# ARC Commodity Factor Risk Model
# Monthly Report May 2020

The Asset Risk Company (ARC) Commodity model is a cross-sectional commodity factor model. Factors including commodity sectors, sub-sectors, and styles are estimated daily. It provides a framework for managing risk and investment decisions. The model is presented in a nesting format allowing the decision maker to view from a macro lense of broad classes (metals, energy, agricultural) to finer product classifications, while preserving the attribution of risk between the style and non-style factors.

## YTD, MTD & Historical Styles Performance Report:

| Factor | MTD Perf | YTD Perf | Historical Returns* | Volatility* | Sharpe Ratio* |
|---|---|---|---|---|---|
| Basis | -1.7% | -1.8% | -2.7% | 2.4% | -1.1 |
| Momentum | -1.7% | -1.6% | -3.7% | 3.8% | -1.0 |
| ST Momentum | -1.9% | -2.0% | 1.8% | 3.9% | 0.5 |
| Open Interest | 0.3% | -9.4% | -2.8% | 3.3% | -0.8 |
| Trading Activity | 0.3% | 0.8% | 0.2% | 1.5% | 0.1 |
| Volatility | 2.4% | -0.8% | 0.1% | 4.8% | 0.0 |
| ST Volatility | 1.7% | 0.7% | -1.4% | 3.3% | -0.4 |

* Annualized 2017-2020

Basis and Short Term Momentum have returned to their recent historical trends, while Open Interest and Momentum have not done so. Basis and Momentum display a return/risk ratio of 1 over a 3.5 year period . Managers could benefit from portfolios tilted towards these factors.

Contact info@assetriskcompany for more information

**Cumlative Returns ARC Styles**

—— Basis  —— Momentum  —— ST Momentum

# Sectors, Subsectors MTD, YTD & Historical Report

Sectors experienced a big rally this month but are still underwater YTD. Note that sectors and sub-sectors returns are jointly estimated using ARC's proprietary nesting model approach.

| Factor | MTD Perf | YTD Perf | Historical Returns* | Volatility* | Sharpe Ratio* |
|---|---|---|---|---|---|
| **Agriculture** | **6.1%** | **-8.0%** | **-5.0%** | **8.1%** | **-0.6** |
| Grain And Oilseed | 5.8% | -8.1% | -5.0% | 9.5% | -0.5 |
| Lumber And Pulp | 15.2% | -5.8% | 10.7% | 29.0% | 0.4 |
| Proteins | 5.8% | -10.1% | -3.2% | 10.0% | -0.3 |
| Softs | 6.2% | -2.0% | -7.0% | 9.6% | -0.7 |
| **Energy** | **8.7%** | **-15.9%** | **-8.3%** | **13.4%** | **-0.6** |
| Biofuels | 11.8% | -20.8% | -9.3% | 19.3% | -0.5 |
| Coal | -0.9% | -14.7% | -1.5% | 15.0% | -0.1 |
| Crude Oil | 9.5% | -17.7% | -4.9% | 15.4% | -0.3 |
| Natural Gas | -0.4% | -6.9% | -9.0% | 7.3% | -1.2 |
| Petrochemicals | 18.2% | -9.0% | -11.9% | 20.9% | -0.6 |
| Refined Products | 9.0% | -31.7% | -12.2% | 22.2% | -0.5 |
| **Metals** | **12.4%** | **-7.5%** | **4.8%** | **14.5%** | **0.3** |
| Base | 10.3% | -16.0% | 1.7% | 16.1% | 0.1 |
| Precious | 16.9% | 14.6% | 10.3% | 16.6% | 0.6 |

