WHO WE ARE

Astoria is an investment management firm that specializes in the construction, management and model delivery of tactically constructed, cross asset ETF managed portfolios. Our research driven portfolios are stress tested through various quantitative risk models in order to best understand our portfolio risks and to help determine when risk budgets should be expanded or contracted.

Astoria Portfolio Advisors LLC. ("Astoria") designs **Multi-Asset ETF Model Portfolios**.

We utilize a **disciplined, cross-asset quantitative investment process** to participate in **upside exposure** while hedging **downside risks** during stressed markets.

Our investment management process is a **constant feedback loop** between **research**, **portfolio construction**, and **risk management**.

Investment decisions are made using **strong economic** and **quantitative rationale** backed by **data**.

"When you get too far off course, your internal compass tells you something is wrong, and you need to reorient yourself. It requires courage and resolve to resist the constant pressure and expectations confronting you and to take corrective action when necessary" – Bill George, Discover your True North, 2015, John Wiley & Sons.

Astoria employs **ongoing research assessment** of these models to **manage** to determine when risk budgets should be **expanded** or **minimized.**

Game Theory is an important and, we believe, a distinguishing factor into our investment process.

When selecting ETFs for our portfolios, we leverage our **ETF selection model** which is based on **rigorous testing** and **research.**

Contact Us

99 Wall Street, Suite 1885
New York, NY 10005
Work: 212-381-6185
Email: jdavi@astoriaadvisors.com
Twitter: @AstoriaAdvisors
LinkedIn: https://www.linkedin.com/in/john-davi-93414510/
Website: www.astoriaadvisors.com

If You Don't Own Commodities, Your Portfolio Is Misallocated

- Investors continue to **plow money** into **expensive assets** and **ignore** one of the **cheapest** assets in the world – **commodities**.
- Because commodities have drastically underperformed stocks and bonds during the current cycle, commodities are **severely under-owned** in most portfolios. This is not surprising, as most portfolios tend to be backwards looking (i.e. let's buy what's worked recently).
- **Commodities historically exhibited positive skewness** (whereas stocks tend to exhibit negative skewness).
- The **correlation** of commodities to stocks and bonds have historically been **extremely low** or **negative**. For this **exact** reason, commodities are **attractive** in a multi-asset portfolio.
- With inflation on the rise, Astoria believes now is the time to **incorporate commodities** into a portfolio. Even if you don't think inflation is rising, **commodities are the cheapest asset class around** and serve important **portfolio diversification benefits**.
- Commodities **suffered from contango** for several years which hurt their performance. However, a **shift towards backwardation**, as we are starting to see now, is a **benefit for investors**.
- Positive carry is an **extremely attractive risk premium** that can add diversification benefits to a portfolio.
- **Astoria's Multi Asset Risk Strategy (MARS)** has heavy exposure to **commodities** and **inflation**. The **positive commodity carry** works well for us in conjunction with other risk premias we are currently harnessing.

Commodities Were Not Part Of The Liquidity Super Cycle

- We will undoubtedly look back at the **QE induced liquidity super cycle** and remember it for being the *'Great Beta Trade'* for stocks and bonds. The world's largest central banks purchased **$15 trillion** of stocks and bonds over a 10-year period.
- Needless to say, all portfolio managers needed to do was to be long stocks or bonds and everyone looked like a hero because one of the big 3 central banks was going to back up the truck and purchase a boat load of financial assets (and keeping buying and buying and buying).
- Commodities were unfortunately **not part of the grand plan** by central banks, so they were left in the dust. However, they now serve a **valuable commodity** (no pun intended) given they are 1) super **cheap** 2) typically **outperform during latter stages** of the economic cycle 3) and they are **uncorrelated** (and historically tend to be) to stocks and bonds.
- **Astoria's view is that inflation bottomed last year** and the probability for further increases is high.

- Astoria's investment process is to be **forward looking**, whereas most portfolios are **backwards looking.** Given commodities have severely underperformed in this cycle, most portfolios don't own commodities.

- When we published our 2018 outlook on December 6, 2017 (https://www.astoriaadvisors.com/single-post/2017/12/06/8-ETFs-for-2018), we pegged commodities as the **2nd most important theme** for this year.

- Apparently, everyone is now jumping on the commodity bandwagon – or so it "appears". The number of emails and reports pumping up commodities has **skyrocketed** this year. However, when we look at ETF flows we continue to see more of the same – **investors piling into equity ETFs** and commodity ETFs inflows are nowhere to be found. We are not surprised. Most pundits like to talk but **rarely back up their words** or **position their portfolios accordingly**. Talk is cheap as they say.

