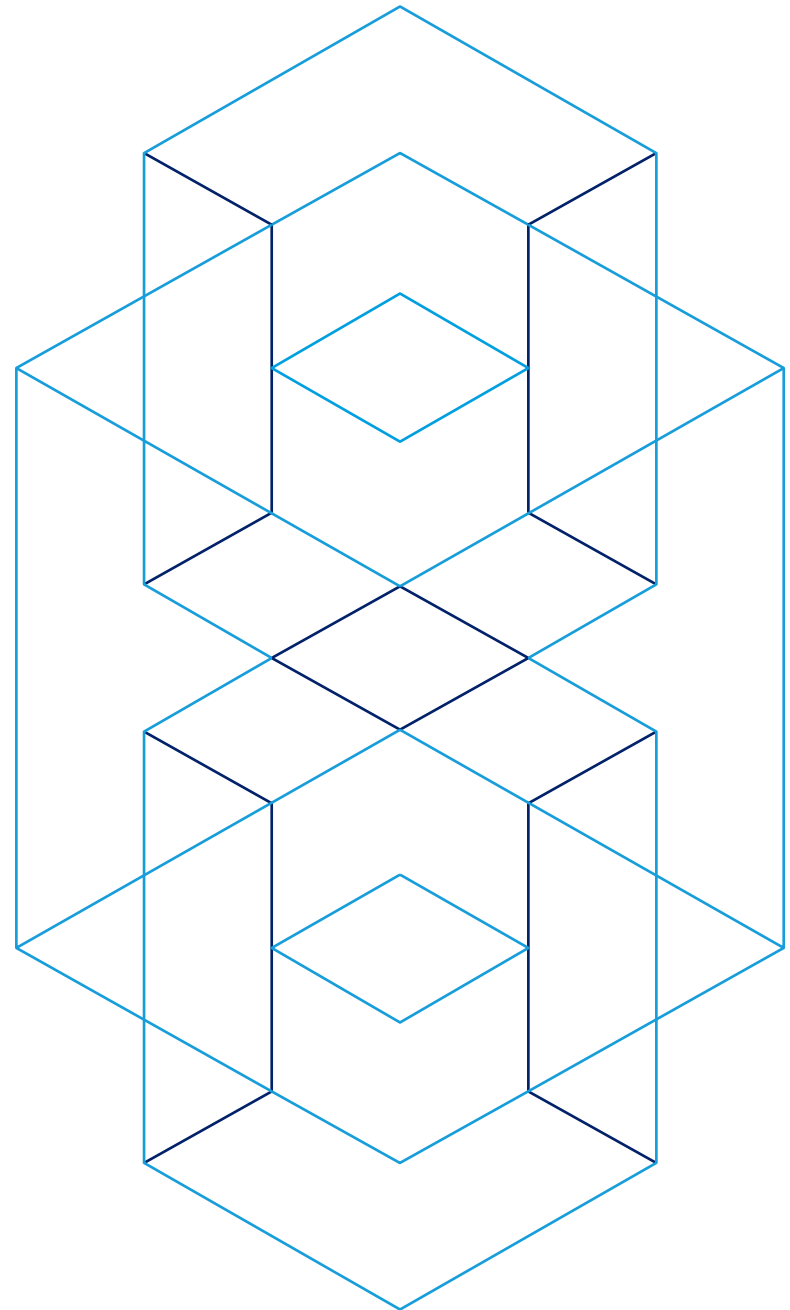


AQR Alternative Trends UCITS Fund

Prepared Exclusively for Seneko and
clients

Private and confidential

February 5, 2025



For Institutional Investor Use Only

Disclosures

The GIPS Composite Report for the Helix Strategy can be found in the Appendix.

The information set forth herein has been obtained or derived from sources believed by AQR Capital Management, LLC ("AQR") to be reliable. However, AQR does not make any representation or warranty, express or implied, as to the information's accuracy or completeness, nor does AQR recommend that the attached information serve as the basis of any investment decision. This document has been provided to you solely for information purposes and does not constitute an offer or solicitation of an offer, or any advice or recommendation, to purchase any securities or other financial instruments, and may not be construed as such. This document is intended exclusively for the use of the person to whom it has been delivered by AQR and it is not to be reproduced or redistributed to any other person. Please refer to the Appendix for more information on risks and fees. **Past performance does not predict future returns.**

This presentation is not research and should not be treated as research. This presentation does not represent valuation judgments with respect to any financial instrument, issuer, security or sector that may be described or referenced herein and does not represent a formal or official view of AQR.

The views expressed reflect the current views as of the date hereof and neither the speaker nor AQR undertakes to advise you of any changes in the views expressed herein. It should not be assumed that the speaker will make investment recommendations in the future that are consistent with the views expressed herein, or use any or all of the techniques or methods of analysis described herein in managing client accounts. AQR and its affiliates may have positions (long or short) or engage in securities transactions that are not consistent with the information and views expressed in this presentation.

The information contained herein is only as current as of the date indicated, and may be superseded by subsequent market events or for other reasons. Charts and graphs provided herein are for illustrative purposes only. The information in this presentation has been developed internally and/or obtained from sources believed to be reliable; however, neither AQR nor the speaker guarantees the accuracy, adequacy or completeness of such information. Nothing contained herein constitutes investment, legal, tax or other advice nor is it to be relied on in making an investment or other decision.

There can be no assurance that an investment strategy will be successful. Historic market trends are not reliable indicators of actual future market behavior or future performance of any particular investment which may differ materially, and should not be relied upon as such. Target allocations contained herein are subject to change. There is no assurance that the target allocations will be achieved, and actual allocations may be significantly different than that shown here. This presentation should not be viewed as a current or past recommendation or a solicitation of an offer to buy or sell any securities or to adopt any investment strategy.

The information in this presentation may contain projections or other forward-looking statements regarding future events, targets, forecasts or expectations regarding the strategies described herein, and is only current as of the date indicated. There is no assurance that such events or targets will be achieved, and may be significantly different from that shown here. The information in this presentation, including statements concerning financial market trends, is based on current market conditions, which will fluctuate and may be superseded by subsequent market events or for other reasons. Performance of all cited indices is calculated on a total return basis with dividends reinvested.

The investment strategy and themes discussed herein may be unsuitable for investors depending on their specific investment objectives and financial situation. Please note that changes in the rate of exchange of a currency may affect the value, price or income of an investment adversely.

Neither AQR nor the speaker assumes any duty to, nor undertakes to update forward looking statements. No representation or warranty, express or implied, is made or given by or on behalf of AQR, the speaker or any other person as to the accuracy and completeness or fairness of the information contained in this presentation, and no responsibility or liability is accepted for any such information. By accepting this presentation in its entirety, the recipient acknowledges its understanding and acceptance of the foregoing statement.



Our Firm

AQR: Applied Quantitative Research

Systematic investing grounded in economic theory

- Academic roots and research-driven approach
- Innovation at the nexus of technology, data and behavioral finance
- Alternative and equity strategies
- Large and sophisticated investors around the globe



Our Capabilities

Alternative and equity strategies

	← Traditional Long-Only	→ Alternatives		
Equity	<ul style="list-style-type: none">• Styles• Enhanced• Adaptive	<ul style="list-style-type: none">• Relaxed Constraint• 3-Alpha• Portable Alpha	<ul style="list-style-type: none">• Long/Short Equity• Equity Market Neutral	\$76.9B AUM
Macro		<ul style="list-style-type: none">• Multi-Asset• Commodities	<ul style="list-style-type: none">• Global Macro• Trend-Following	\$20.5B AUM
Arbitrage			<ul style="list-style-type: none">• Merger Arbitrage• Convertible Arbitrage• Event Driven	\$2.4B AUM
Multi-Strategy			<ul style="list-style-type: none">• Diversified portfolios incorporating stock selection, macro and arbitrage	\$14.5B AUM



AQR UCITS Funds

Many of AQR's strategies are managed in liquid UCITS funds

AQR UCITS Funds	Strategy Inception	Strategy AUM	UCITS Fund Inception	UCITS Fund AUM	Liquidity
Alternative Absolute Return Funds					
AQR Managed Futures UCITS Fund	Sep-09	\$4,014M	Oct-14	\$646M	Daily
AQR Style Premia UCITS Fund	Sep-12	\$4,335M	Oct-14	\$420M	Daily
AQR Corporate Arbitrage UCITS Fund	Jul-20	\$2,340M	Jun-21	\$138M	Daily
AQR Alternative Trends UCITS Fund	Jan-18	\$2,527M	Feb-23	\$894M	Daily
AQR Apex UCITS Fund	Apr-20	\$2,340M	Feb-17	\$871M	Daily
AQR Adaptive Equity Market Neutral UCITS Fund	Jan-01	\$4,428M	Jun-24	\$505M	Daily
Alternative Total Return Funds					
AQR Global Risk Parity UCITS Fund	Jan-06	\$8,530M	Aug-12	\$818M	Daily
AQR Sustainable Delphi Long-Short Equity UCITS Fund	Nov-12	\$2,220M	Oct-18	\$536M	Daily
Equity Funds					
AQR Sustainable Delphi Global Equities UCITS Fund	Mar-11	\$6,106M	Sep-13	\$92M	Daily
AQR Sustainable Style Premia Global Equity UCITS Fund	Apr-13	\$25,291M	Apr-17	\$326M	Daily
AQR Sustainable Emerging Relaxed Constraint Equity UCITS Fund	Jan-16	\$2,948M	May-19	\$1,425M	Daily
AQR Adaptive Global Equity UCITS Fund	Nov-03	\$2,746M	Dec-24	\$106M	Daily
Total Assets		\$67,823M		\$8,962M	

Source: AQR. Approximate assets under management as of December 31, 2024. 'AQR UCITS Funds' includes AQR UCITS Funds and AQR UCITS Funds II, further information for which can be found in the prospectuses. Please note that the Total UCITS Fund AUM is representative of all AQR UCITS Funds, which includes funds not included in the table above. Information on the AQR Strategies is provided for information purposes only to illustrate the investment process. Performance and investments of the AQR UCITS Funds will differ from the AQR Strategies and therefore historic data should be interpreted accordingly. Strategy launch dates above refer to the inception of AQR's first standalone version of the respective strategies and is not necessarily representative of the launch of the UCITS Fund. Strategy AUM includes assets under management for all implementations of the respective overarching AQR strategies. AQR Sustainable Delphi Long-Short Equity strategy AUM includes assets under management for all implementations of AQR's global stock selection total return strategies. AQR Style Premia: Sustainable Global Equity strategy AUM includes assets under management for all implementations of AQR's suite of multi-style equity strategies. The AQR Systematic Total Return UCITS Fund was renamed to the AQR Apex UCITS Fund on April 25, 2024. The AQR Sustainable Corporate Arbitrage UCITS Fund was renamed to the AQR Corporate Arbitrage UCITS Fund on August 24, 2023. The AQR Delphi Long-Short Equity UCITS Fund was renamed to the AQR Sustainable Delphi Long-Short Equity UCITS Fund on February 8, 2021. The AQR Delphi Global Equities UCITS Fund was renamed to the AQR Sustainable Delphi Global Equities UCITS Fund on February 2, 2021. The AQR Style Premia: Global Equity UCITS Fund merged with the AQR Style Premia: Sustainable Global Equity UCITS Fund on September 25, 2020 and was renamed to AQR Sustainable Style Premia Global Equity UCITS Fund. Fund offering documents contain risk warnings that are specific to each fund. Investors should only invest in a fund once they have thoroughly reviewed the prospectus and Key Investor Information Document ("KIID") for the fund and carefully considered the relevant investment objectives, risks, charges and fees. Investors may wish to consult an independent financial advisor for personal and specific investment advice before investing. Please note that investments to some vehicles may be restricted.



