ARC Commodity Factor Risk Model
Monthly Report April 2026

The Asset Risk Company (ARC) Commodity Model is a cross-sectional commodity factor model. The model contains 50 of the most widely traded commodity products with approximately 1,200 futures in total over all maturities. All futures in the model have exposures to sectors, sub-sectors, style and trading factors such as basis, momentum, and open interest. The model is estimated daily with 25 years of history. It provides a framework for managing risk and investment decision-making.

In this report, you will find:

- Performance of Sectors, Sub-Sectors and Style and Trading Factors
- Examples of Factor Tilted Portfolios (Low Vol, Value, Momentum, Backwardation)
- Factor Based Risk Decomposition of Popular Commodity Indexes (BCOM, GSCI)
- Inflation prediction

The ARC Commodity Model is a powerful tool to help many constituencies in the financial industry, trading, and real economy. Some of the applications of the model are very straightforward, but some uses of the model are more nuanced. We recommend this short piece that provides details on both common and novel use cases for a commodity factor model: https://www.assetriskcompany.com/whyfactor.html. You can access our latest research at https://www.assetriskcompany.com/library.html.

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Sectors and Factors Performance Report:

Table 1: Sectors and Subsectors Performance

Sectors	April 26	2026	5-year Return	5-year Volatility
Agriculture	**3.4%**	**5.7%**	**4.7%**	**11.6%**
Grain And Oilseed	3.7%	11.4%	1.9%	14.0%
Lumber And Pulp	-2.5%	0.3%	-20.9%	37.9%
Proteins	1.2%	2.5%	12.2%	11.2%
Softs	4.6%	-3.7%	4.7%	14.9%
Energy	**1.6%**	**11.7%**	**5.1%**	**13.1%**
Biofuels	1.6%	11.7%	6.5%	11.9%
Coal	1.6%	11.7%	18.9%	23.7%
Crude Oil	0.2%	2.8%	0.4%	13.7%
Natural Gas	-0.4%	7.5%	7.9%	16.0%
Petrochemicals	1.6%	11.7%	1.8%	15.8%
Refined Products	7.1%	34.1%	8.9%	17.4%
Metals	**1.8%**	**4.9%**	**14.7%**	**15.8%**
Base	5.9%	4.9%	8.9%	16.5%
Precious	-1.0%	4.2%	19.9%	19.1%

The Refined Products sector posted a 7.1% monthly gain in April, bringing year-to-date returns to 34.1%. The dynamic we flagged last month persists: Crude Oil remained

essentially flat (+0.2%) despite ongoing geopolitical tensions, while the impact continued to flow through to the refined complex (RBOB and Gasoil) more evenly across the curve.

In the metals complex, Base Metals led with +5.9%, while Precious Metals retraced a more modest -1.0% after last month's -9.2% drop. The unwind appears to have stabilized; Precious is still +4.2% year-to-date.

Agricultural commodities were broadly higher: Softs (+4.6%) reversed some of their YTD weakness (-3.7%), Grain & Oilseed (+3.7%) extended its strong run (+11.4% YTD), and Proteins added 1.2%.

The returns come naturally from a cross-sectional regression of the 1,200 assets in the model and therefore cover the entire term structure. For instance, Natural Gas has more than 120 maturities in the model. The model uses all of that information to derive sector and subsector returns and one can think of our sectors as risk weighted on the entire curve.

Table 2. Styles/Trading Factors Performance

Factor	April 26	2026	5 Year Return	5 Year Volatility
Basis	-1.4%	-2.2%	-7.1%	4.3%
Open Interest	0.5%	3.0%	1.9%	4.1%
Momentum	0.8%	1.2%	3.4%	7.8%
ST Momentum	0.4%	4.5%	-5.6%	5.6%
Trading Activity	-0.9%	1.6%	-0.6%	2.4%
Volatility	0.2%	1.4%	1.3%	8.7%
ST Volatility	4.1%	4.0%	-0.4%	7.8%

After last month's ~2 standard deviation pullback, Momentum stabilized with a modest +0.8% in April, leaving it +1.2% year-to-date. Basis continued to weaken (-1.4% MTD, -2.2% YTD), extending a structurally negative 5-year trend (-7.1%).

The factor replicating portfolios, which include both long and short exposures across nearly all instruments in the model's universe, are theoretical constructs and not directly tradable. In contrast, our practical long-only, factor-tilted implementation offers a more parsimonious and liquid representation of the strategy.

Factor Tilted Portfolios Performance Report:

As shown above there are some clear patterns emerging for the ARC Commodity Styles and Trading Factors. However in order to take advantage of these trends, ARC has created long-only tilted versions. Our findings, based on 25 years of data, are:

- Low Volatility and Low Momentum (Value), Low Basis (Extreme Backwardation) are reliable and produce much better performance and risk than traditional indices
- High Momentum performed well over the last 5 years
- High Basis is reliable in underperforming the indices

Table 3: Top 5 Futures Tilted Portfolios and BCOM Performance

Return & Risk	Low Vol	Low Mom/Value	Low Basis	Hi Mom	BCOM
April 2026	3.6%	1.5%	6.3%	-0.2%	3.9%
2026	10.9%	10.5%	29.9%	8.6%	28.1%
Annualized	10.2%	13.0%	14.1%	24.4%	9.2%
Volatility	6.6%	17.3%	14.7%	17.8%	14.6%
Sharpe	1.6	0.8	1.0	1.4	0.6

*Annualized 5 years

After March's sharp reversal, High Momentum stabilized at -0.2% in April, confirming that last month's drawdown was a factor reset rather than the start of an extended unwind. The 5-year annualized return remains a remarkable 24.4% with a Sharpe of 1.4. Low Basis extended its leadership with +6.3%, bringing year-to-date performance to 29.9% — narrowly ahead of BCOM (+28.1% YTD). Low Volatility delivered +3.6%, continuing to anchor the lineup as the most efficient risk-adjusted performer — 10.2% annualized on 6.6% volatility translates to a 1.6 Sharpe over five years, the highest in the table. Value added 1.5% after last month's exceptional gain, while BCOM itself was up 3.9%, reflecting broad strength across the underlying complex.