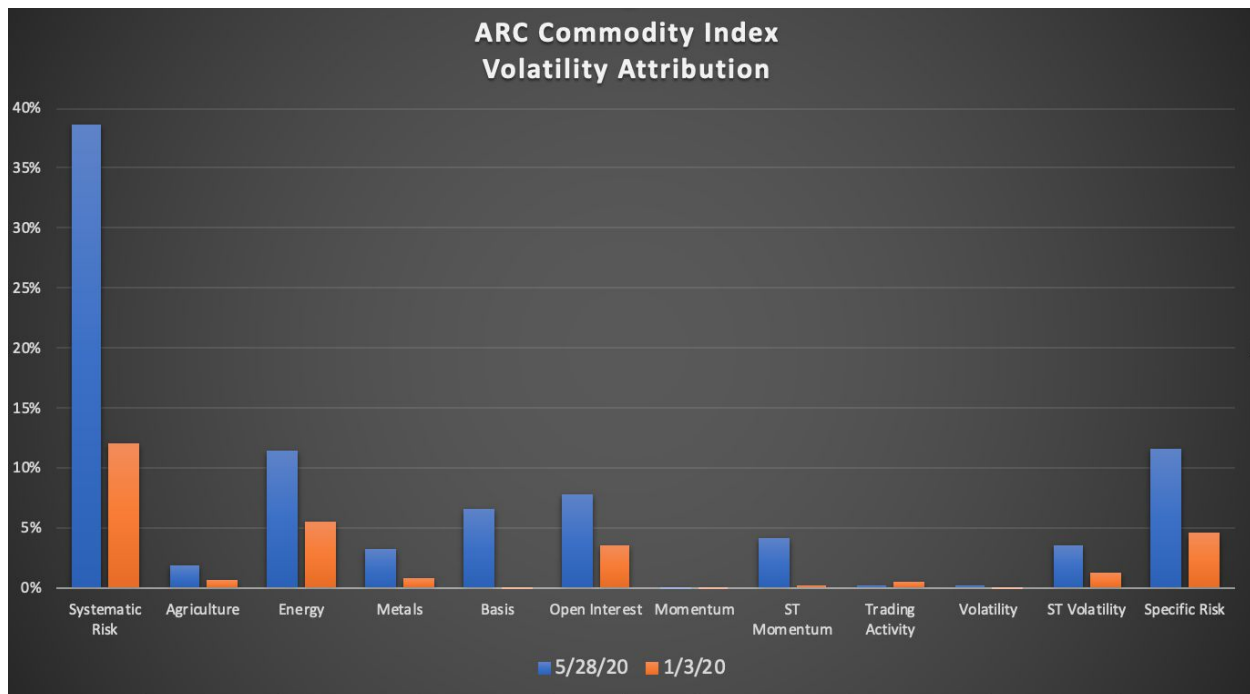Contact info@assetriskcompany for more information

## Factors Correlations:

Due to the recent volatility, there is an uptick in correlations between sectors.

| Correlations | Agriculture | Energy | Metals | Basis | Momentum | ST Momentum | Open Interest | Trading Activity | Volatility | ST Volatility |
|---|---|---|---|---|---|---|---|---|---|---|
| Agriculture | 1.00 | 0.63 | 0.58 | (0.43) | 0.37 | (0.07) | (0.39) | (0.12) | 0.27 | 0.34 |
| Energy | 0.80 | 1.00 | 0.65 | (0.54) | 0.70 | (0.18) | (0.48) | (0.05) | 0.28 | 0.34 |
| Metals | 0.81 | 0.87 | 1.00 | (0.50) | 0.35 | (0.12) | (0.42) | (0.14) | 0.16 | 0.33 |
| Basis | (0.57) | (0.70) | (0.57) | 1.00 | (0.40) | 0.07 | 0.40 | 0.13 | (0.16) | (0.25) |
| Momentum | 0.64 | 0.81 | 0.70 | 0.67 | 1.00 | (0.18) | (0.32) | 0.20 | 0.25 | 0.15 |
| ST Momentum | (0.28) | (0.37) | (0.25) | (0.26) | (0.37) | 1.00 | 0.23 | (0.01) | (0.03) | 0.18 |
| Open Interest | (0.49) | (0.37) | (0.39) | (0.48) | 0.03 | (0.35) | 1.00 | 0.39 | (0.07) | (0.10) |
| Trading Activity | 0.17 | 0.25 | 0.13 | 0.04 | 0.30 | 0.15 | 0.11 | 1.00 | 0.26 | (0.10) |
| Volatility | 0.45 | 0.44 | 0.38 | 0.35 | 0.04 | 0.20 | 0.33 | 0.44 | 1.00 | (0.43) |
| ST Volatility | 0.52 | 0.54 | 0.62 | 0.65 | 0.24 | 0.57 | 0.55 | 0.53 | 0.28 | 1.00 |

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

# ARC Commodity Index Risk Decomposition



Contact info@assetriskcompany for more information