Our Firm

Leadership across disciplines



John Liew, Ph.D.
Founding Principal



Cliff Asness, Ph.D.
Managing and Founding Principal



David Kabiller, CFA
Founding Principal

Portfolio Management

Research | Stock Selection

| Macro

| Arbitrage

Trading and Portfolio Implementation

Risk Management

Business Development

Client Solutions

Marketing

Portfolio Solutions

Corporate Infrastructure

Finance

Legal, Compliance and Risk

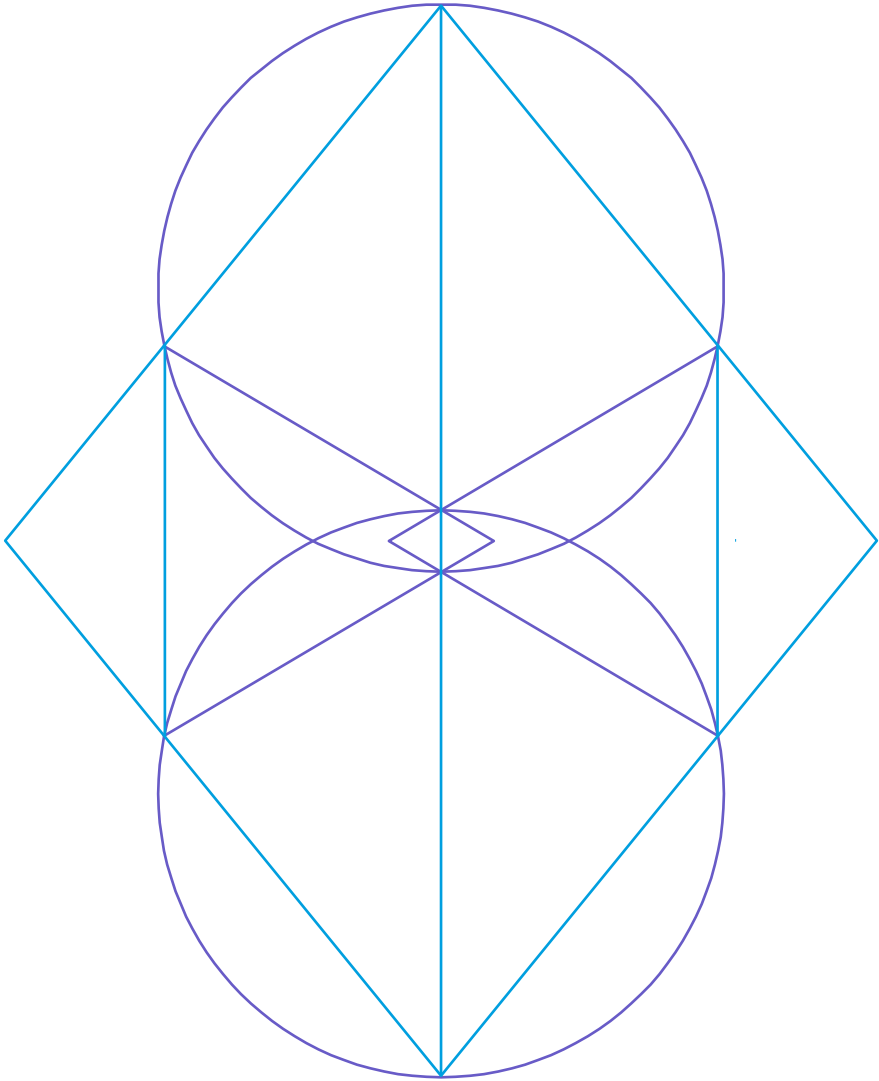
Human Resources

Engineering

Accounting, Operations and
Client Administration



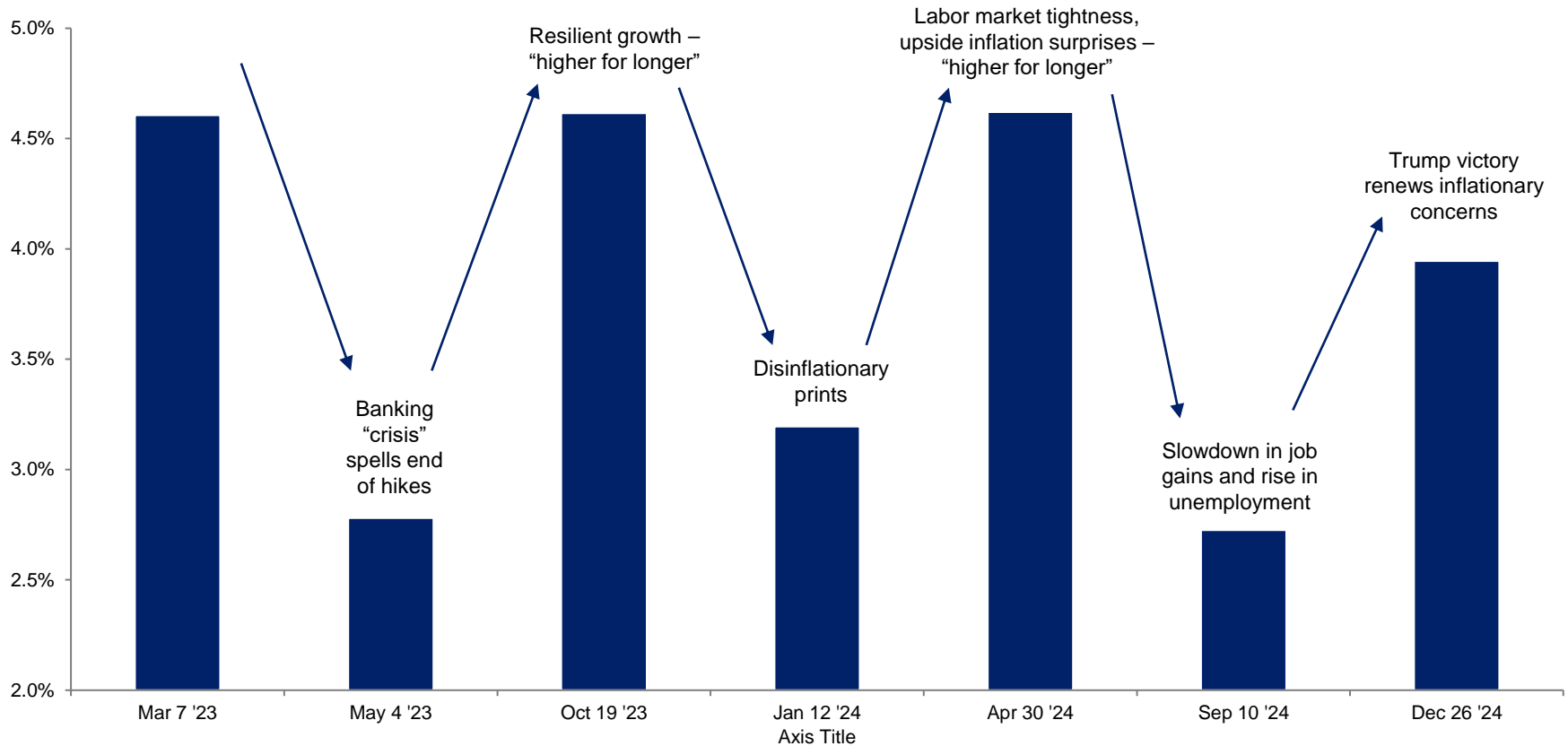
Outlook



Macro Uncertainty Poised to Persist

Monetary Policy Expectations Have Oscillated Wildly

Fed Funds Futures Pricing: 18-Months Forward Rates

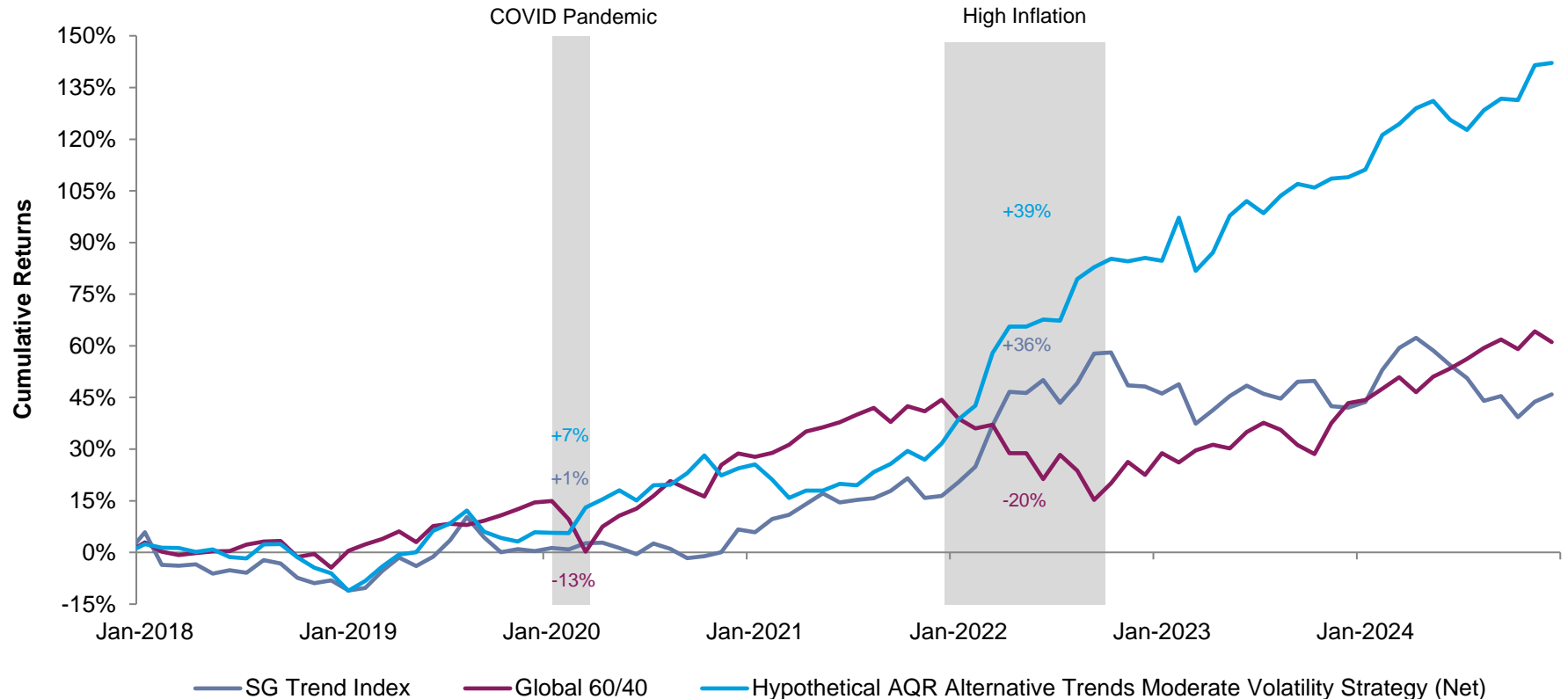


Alternative Trend Following Has Outperformed

Both absolutely and during traditional market drawdowns

Cumulative Returns

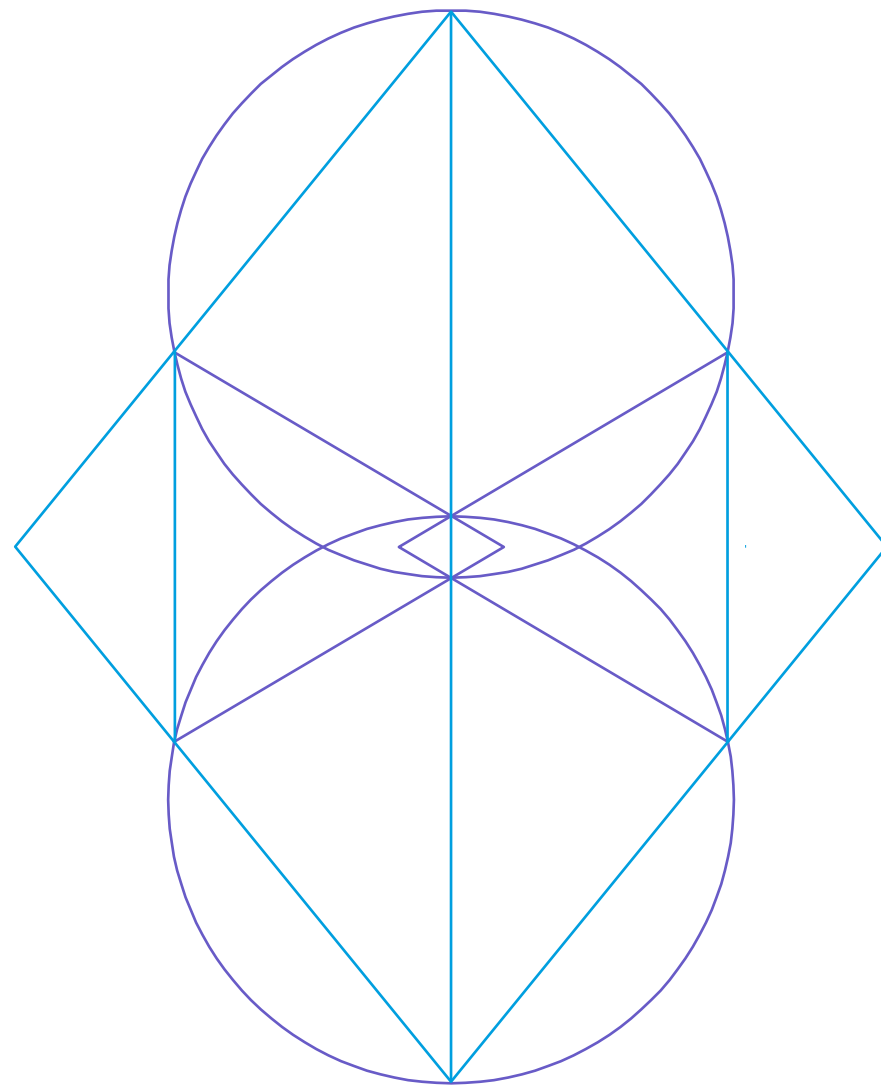
January 1, 2018 – December 31, 2024



Source: AQR, Bloomberg. Net returns are net of a 1.5% management fee and 20% performance fee (over 3 Month T-bill hurdle) per annum and in USD. Please see the appendix for a description of the Hypothetical AQR Alternative Trends Moderate Volatility Strategy. Volatility adjusted performance has been scaled to match a different volatility target and is not the actual performance of the AQR Helix Strategy. All volatility scaled performance is hypothetical and for illustrative purposes only. Hypothetical data has inherent limitations, some of which are disclosed in the Appendix. The Global 60/40 Portfolio is based on a 60% weighting on the MSCI World Net Total Return USD Index and 40% weighting on the Bloomberg Barclays Global Aggregate Total Return Index, rebalanced monthly. The SG Trend Index is designed to track the largest 10 (by AUM) CTAs and be representative of the managed futures trend-following space. Past performance does not predict future returns.



AQR Alternative Trends UCITS Fund



What is an “Alternative Asset”?

There are barriers to entry

Alternative assets are generally **harder to access** than traditional assets. They might have one or more of these qualities:

- Lower capacity
- Traded on niche exchanges
- Fewer counterparties providing access
- Voice / OTC traded
- Unable to be traded directly



Focused on Alternative Assets

Diversified across differentiated asset categories

Equity Factors	Interest Rate Swaps	Alternative Commodities	Emerging Currencies	Credit																																				
<p><i>Hundreds of proprietary market-neutral factor portfolios including more than 2,000 stocks across 70 industries across geographies.</i></p> <p>Valuation</p> <p>Momentum</p> <p>Stability</p> <p>Earnings Quality</p> <p>Investor Sentiment</p> <p>Management Signaling</p>	<p>Emerging Markets</p> <table border="0"> <tr><td>Chile</td><td>China</td></tr> <tr><td>Colombia</td><td>Czech Republic</td></tr> <tr><td>Hong Kong</td><td>Hungary</td></tr> <tr><td>India</td><td>Israel</td></tr> <tr><td>Mexico</td><td>Poland</td></tr> <tr><td>Singapore</td><td>South Africa</td></tr> <tr><td>South Korea</td><td>Taiwan</td></tr> <tr><td>Thailand</td><td></td></tr> </table> <p>Developed Markets</p> <table border="0"> <tr><td>Australia</td><td>Canada</td></tr> <tr><td>Europe</td><td>Japan</td></tr> <tr><td>Norway</td><td>New Zealand</td></tr> <tr><td>Sweden</td><td>Switzerland</td></tr> <tr><td>United Kingdom</td><td>United States</td></tr> </table> <p>Yield Curves</p> <table border="0"> <tr><td>Australia</td><td>Canada</td></tr> <tr><td>Europe</td><td>Japan</td></tr> <tr><td>Norway</td><td>New Zealand</td></tr> <tr><td>Sweden</td><td>Switzerland</td></tr> <tr><td>United Kingdom</td><td>United States</td></tr> </table>	Chile	China	Colombia	Czech Republic	Hong Kong	Hungary	India	Israel	Mexico	Poland	