- The current environment for commodities feels very much like 2007. Back in 2007, the economy was in the latter stages of the economic cycle. As it is always the case, we never know when the cycle is going to end. Because economic cycles are difficult to time, commodities typically outperform during the latter stages of the economic cycle. 2007 was no different. Front month crude oil futures went up **130%** in 2007 just when the economy was about to crash.

- To be clear, **we are not saying the economy is going to crash or that oil will double**. We are simply drawing a comparison that 1) **commodities are late cycle plays** 2) they can perform **violently** on the **way up** and **down**. For those that don't remember, oil fell **70%** in 2008. Ouch!

While Commodities Didn't Participate During The QE Induced Super Cycle, Investors Shouldn't Ignore Them.

- Commodities historically have had **equity-like returns and with comparable volatility**. Admittedly these equity-like returns didn't manifest themselves in this cycle. However, because we think **commodities are the cheapest asset class around, Astoria owns physical commodities and commodity centric equities.** For those that aren't familiar with Astoria's long-standing view, we have been vocal that the vast majority of the global bond market is rich, crowded, and expensive. Within equities, we prefer **extracting risk premia** in international value and international momentum stocks.

- **Commodities have performed similarly** to stocks from a **performance** and **risk perspective.** Most do not realize this because the majority of the investment community **have short sided investment views** (i.e. let's buy what's worked recently and not take career risk). Sadly, because of this behavioral bias **most portfolios are backwards looking.**

- As markets are **forward looking**, this is precisely why most mutual fund managers and individual investors **underperform their benchmark and investment goals**.

When Something Bad Happens In Commodities, Prices Explode To The Upside.

- Investors have historically had a preference for securities that exhibit **positive skewness**. For instance, a certain group of investors gravitate toward penny stocks, bulletin board companies, and microcaps. Each are considered lotto tickets and have the potential for outsized gains even though the odds are heavily stacked against them. Investors believe even a small chance of one of these lotto tickets hitting the jackpot has value.

- Interestingly enough, **commodities tend to exhibit more right tail outcomes than left tail scenarios**. When there is a shortage of corn or wheat crops, **commodity prices typically explode to the upside**. When something bad happens in equities, **stock prices usually crash to the downside.**

- Commodities suffered from being in **contango** for most of this bull market in stocks and bonds. However, that dynamic is shifting and certain commodities are in backwardation and provide **positive carry**. Carry is a **risk premium** that can add **substantial benefits** to a portfolio.

Astoria's Multi Asset Risk Strategy (MARS) Has Heavy Exposure To Commodities And Inflation.

- The elements of **positive commodity carry** work well for us in conjunction with other risk premias we are currently harnessing (value, momentum, beta, etc).

- **Astoria's MARS ETF Model Portfolio** is utilizing **COMB** (GraniteShares Bloomberg Commodity Broad Strategy No K-1 ETF) for its physical commodities exposure. The ETF gets its exposure via the futures market. We have other commodity ETFs which we will highlight in subsequent notes.

- **COMB** provides exposure to **20 commodities across 22 futures**. The underlying Bloomberg index is liquidity and production weighted. The maximum sector weight is 33% with 15% cap per contract. The futures roll from 6th to the 10th day each month.

COMMODITY SECTOR BREAKDOWN:

ENERGY	30.73%
AGRICULTURE	26.98%
INDUSTRIAL METALS	20.78%
PRECIOUS METALS	15.20%
LIVESTOCK	6.31%

TOP FUND COMMODITY EXPOSURES

* Holdings subject to change.

Gold FEB 18	11.15%
Copper MAR 18	9.37%
Brent Crude Oil MAR 18	8.22%
WTI Crude Oil MAR 18	7.43%
Corn MAR 18	6.80%
Natural Gas MAR 18	6.60%
Soybeans MAR 18	5.46%
Aluminum MAR 18	5.37%
Heating Oil MAR 18	4.87%
Live Cattle FEB 18	4.14%

Source: GraniteShares, Bloomberg, Data as of Dec 31, 2017.

- **Combining several cross-asset factors** and incorporating assets which have extremely low or negative correlations to one another is one of the ways that Astoria **distinguishes** itself from other ETF Strategists. To put it bluntly, **MARS isn't your cookie cutter ETF Model Portfolio**.

Best, John Davi,
Founder & CIO of Astoria

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