**	**1.59%**
Prudential Cons Core Bond	5.28%	12.20%	(1.16%)	0.39%	1.54%
Metropolitan West Fund (2)	5.89%	12.73%	(1.79%)	0.52%	1.70%
Blmbg Aggregate Index	5.20%	11.57%	(1.39%)	0.33%	1.47%
Absolute Return	**2.37%**	**8.39%**	**6.52%**	**7.26%**	**5.95%**
UBS AIS	2.37%	8.39%	6.52%	7.26%	5.95%
HFRI FOF: Conservative Index	1.41%	6.89%	3.69%	5.21%	4.40%
Real Assets	**5.72%**	**15.13%**	**2.23%**	**6.01%**	**5.41%**
PIMCO All Asset Fund	5.72%	15.13%	2.23%	6.24%	5.21%
Blmbg US TIPS 1-10	3.50%	9.01%	1.00%	3.26%	3.18%
Cash	**1.37%**	**5.66%**	**3.78%**	**2.54%**	**2.44%**
Cash	1.37%	5.66%	3.78%	2.54%	2.44%
3-month Treasury Bill	1.37%	5.46%	3.49%	2.32%	2.22%
Total Fund	**5.95%**	**21.78%**	**4.83%**	**8.65%**	**7.52%**
Total Fund Custom Benchmark (1)	5.51%	22.22%	4.94%	8.55%	7.62%
Annual Discount Rate:6.5%					

*Fiscal year starts 7/1 and ends 6/30.
(1) The Total Fund Custom Benchmark is 35.0% Russell 3000 Index, 19.0% MSCI ACWI ex-US, 19.0% Bloomberg Aggregrate Index 3.0% Norwalk Private Equity, 8.0% HFRI FOF Strategic, 6.0% Bloomberg US TIPS 1-10 Year Index, 6.0% HFRI FOF Conservative, 4% 3-month Treasury Bill.
(2) On August 24, 2022 switched from Mutual Fund to CIT.

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