Singapore	South Africa	South Korea	Taiwan	Thailand		Australia	Canada	Europe	Japan	Norway	New Zealand	Sweden	Switzerland	United Kingdom	United States	Australia	Canada	Europe	Japan	Norway	New Zealand	Sweden	Switzerland	United Kingdom	United States	<p>Agricultural</p> <p>Apple¹</p> <p>Canola</p> <p>Cheese</p> <p>Corn^{2,11}</p> <p>Corn Starch²</p> <p>Cotton¹</p> <p>Eggs²</p> <p>Feeder Cattle</p> <p>Hogs²</p> <p>Jujube¹</p> <p>Milk</p> <p>Milling Wheat</p> <p>Minnesota Wheat</p> <p>Orange Juice</p> <p>Palm Oil^{2,3}</p> <p>Peanut Kernels¹</p> <p>Rapeseed</p> <p>Rapeseed Meal¹</p> <p>Rapeseed Oil¹</p> <p>Robusta Coffee</p> <p>Rough Rice</p> <p>S. African Soybeans</p> <p>S. African Wheat</p> <p>S. African White Maize</p> <p>S. African Yellow Maize</p> <p>Soybeans²</p> <p>Soymeal²</p> <p>Soy Oil²</p> <p>Sunflower Seeds</p> <p>U.K. Feed Wheat</p> <p>White Sugar^{1,4}</p> <p>Chemicals</p> <p>Ethylbenzene²</p> <p>Ethylene Glycol²</p> <p>Glass¹</p> <p>Kraft Pulp⁷</p> <p>Lumber</p> <p>Methanol¹</p> <p>Polypropylene²</p> <p>Polyvinyl Chloride²</p> <p>Polyethylene²</p> <p>PTA¹</p> <p>Rubber^{5,6,7,8}</p> <p>Soda Ash¹</p> <p>Urea¹</p> <p>Energies</p> <p>Belgian Power</p> <p>Bitumen⁷</p> <p>Capesize Freight</p> <p>Conway Propane</p> <p>Crude Oil^{5,6}</p> <p>Dubai Crude Oil</p> <p>Dutch Natural Gas</p> <p>Dutch Power</p> <p>EU Emissions</p> <p>French Power</p> <p>Fuel Oil^{6,7}</p> <p>German Power</p> <p>Italian Power</p> <p>LPG²</p> <p>Mont Belvieu Butane</p> <p>Mont Belvieu Ethane</p> <p>Mont Belvieu Propane</p> <p>Newcastle Coal</p> <p>Panamax Freight</p> <p>PJM Western Hub</p> <p>Platts Ethanol</p> <p>Platts JKM LNG</p> <p>Rotterdam Coal</p> <p>Spanish Power</p> <p>UK Natural Gas</p> <p>UK Emissions</p> <p>Metals</p> <p>Aluminum⁷</p> <p>Bonded Copper⁶</p> <p>Coking Coal^{2,8}</p> <p>Copper⁷</p> <p>Ferrosilicon¹</p> <p>Gold⁷</p> <p>Hot Rolled Coil^{7,10}</p> <p>Iron Ore^{2,8}</p> <p>Lead^{7,9}</p> <p>Nickel⁷</p> <p>Silicon Manganese¹</p> <p>Silver⁷</p> <p>Stainless Steel⁷</p> <p>Steel Rebar⁷</p> <p>Tin^{7,9}</p> <p>Zinc⁷</p> <p>Commodity Spreads</p>	<p>Emerging Currencies</p> <p>Brazil</p> <p>Chile</p> <p>China</p> <p>Colombia</p> <p>Czech Republic</p> <p>Hungary</p> <p>India</p> <p>Indonesia</p> <p>Israel</p> <p>Mexico</p> <p>Peru</p> <p>Philippines</p> <p>Poland</p> <p>Singapore</p> <p>South Africa</p> <p>South Korea</p> <p>Taiwan</p> <p>Thailand</p>	<p>Developed Markets</p> <p>Europe – IG</p> <p>Europe – HY</p> <p>Europe Sovereign</p> <p>North America – IG</p> <p>North America – HY</p> <p>Emerging Markets</p> <p>Emerging Sovereign</p> <p>Volatility</p> <p>Futures</p> <p>Europe (VSTOXX)</p> <p>United States (VIX)</p>
Chile	China																																							
Colombia	Czech Republic																																							
Hong Kong	Hungary																																							
India	Israel																																							
Mexico	Poland																																							
Singapore	South Africa																																							
South Korea	Taiwan																																							
Thailand																																								
Australia	Canada																																							
Europe	Japan																																							
Norway	New Zealand																																							
Sweden	Switzerland																																							
United Kingdom	United States																																							
Australia	Canada																																							
Europe	Japan																																							
Norway	New Zealand																																							
Sweden	Switzerland																																							
United Kingdom	United States																																							



¹Markets traded on Zhengzhou Commodity Exchange (ZCE). ²Markets traded on Dalian Commodity Exchange (DCE). ³Markets traded on Bursa Malaysia Exchange (MDE).