From a longer-term perspective, both Low Volatility and High Momentum long-only portfolios continue to deliver Sharpe ratios above 1.4 over the past five years, validating their role as the two cornerstones of the factor-tilted offering.

Commodity Indices Risk Decomposition

We observed a significant decline in ex-ante volatility across both indices after last month's increase, with GSCI exhibiting higher volatility than BCOM, since it has more exposures in Energy. The model is reacting quickly to market conditions. In addition, both indices display elevated z-scores relative to Open Interest, underscoring their concentration in front-month contracts and the associated sensitivity to short-dated market dynamics.

We use a 6 month half-life for this risk decomposition so the model is fairly reactive to market conditions. Despite different sector allocations, both indices have similar risk and exposures to styles.

Table 4: Factor Exposures

Factors Exposures	BCOM	GSCI
Agriculture	0.32	0.22
Energy	0.39	0.57
Metals	0.29	0.21
Basis	0.16	0.10
Open Interest	2.24	2.08
Momentum	0.35	0.51
ST Momentum	0.25	0.35
Trading Activity	-0.01	-0.41
Volatility	0.05	0.06
ST Volatility	0.29	0.48

Exposures, z-scores for BCOM and GSCI as of 4/30/2026

A portfolio that is long/short would be evaluated on the breakout between systematic exposures and idiosyncratic risk. Long-only managers will want to find their exposures relative to their benchmark. As shown below in the correlation tables, sector correlations with style factors are relatively small. The model is able to separate risk due to sector allocation and styles risk. All risk is not equal. Systematic risk can display non-normal behavior when compared to specific or idiosyncratic risk. Both types of risks are driven by fluctuation, but systematic risk is driven by the “crowd” expressing some thematic bet. The systematic risk is related to market risk.

Table 5: Risk Attribution of BCOM and GSCI

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Index	BCOM	GSCI
Total Risk	22.7%	27.9%
Agriculture	1.2%	0.8%
Energy	3.2%	4.7%
Metals	2.9%	1.7%
Basis	-0.1%	0.0%
Open Interest	6.0%	5.0%
Momentum	2.5%	3.7%
ST Momentum	2.7%	4.2%
Trading Activity	0.0%	0.3%
Volatility	0.0%	-0.1%
ST Volatility	3.7%	7.0%
Specific Risk	4.7%	6.2%

Ex-Ante Annual Volatility Decomposition for BCOM and GSCI as of 4/30/2026

Inflation:

Empirical testing finds that the ARC Commodity Model is an excellent predictor of breakout moves in the headline number, both in bouts of inflation and deflation. For April, we predict an increase in CPI level, and a significant increase year-on-year (Inflation). Reach out to info@assetriskcompany.com for our estimate.

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Factor Correlations:

Long-term correlations between sectors and style factors are very low. The model is able to separate sector allocation risk from style risk providing key insights in the real key drivers of risk and performance of a portfolio.

Table 6. Factor Correlations

Correlations	Agriculture	Energy	Metals	Basis	Open Interest	Momentum	ST Momentum	Trading Activity	Volatility	ST Volatility
Agriculture	1.00	0.24	0.32	(0.02)	(0.10)	0.02	0.15	0.10	0.13	0.18
Energy	0.23	1.00	0.26	(0.09)	0.30	0.02	0.07	(0.13)	0.04	0.16
Metals	0.35	0.24	1.00	(0.20)	(0.03)	0.04	0.09	0.07	0.05	0.11
Basis	(0.05)	(0.07)	(0.20)	1.00	(0.12)	0.06	(0.17)	0.09	0.07	(0.08)
Open Interest	(0.11)	0.27	(0.07)	(0.08)	1.00	(0.03)	0.02	(0.56)	(0.19)	(0.02)
Momentum	0.05	0.09	0.04	0.08	0.06	1.00	0.28	0.03	0.40	(0.05)
ST Momentum	0.23	0.12	0.12	(0.21)	0.03	0.30	1.00	0.04	(0.08)	0.49
Trading Activity	0.14	(0.10)	0.11	0.04	(0.53)	(0.02)	0.03	1.00	0.13	0.03
Volatility	0.09	0.05	0.06	0.05	(0.14)	0.40	(0.10)	0.12	1.00	(0.57)
ST Volatility	0.21	0.14	0.10	(0.05)	(0.05)	(0.03)	0.57	0.04	(0.57)	1.00

1 yr correlations on the right (above the diagonal), 30 days on left (below the diagonal).

Conclusion:

In this report, we have shown the factor performance driving the commodity markets. Using the ARC Commodity model, style-tilted portfolios have shown great performance and seem to be suitable benchmarks for active managers to track. We then conducted an analysis into the risk dynamics of two major commodity indices. The view of commodities as diversifiers is quite accurate. All of this was possible with the ARC model. The model enables the user to look at their book or portfolio and how it fits into their thesis as well as how it fits in the broader economic landscape.