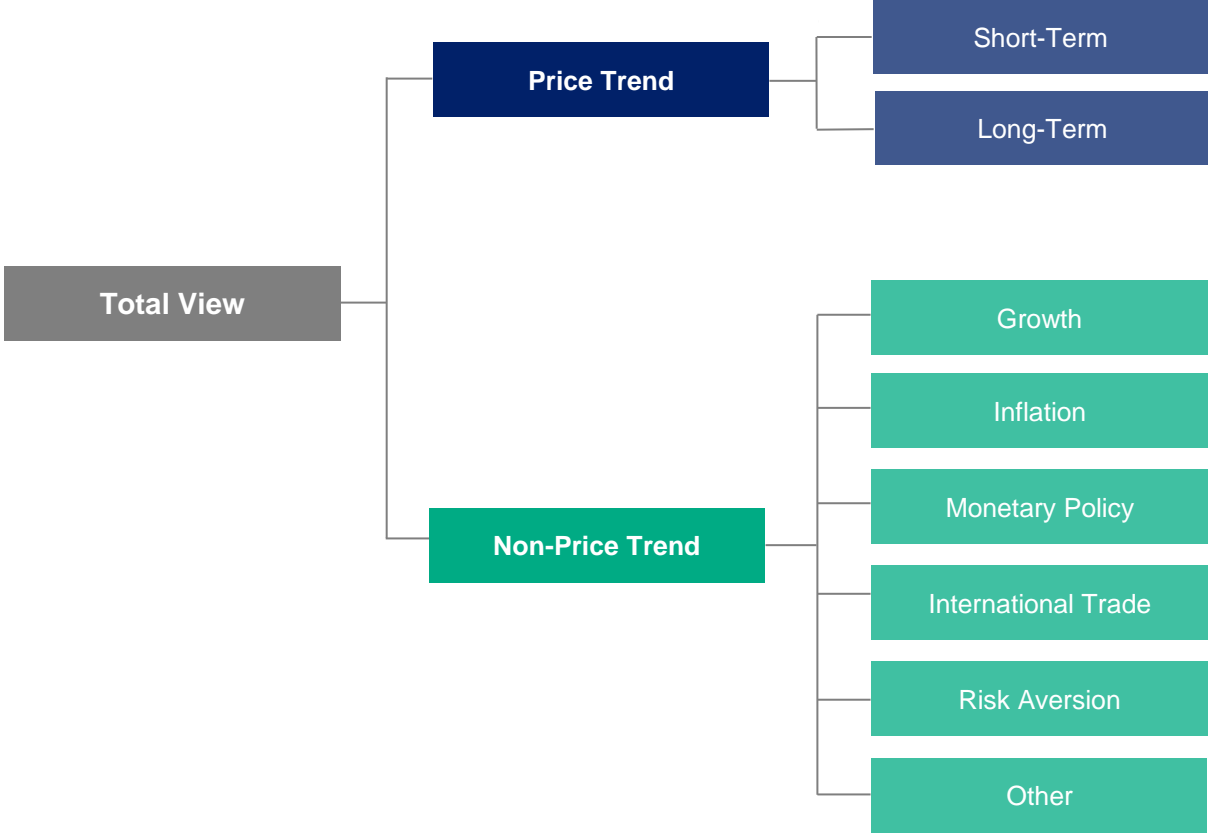
⁴Markets traded on Intercontinental Exchange (ICE). ⁵Markets traded on Tokyo Commodity Exchange (TOCOM). ⁶Markets traded on Shanghai International Energy Exchange (INE).

⁷Markets traded on Shanghai Futures Exchange (SHFE). ⁸Markets traded on Singapore Exchange (SGX). ⁹Markets traded on London Metal Exchange (LME). ¹⁰Markets traded on Chicago

Mercantile Exchange (CME). ¹¹Markets traded on Euronext Paris Exchange. Source: AQR. As of December 31, 2024. Specific exposures and asset classes are subject to change at any time without notice. Diversification does not eliminate the risk of experiencing investment losses.

An Innovative Model

Making use of traditional and more innovative measures



Source: AQR. The above model is for illustrative purposes only. Investment process subject to change at any time without notice. Please read important disclosures in the Appendix.

Economic Trend Following Capitalizes on Under-Reaction

Apply broadly, across multiple asset classes and economic themes

Go long assets with improving fundamental trends (i.e., good news), short assets with worsening fundamental trends (i.e., bad news)

Theme	Signal Example	Direction			
		Credit	Interest Rate Swaps	Currencies	Commodities
Growth	<i>Positive growth forecast revisions</i>	+	-	+	+
Inflation	<i>Positive inflation surprises</i>	-	-	+	+
International Trade	<i>Export-weighted currency depreciation</i>	+	-	-	-
Monetary Policy	<i>Declining two-year yields</i>	+	+	-	+
Risk Aversion	<i>Tightening credit spreads</i>	+	-	+	+



Source: AQR. For illustrative purposes only and not representative of an actual portfolio AQR manages. For commodities the themes are consumption-weighted (i.e., the signals apply to consuming countries of that commodity).

Alternative Trends UCITS Fund Performance

February 16, 2023 – December 31, 2024

AQR Alternative Trends UCITS Fund

	Alternative Trends UCITS (Net)	SG Trend Index	Cash
Q4 2024	2.7%	0.4%	1.2%
2023	8.2%	-3.5%	4.5%
2024	15.0%	2.7%	5.3%
Rolling 1 Yr. 1/2024 - 12/2024	15.0%	2.7%	5.3%
1-Year	15.0%	2.7%	5.3%
Since Inception (Ann.)	12.3%	-0.5%	5.2%
Summary (Since February 16, 2023)			
Realized Volatility	9.4%	12.0%	
Sharpe Ratio	0.76	-0.47	
Correlation to SG Trend	0.72	1.00	
Correlation to Global 60/40	-0.17	-0.27	

Source: AQR, Bloomberg. All performance figures are for the AQR Alternative Trends UCITS Fund and represent preliminary unaudited estimates of net realized and unrealized returns prepared by AQR Capital Management, LLC ("AQR") and are in USD unless noted otherwise. Past performance does not predict future returns. Net returns are net of a 1.5% management fee, a 0.25% administrative and operating fee, and a 20% performance fee per annum (USD). The Global 60/40 has 60% invested in the MSCI World Net Total Return USD Index and 40% invested in the Bloomberg Barclays Global Aggregate Total Return Index. The ICE BofAML U.S. 3-Month Treasury Bill is the risk-free rate used to derive the Sharpe ratio. Please note performance fees are charged over a cash hurdle measured by the ICE BofAML U.S. 3-Month Treasury Bill Index for the USD share class. The Fund is actively managed, which means that the investments are selected at the discretion of AQR. The Fund is not managed in reference to a benchmark. Please read important disclosures at the end of this document.



Key Risks Related to the Alternative Trends UCITS Fund

The Fund may use derivatives for investment purposes. It may be that the use of derivatives may not always be successful and cause share prices to fluctuate which may in turn result in loss to the Fund.

The Fund is exposed to the currency markets which may be highly volatile. Large price swings can occur in such markets within very short periods and may result in your investment suffering a loss.

The Fund may enter into one or more derivatives with a counterparty. There is a risk that this party may fail to make its payments or become insolvent which may result in the fund and your investment suffering a loss.

The Fund may be exposed to liquidity risk where, due to a lack of marketability, the Fund's investments cannot be bought or sold quickly enough to prevent or minimise a loss.

More information in relation to risks in general may be found in the “Risk Factors” section of the prospectus.

The decision to invest in the Fund should take into account all the characteristics or objectives of the Fund as described in its prospectus.

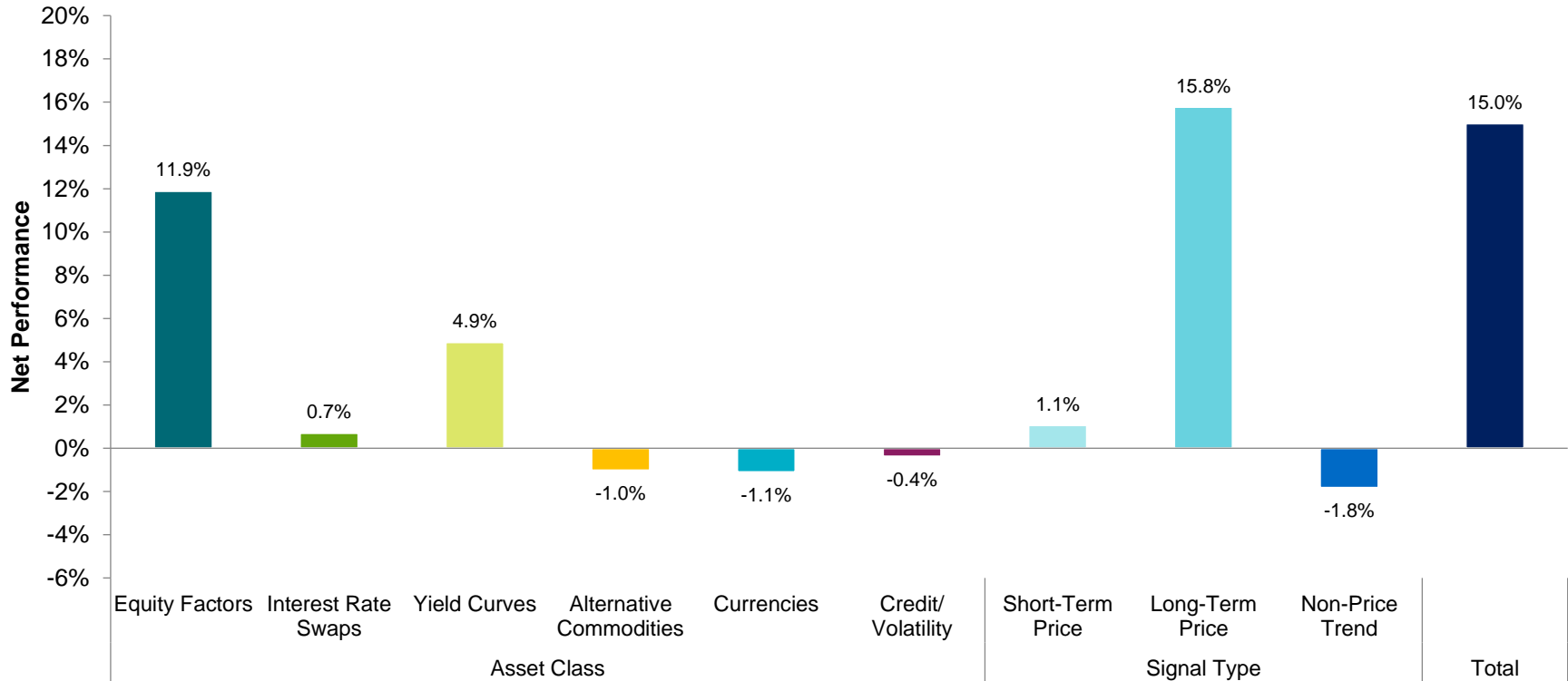


Performance Attribution Summary

AQR Alternative Trends UCITS Fund

Net Performance Attribution

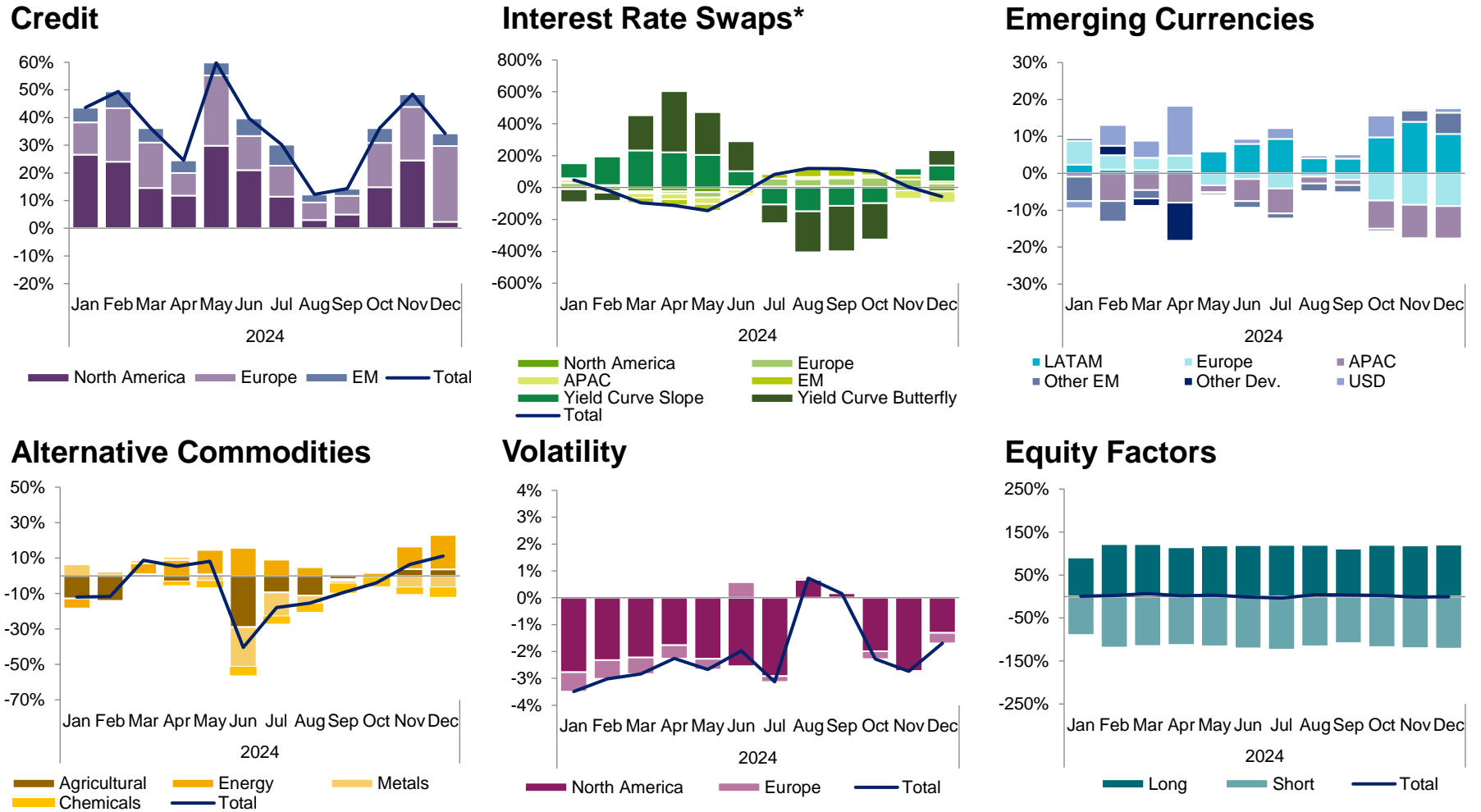
January 1, 2024 – December 31, 2024



Source: AQR. All performance represent preliminary unaudited estimates of gross realized and unrealized returns prepared by AQR Capital Management, LLC ("AQR") and are in USD unless noted otherwise. Please see the Appendix for important risk and performance disclosures. Investors should refer to monthly statements provided by your custodian or administrator for actual returns. Attribution is subject to change at any time without notice. Past performance does not predict future returns.

Portfolio Positioning: Notional Exposure

AQR Alternative Trends UCITS Fund



Source: AQR. *Total net exposures exclude Yield Curve Butterfly and Yield Curve Slope strategies. Exposures for Yield Curve Slope and Butterfly strategies are one-legged. We report exposures for the longer-end leg for Yield Curve Slope strategies and for the 5-yr leg for the Yield Curve Butterfly strategies. Month-end positions shown. Interest rate swap notional is represented in 10-year equivalents by duration adjusting the notional exposure of each position. Exposures are subject to change at any time without notice. Please read important disclosures in the Appendix.

Helix Strategy Performance

January 1, 2018 – December 31, 2024

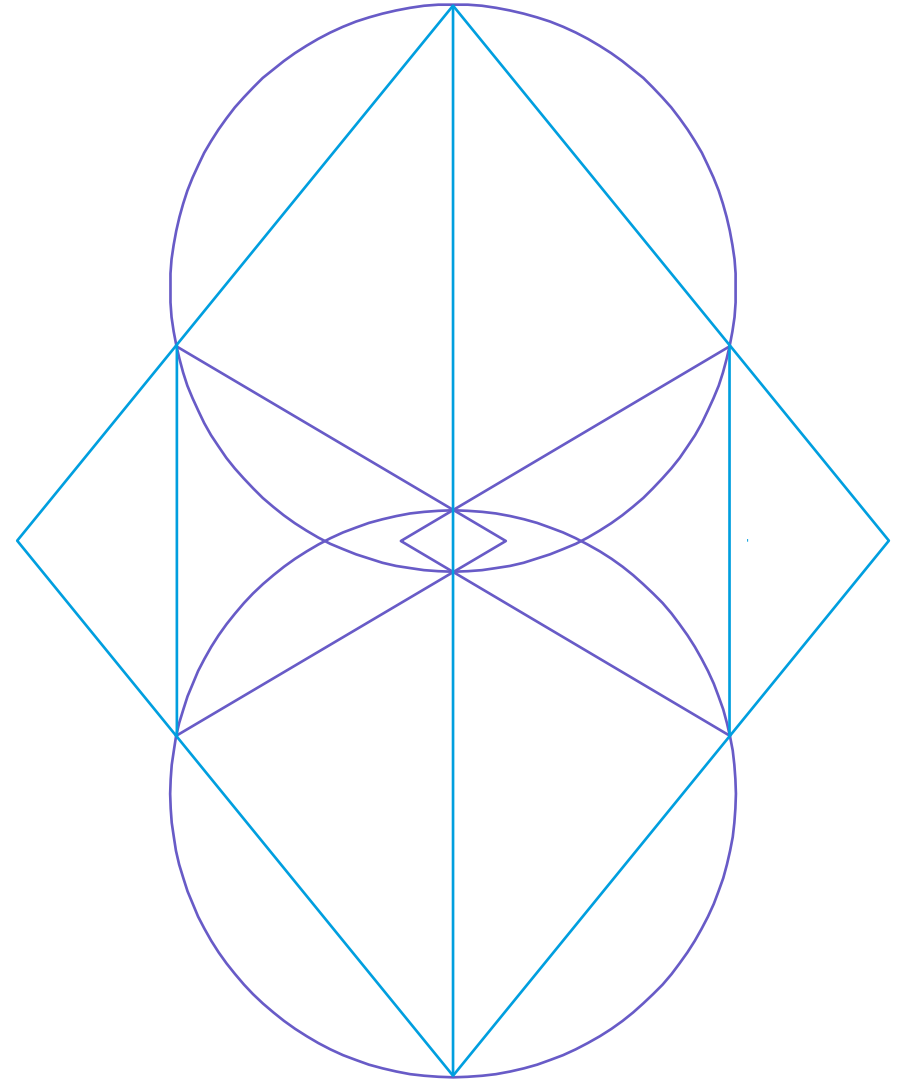
AQR Helix Strategy

	Helix Strategy (Net)	SG Trend Index	Cash
Q1 2024	8.5%	12.2%	1.3%
Q2 2024	0.4%	-3.2%	1.3%
Q3 2024	3.0%	-5.8%	1.4%
Q4 2024	5.1%	0.3%	1.2%
2018	-7.2%	-8.1%	1.9%
2019	14.5%	9.2%	2.3%
2020	20.8%	6.3%	0.7%
2021	6.9%	9.1%	0.0%
2022	49.1%	27.3%	1.5%
2023	14.0%	-4.2%	5.0%
2024	17.9%	2.7%	5.3%
1 Year	17.9%	2.7%	5.3%
3 Year (Ann.)	26.1%	7.8%	3.9%
5 Year (Ann.)	21.0%	7.8%	2.5%
Since Inception (Ann.)	15.6%	5.5%	2.4%
Realized Volatility	12.6%	12.1%	
Sharpe Ratio	1.05	0.26	
Correlation to SG Trend	0.62	1.00	
Correlation to Global 60/40	-0.21	-0.17	

Source: AQR, Bloomberg. Net returns are net of a 1.5% management fee and 20% performance fee (over 3 Month T-bill hurdle) per annum and in USD. Performance for the most recent month end is estimated and subject to change. The Global 60/40 portfolio has 60% of the portfolio invested in the MSCI World Index and 40% invested in the Bloomberg Barclays Global Aggregate Bond Index. Past performance does not predict future returns. Other discretionary portfolios that trade similar securities and/or strategies as those portfolios included in this composite, but do not meet this composite's strategy criteria, are excluded from this composite and reside in one or more separate composites, which are available upon request. The ICE BofAML U.S. 3-Month Treasury Bill is the risk-free rate used to derive the Sharpe ratio. Cash is the ICE BofA 3-Month T-Bill. Information on the Helix Strategy is provided for informational purposes only to illustrate the investment process. Performance and investments of the Alternative Trends UCITS Fund will differ from the Helix Strategy and therefore historic data should be interpreted accordingly. Please read important disclosures in the Appendix.



A Focus on Innovation



Innovations

Efforts across three key research categories

New Markets

TRENDS EVERYWHERE
Abhishek Bhat¹, Avi Levhari², Sun Hwan Park³,
Luisa Hojo Pedersen^{3,4} and Erik Sauter^{3,4}

We provide new out-of-sample evidence on trend-following investing by studying its performance for 82 securities and previously examined and 16 long-short equity factors. Specifically, we study the performance of time series momentum for emerging market equity index futures, fixed income swaps, emerging market currencies, commodities futures, credit default swap indices, volatility futures, and long-short equity factors. We find that time series momentum has worked across these asset classes and across several trend horizons. We examine the co-movement of trends across asset classes and factors, the performance during different market environments, and discuss the implications for investors.

1 Introduction

Trend following investing has attracted a lot of attention over the past decade due to its strong performance during the global financial crisis and the fact that the recent literature has debunked the strategy. Indeed, the recent literature shows that trend following can be captured using a simple time series momentum strategy, which estimates an "up trend" based on observed positive excess returns over the past year, and a "down trend" when the past return is negative (Mohawar et al., 2012). Further, this time series momentum strategy can explain most of the performance of real-world CTAs and managed futures funds (Hareu et al., 2013).¹

Nevertheless, time series momentum has been challenged by some researchers. Indeed, Kim et al. (2016) and Huang et al. (2018) argue that the returns to time series momentum may be partly due to static bets and the benefits of volatility scaling. We perform tests designed to address these challenges and consider out-of-sample evidence on trend following investing based on the idea that the best way to test the robustness and efficacy of a trading strategy is to consider whether it works across many different assets, especially

JOM
Journal of Investment Management, Vol. 18, No. 1, 2020, pp. 12-40
© 2020 JOM

1 AQR Capital Management, Two Greenwich Plaza, Greenwich, CT 06830, US
2 Copenhagen Business School, Søbysøgade 1, S-5, DK-2000 Frederiksberg, Denmark. Web: www.bagdevnet.com
3 Corresponding author.

52 First Quarter 2020 Not for Distribution

New Signals

AQR April 2023
Economic Trend

Executive Summary

In this paper we present a novel approach to investing across equity, bond, currency and commodity markets. "Economic trend" capitalizes on the tendency for new information to have a persistent impact on asset prices by positioning in each market on the basis of trends in macroeconomic fundamentals. The strategy has realized consistently attractive risk-adjusted returns over a 20+ year sample, and performance is pervasive across both markets and measures. It exhibits low correlation to traditional risk premia on average and tends to perform exceptionally well during drawdown periods for traditional asset classes. While economic trend is a close relative of price trend following—both approaches aim to capitalize on the tendency of markets to systematically underreact to news—the two strategies are highly complementary. Combining the two leads to improved risk-adjusted performance and more robust drawdown protection than price trend following alone.

Jordan Brooks
Principal
Nash Fallgren
Assistant
Yan Hua Dai
Principal
Adem Akart

We would like to thank Anrit Dinesen, Tobias Andersson and Erik Sauter for helpful comments.

New Techniques

Foundations and Trends® in Finance
Financial Machine Learning

Suggested Citation: Bryan Kelly and Dacheng Xiu (2023), "Financial Machine Learning", *Foundations and Trends® in Finance*, Vol. 13, No. 3-4, pp 205-363. DOI: 10.1561/05000000064.

Bryan Kelly
Yale University and AQR Capital Management
bryan.kelly@yale.edu

Dacheng Xiu
University of Chicago
dacheng.xiu@chicagobooth.edu

This article may be used only for the purpose of research, teaching and/or private study. Commercial use or systematic downloading (by robots or other automatic processes) is prohibited without explicit Publisher approval.

now
the science of knowledge
Boston — Delft

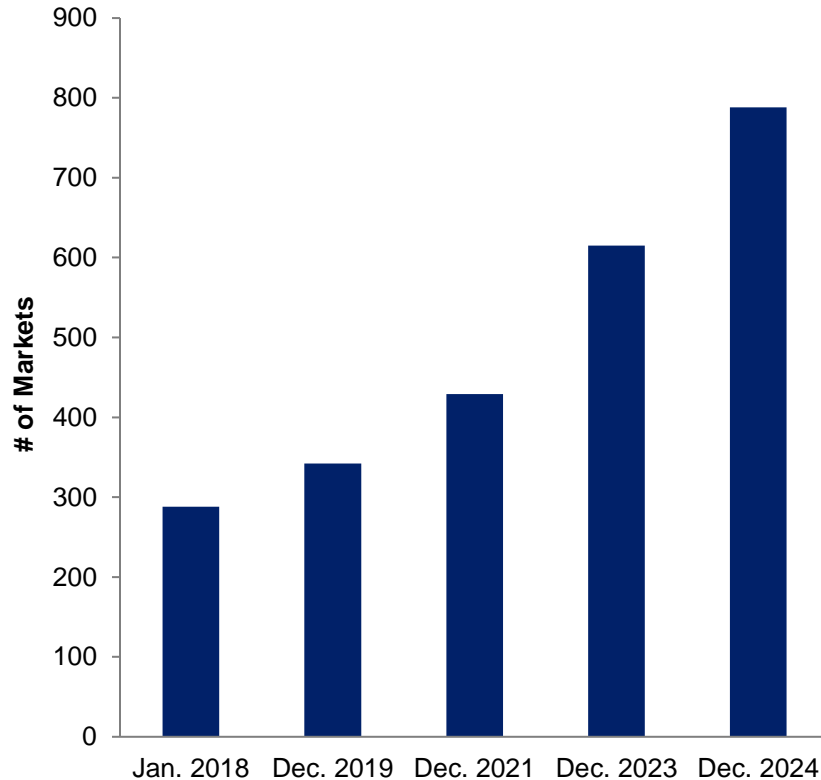


Over Time We Have Expanded the Opportunity Set

We expect continued expansion going forward

Number of Markets through Time

January 2018 – December 2024



Examples of New Markets Added in 2024:

Alternative Commodities

Capesize and Panamax Freight
Cheese
Conway Propane
Mont Belvieu Ethane
Paris Corn
PJM Western Hub
Platts JKM LNG
Spanish, Dutch and Belgian Power
Sunflower Seeds
U.K. Feed Wheat
U.S. Hot Rolled Coil
Additional Commodity Spreads

Chinese commodities

Hogs
Peanut Kernels

Rates / FX

Emerging Currency Crosses
Additional Emerging IRS including China, Chile, Colombia, India, Taiwan and Thailand
Interest Rate Future Spreads

Fixed Income – Sovereign Credit

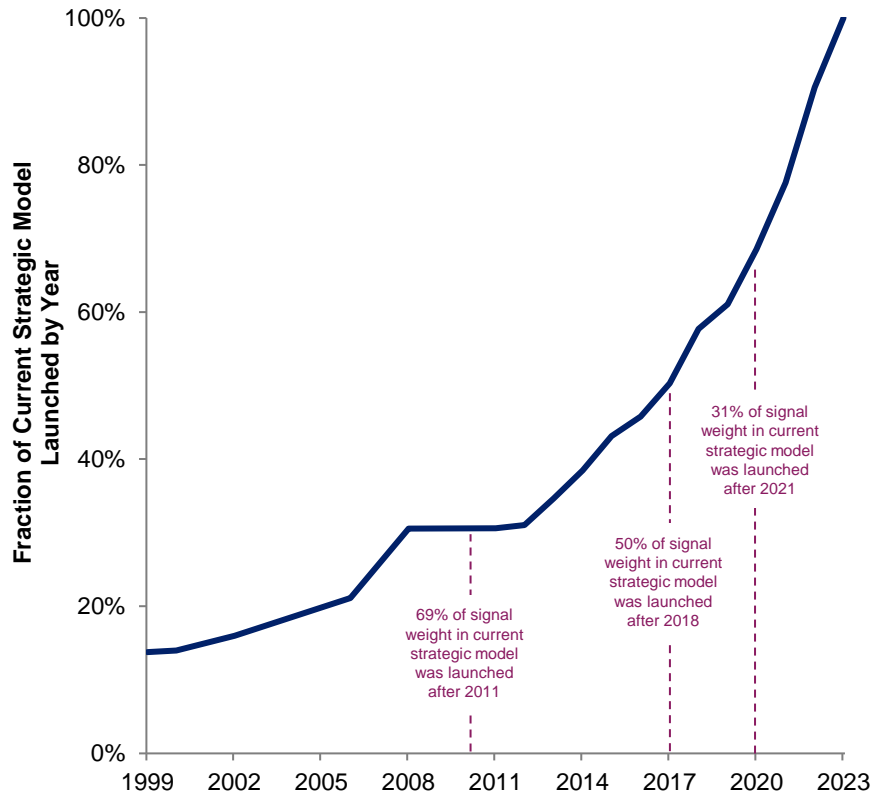
Italy
France



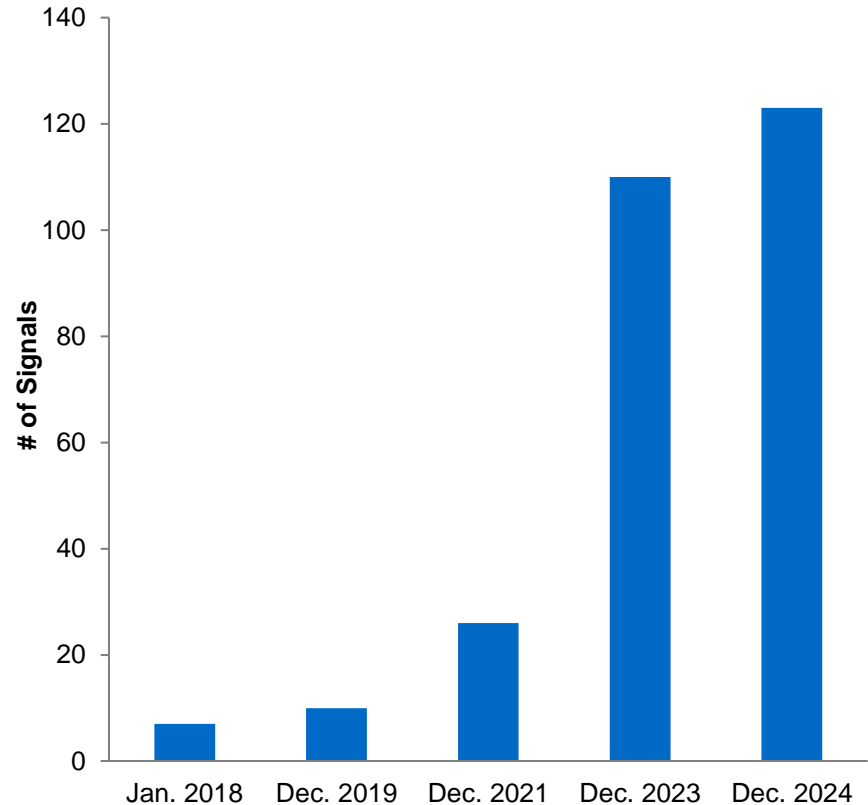
Increasing Model Depth in Stocks and Macro

We expect continued development

**Hypothetical U.S. Stock Selection Model Evolution:
Fraction of Current Strategic Model Launched by Year**
January 1, 1999 – December 31, 2024



**Alternative Trends Model Evolution:
Number of Trend Signals**
January 1, 2018 – December 31, 2024



Source: AQR. As of 12/31/2024. The chart on the left shows the cumulative fraction of the current strategic (i.e. excluding the tactical portion of the model) U.S. stock selection model signal weights launched by year. It is computed using the Hypothetical AQR U.S. Model. The chart on the right represents the number of markets and signals traded in the AQR Helix Strategy. Hypothetical data has inherent limitations, some of which are disclosed in the Appendix. For illustrative purposes only and not representative of an actual portfolio AQR currently manages. Please read the Appendix for important disclosures

Measure Economic Trends Exhaustively and in Real-Time

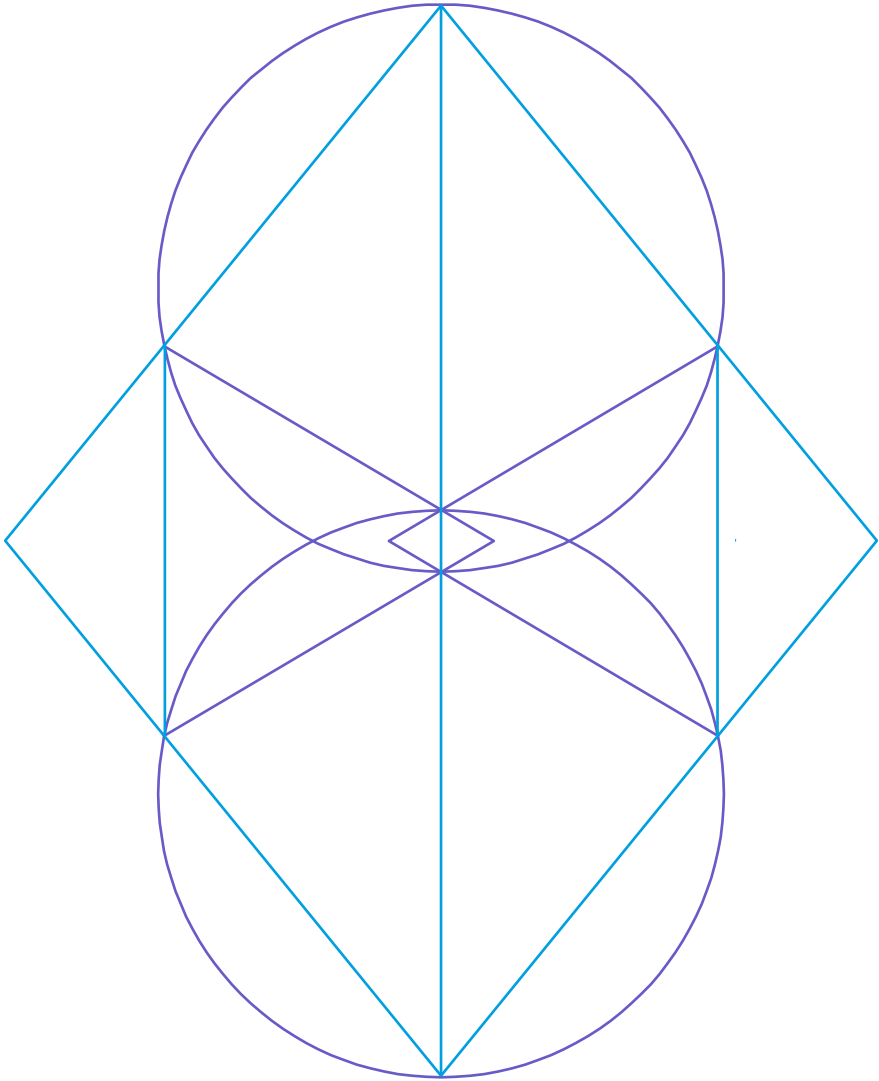
Capturing economic news requires infrastructure and research capabilities

Measure trends in **growth**, **inflation**, **monetary policy**, **international trade**, **risk aversion**, and **market-specific fundamentals** using a vast set of real-time measures:

- **Economic forecasts** from hundreds of professional forecasters, systematic identification of informed forecasters
- **Announcements** using 400+ economic releases across 30+ countries and 20+ commodity markets
- **In-house surprise measures** across a range of growth and inflation-related datasets
- **High-frequency asset price data**, including intraday returns
- **Bottom-up company earnings forecasts** across developed and emerging companies
- **Structural models**, e.g., in-house central bank reaction functions
- **Commodity-specific data** on supply and demand
- **Equity baskets** to track macroeconomic state variables
- **Market implied fundamentals** across instruments and countries



Disclosures



Disclosures

This is a marketing communication. Please refer to the Prospectus, KIID and (where applicable) KID for more information on general terms, risks and fees. Investors should only invest in the Fund once they have reviewed the Prospectus, KIID and (where applicable) KID, the most recent versions are available free of charge, in English and in your local language at AQR UCITS Funds, c/o HedgeServ (Luxembourg) 4th Floor, K2 Forte, 2-2a Rue Albert Borschette, L-1246, Luxembourg, along with the annual and semi-annual report and articles (each in English). Investors may wish to consult an independent financial advisor for personal and specific investment advice before investing. Only the information provided in the Prospectus and the KIID is legally binding. Not all share classes are available for investment in all countries. The Prospectus as well as a summary of investor rights are available in English. The relevant KIID is available in Danish, Dutch, English, French, German, Icelandic, Italian, Norwegian, Spanish, Swedish, and depending upon the specific fund, Greek and Portuguese. These documents are available at: <https://ucits.aqr.com/>

For further information regarding the risks of investing in the Fund please refer to the Risk and Reward section of the KIID and the section of the Prospectus entitled "Risk Factors."

Please refer to the Prospectus, KIID and (where applicable) KID for more information on fees. The information contained herein is for informational purposes only and does not constitute an offer or invitation to buy, sell or otherwise transact in any security. The information on this site is directed only at persons or entities in any jurisdiction or country where such access to information contained herein and use of such information is not contrary to local law or regulation. Accordingly, all persons who access this website are required to inform themselves of and to comply with any such restrictions. The prospectus, KIID and the latest periodic reports for each fund are available free of charge.

The Fund is a sub-fund of AQR UCITS Funds, a Luxembourg based UCITS of which the management company is FundRock Management Company S.A.

Please note that the management company may decide to terminate the arrangements made for the marketing of the Fund in any country where it has been registered for marketing. The fees and charges paid by the Fund will reduce the return on your investment. Certain costs paid by the Fund may be charged in a currency other than your local currency and exchange rate fluctuations may cause these costs to increase or decrease when converted into your local currency.

AQR is entitled to receive a performance fee in relation to certain share classes of the Fund. Please refer to the prospectus to check if a performance fee is charged on your shares and for further detail of the performance fee calculation method. This document has been provided to you solely for information purposes and does not constitute an offer or solicitation of an offer or any advice or recommendation to purchase any securities or other financial instruments and may not be construed as such. The factual information set forth herein has been obtained or derived from sources believed to be reliable but it is not necessarily all-inclusive and is not guaranteed as to its accuracy and is not to be regarded as a representation or warranty, express or implied, as to the information's accuracy or completeness, nor should the attached information serve as the basis of any investment decision. This document is intended exclusively for the use of the person to whom it has been delivered and it is not to be reproduced or redistributed to any other person.

There is no guarantee, express or implied, that long-term return and/or volatility targets will be achieved. Realized returns and/or volatility may come in higher or lower than expected. Actual performance figures contained herein reflect the reinvestment of dividends and all other earnings and represent unaudited estimates of realized and unrealized gains and losses prepared by AQR. There is no guarantee as to the above information's accuracy or completeness. **Past performance does not predict future returns.** Diversification does not eliminate the risk of experiencing investment losses.

There is a risk of substantial loss associated with trading commodities, futures, options, derivatives and other financial instruments. Before trading, investors should carefully consider their financial position and risk tolerance to determine if the proposed trading style is appropriate. Investors should realize that when trading futures, commodities, options, derivatives and other financial instruments one could lose the full balance of their account. It is also possible to lose more than the initial deposit when trading derivatives or using leverage. All funds committed to such a trading strategy should be purely risk capital.

Request ID: 392850



Disclosures

HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH, ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY FUND OR ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN HEREIN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY REALIZED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS THAT CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS, ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS. The hypothetical performance results contained herein represent the application of the quantitative models as currently in effect on the date first written above and there can be no assurance that the models will remain the same in the future or that an application of the current models in the future will produce similar results because the relevant market and economic conditions that prevailed during the hypothetical performance period will not necessarily recur. Discounting factors may be applied to reduce suspected anomalies. This backtest's return, for this period, may vary depending on the date it is run. Hypothetical performance results are presented for illustrative purposes only. In addition, our transaction cost assumptions utilized in backtests, where noted, are based on AQR Capital Management, LLC's, ("AQR")'s historical realized transaction costs and market data. Certain of the assumptions have been made for modeling purposes and are unlikely to be realized. No representation or warranty is made as to the reasonableness of the assumptions made or that all assumptions used in achieving the returns have been stated or fully considered. Changes in the assumptions may have a material impact on the hypothetical returns presented. Actual advisory fees for products offering this strategy may vary.

Broad-based securities indices are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Investments cannot be made directly in an index.

The SG Trend Index is designed to track the largest 10 (by AUM) CTAs and be representative of the managed futures trend-following space.

The ICE BofA 3-Month U.S. Treasury Bill Index tracks the performance of the U.S. dollar denominated U.S. Treasury Bills publicly issued in the U.S. domestic market with a remaining term to final maturity of less than 3 months.

The MSCI World Net Total Return USD is a metric that measures the performance of large and mid-sized companies in developed countries.

The Bloomberg Barclays Global Aggregate Bond Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

Hypothetical AQR Alternative Trends Moderate Volatility Strategy Proforma

Proforma performance of the Hypothetical Alternative Trends Moderate Volatility Strategy is based on returns from the Helix Strategy –formerly Alternative Trends Strategy from January 2018 onwards. Performance is scaled to a 12% volatility target at each point in time. The Hypothetical Alternative Trends Moderate Volatility Strategy pro forma was constructed with an equal-weighted combination of 1-month, 3-month, and 12-month trend-following strategies for markets across 6 major asset groups –equity factor portfolios, credit indices, interest rate swaps, emerging currencies, alternative commodities, and volatility futures –from January 1990 onward. Since not all markets have the same length of historic return data available, we construct the strategies using the largest number of assets for which return data exist at each point in time. We use futures returns when they are available. The strategy targets long-term volatility target of 10% but does not limit volatility during periods where realized volatility may be higher or lower than this number.

In order to calculate net-of-fee returns for the strategy, we subtracted a 1.5% annual management fee and a 20% performance fee per annum from the gross-of-fee returns to the strategy. The performance fee is calculated and accrued on a monthly basis, but is subject to an annual high-water mark. In other words, a performance fee is subtracted from the gross returns in a given year only if the returns in the fund are large enough that the fund's NAV at the end of the year exceeds every previous end of year NAV. The transactions costs used in the strategy are based on AQR's proprietary estimates of transaction costs for each market traded, including market impact and commissions.

This model is not based on an actual portfolio AQR manages. The benchmark and relevant cash rate is assumed to be ICE BofA US 3-Month Treasury bills.

The Actual performance for the AQR Helix Strategy is provided in the GIPS Composite Report at the back of the Appendix.



Disclosures

Hypothetical AQR U.S. Model Description

The AQR U.S. Model Backtest represents the full-set alpha signals within AQR's Global Stock Selection strategy to evaluate stocks and create a long-short, market-neutral and industry-neutral equity portfolio based exclusively on these signals. The model employs various investment themes, including Value, Momentum, Defensive, and Sentiment with the intention of overweighting stocks that exhibit characteristics consistent with these themes, and shorting those that do not. Backtest returns are gross of advisory fees and transaction costs from January 1, 1999 – December 31, 2024. The backtest utilizes a monthly rebalancing schedule and targets 7% annual volatility. The investment universe includes a broad subset of liquid tradeable large and mid cap stocks within the U.S. The risk model used is the Barra U.S. Equity Risk Model (USE3L).



Regional Disclosures

Information for clients in the United Kingdom

This product is based overseas and is not subject to UK sustainable investment labelling and disclosure requirements.

The information set forth herein has been prepared and issued by AQR Capital Management (Europe) LLP, a UK limited liability partnership with its office at 15 Bedford Street, Covent Garden, London, WC2E 9HE, which is authorised and regulated by the UK Financial Conduct Authority (“FCA”).

Information for clients in the EEA

AQR in the European Economic Area is AQR Capital Management (Germany) GmbH, a German limited liability company (Gesellschaft mit beschränkter Haftung; “GmbH”), with registered offices at Maximilianstrasse 13, 80539 Munich, authorized and regulated by the German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, „BaFin“), with offices at Marie-Curie-Str. 24-28, 60439, Frankfurt am Main und Graurheindorfer Str. 108, 53117 Bonn, to provide the services of investment advice (Anlageberatung) and investment broking (Anlagevermittlung) pursuant to the German Securities Institutions Act (Wertpapierinstitutsgesetz; “WpIG”). The Complaint Handling Procedure for clients and prospective clients of AQR in the European Economic Area can be found here: <https://ucits.aqr.com/Legal-and-Regulatory>

This is a marketing communication in the European Economic Area (“EEA”) and approved as a Financial Promotion in the United Kingdom (“UK”). It is only intended for Professional Clients.



GIPS Report Performance Disclosures

AQR Capital Management, LLC
Firm-wide Disclosures

This presentation cannot be used in a general solicitation or general advertising to offer or sell interest in its Funds. As such, this information cannot be included in any advertisement, article, notice or other communication published in any newspaper, magazine, or similar media or broadcast over television or radio; and cannot be used in any seminar or meeting whose attendees have been invited by any general solicitation or general advertising.

Firm Information: AQR Capital Management, LLC (“AQR”) is a Connecticut based investment advisor registered with the Securities and Exchange Commission under the Investment Advisors Act of 1940. AQR conducts trading and investment activities involving a broad range of instruments, including, but not limited to, individual equity and debt securities, currencies, futures, commodities, fixed income products and other derivative securities. For purposes of firm-wide compliance and firm-wide total assets, AQR defines the “Firm” as entities controlled by or under common control with AQR (including voting right). The Firm is comprised of AQR and its advisory affiliates, including AQR Arbitrage, LLC. Prior to January 1, 2022, AQR Arbitrage, LLC was formerly known as CNH Partners, LLC.

Upon request, AQR will make available a complete list and description of all Firm composites, a list and description of limited distribution pooled funds, and a list of broad distribution pooled funds. Policies for valuing portfolios, calculating performance, and preparing GIPS Reports are available upon request.

GIPS Compliance: AQR claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. AQR has been independently verified for the period August 1, 1998 through December 31, 2023. The verification reports are available upon request. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm’s policies and procedures related to composite maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not ensure the accuracy of any specific composite presentation.

GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

Composite Characteristics: New accounts that fit a composite definition are added at the start of the first full calendar month after the assets come under management, or after it is deemed that the investment decisions made by the investment advisor fully reflect the intended investment strategy of the portfolio. A composite will exclude terminated accounts after the last full calendar month performance measurement period that the assets were under management. The composite will continue to include the performance results for all periods prior to termination. For periods beginning July 1, 2010 through February 28, 2015, AQR defined a significant cash flow as an external cash flow within a portfolio of 50%. Additional information is available upon request.

Other discretionary portfolios that trade similar securities and/or strategies as those portfolios included in this composite, but do not meet this composite’s strategy criteria, are excluded from this composite and reside in one or more separate composites, which are available upon request.

Calculation Methodology: All portfolios are valued daily, weekly, intra-monthly or monthly as defined by Firm policy. The Modified Dietz calculation methodology is used when calculating monthly and intra-month returns. Mutual funds and UCITS are valued daily and performance is calculated on a daily basis. Gross of fees returns are calculated gross of management and performance fees, administrative and custodial costs, and net of transaction costs beginning January 1, 2010. Prior to January 1, 2010, gross of fees returns are gross of management and performance fees, and net of administrative, custodial, and transaction costs. Additional information regarding fees and the calculation of gross and net performance is available upon request.

The dispersion measure is the equal-weighted standard deviation of accounts in a composite for the entire year and is calculated using gross returns. Dispersion is not considered meaningful for periods shorter than one year or for periods during which a composite contains five or fewer accounts for the full period. The three-year annualized ex-post standard deviation measure is calculated using gross returns and is inapplicable when 36 monthly returns are not available.

Returns are calculated net of all withholding taxes on foreign dividends. Accruals for fixed income and equity securities are included in calculations. AQR’s management or advisory fees are described in Part 2A of its Form ADV. In addition, AQR funds may have a redemption charge up to 2.00% based on gross redemption proceeds that may be charged upon early withdrawals. Consultants supplied with gross results are to use this data in accordance with SEC, CFTC and NFA guidelines.

Past performance is not an indication of future performance.



GIPS Report Performance Disclosures

AQR Capital Management, LLC

Helix - formerly Alternative Trends Composite

1/1/2018 – 12/31/2023

Year	Gross Return %	Net Return %	Benchmark * Return %	Number of Portfolios	Composite 3-Yr StDev %	Benchmark * 3-Yr StDev %	Composite Assets (\$M)	Total Firm Assets (\$M)
2018	-5.74	-7.15	1.87	1	N/A	N/A	11.82	193,554.78
2019	16.81	14.52	2.28	1	N/A	N/A	54.94	185,575.93
2020	27.64	20.75	0.67	1	14.14	0.27	172.82	139,714.13
2021	10.25	6.91	0.05	1	14.19	0.32	310.49	123,007.08
2022	63.37	49.12	1.46	1	14.95	0.34	343.77	93,980.30
2023	18.02	14.03	5.01	2	15.93	0.65	267.86	97,876.68

*ICE BofA US 3-Month Treasury Bill Index

Net Return calculated based on 1.50% management fee and 20.00% performance fee (over Benchmark hurdle) per annum

Composite Description: The Helix - formerly Alternative Trends Composite (the “Composite”) was created in January 2018. The investment objective of the Composite strategy (the “Strategy”) is to achieve positive long-term returns through an active trend-following strategy applied to a diversified set of alternative assets. The underlying instruments of the strategy include but are not limited to credit default swap indices, developed and emerging interest rate swaps, emerging currencies, commodities that are not included in the major indices, volatility instruments, and equity factor portfolios. The Strategy is expected to exhibit little or no correlation to equity markets and other traditional investments and a moderate but diversifying correlation to traditional trend-following strategies. Accounts included pursue an ex-ante target volatility of 14% per annum, which is subject to change on a near term basis to best accommodate changing market conditions. The Composite is denominated in USD.

The Strategy uses derivatives, such as futures, forwards, and swaps, primarily to obtain exposure to markets, both long and short. The derivatives employed in the Strategy contain embedded economic leverage as the margin required to hold the contract is less than the notional economic exposure of the underlier. In addition, the Strategy may employ leverage through prime brokerage. In both cases, leverage is employed to increase the overall volatility of the Strategy to the desired level. Leverage will vary over time based on market conditions, risk environment, assets traded, and opportunity set. Additionally, the Strategy may use shorting and derivatives to hedge unwanted market exposure gained from portfolio holdings, such as exchange rate risk embedded into security holdings.

Benchmark: The Composite benchmark is the ICE BofA US 3-Month Treasury Bill Index (the “Benchmark”). The Benchmark measures the rate of return an investor would realize when purchasing a single U.S. 3-month treasury bill, holding it for one month, selling it, and rolling it into a newly selected issue at the beginning of the next month. The investments in the Composite vary substantially from those in the Benchmark. The index has not been selected to represent an appropriate benchmark to compare an investor’s performance, but rather is disclosed to allow for comparison of the investor’s performance to that of a certain well-known and widely recognized index.

Fees & Expenses: Composite net of fees returns are calculated by deducting the maximum model management or advisory fee AQR could charge from the composite monthly gross returns. AQR’s asset-based fees for portfolios within the Composite may range up to 1.50% of assets under management and 20.00% performance fee (over Benchmark hurdle) and are generally billed monthly or quarterly at the commencement of the calendar month or quarter during which AQR will perform the services to which the fees relate. Composite assets may have been exposed to the impact of performance fees. This fee structure is applicable for AQR Alternative Trends Fund, L.P. and AQR Alternative Trends Offshore Fund Ltd., which had estimated expense ratios as of December 31, 2023 of 0.15% and 0.34% per annum, respectively.

Past performance is not an indication of future performance.



