

# RTM Analytics

## Alternative Commodity Algorithmic Program

*A Non-Correlated Portfolio Diversification Alternative*

### *Methodology Overview*

The information in this presentation is for illustrative purposes only. Hypothetical results relating to the Alternative Commodity Algorithmic Program (“ACAP<sup>®</sup>”) do not reflect actual investment results or the trading of an actual account and are achieved by the retroactive application of market and other trading data. Hypothetical results have many inherent limitations, including that they are prepared with the benefit of hindsight. Hypothetical results do not involve financial risk. 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 preparation of hypothetical results, all of which can adversely affect actual trading results.

**PAST PERFORMANCE IS NO GUARANTY OF FUTURE RESULTS**

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**Returns associated with the Alternative Commodity Algorithmic Program – Continuous Contract (“ACAP-CC”), and the Alternative Commodity Algorithmic Program – Total Return (“ACAP”) shown in this presentation are HYPOTHETICAL returns.**

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**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 WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKET'S IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.**

**PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS**

## **The Alternative Commodity Algorithmic Program (“ACAP”)**

Commodities have been primarily used by investors and portfolio managers as a diversification tool for a well-structured portfolio. Long-only commodity exposures, such as those benchmarked to the S&P Goldman Sachs or Bloomberg Commodity Indices, have become less effective as diversifiers due to their increasing correlation to equities.

Another drawback is their diminished expected return profile. This combination has resulted in the development of alternative commodity products. Most are attempts to eliminate the roll costs associated with passive long exposures, but several have been introduced that incorporate active long-short strategies. These have improved return profiles, but they continue to be exposed to the shortcomings of simple trend following programs. These programs suffer from abrupt market turns that are common in the commodity space due to the seasonality characteristics associated with many commodities. Grains, meats, softs, and energy downstream products (i.e. Gasoline, Heating Oil) have seasonality attributes that prove harmful to trend following programs. Ignoring these seasonality factors lead to diminished returns over time.

ACAP is a next generation alternative long/short/flat commodity program that combines trend, counter-trend, volatility, and seasonality factors that that seeks to provide consistent positive returns from the commodity asset class.

## Commodity Returns

The Alternative Commodity Algorithmic Programs transact only in highly liquid, US Exchange listed futures contracts.

The return on a passive long exposure to any commodity futures contract is the sum of:

- Change in spot price.
- Roll yield. The roll yield can be either positive or negative. When rolling a long futures position, a backwardated forward curve normally provides a positive return as one is rolling from from a higher priced futures contract into a lower priced futures contract. The opposite is true for a contango (carry) structured forward curve. An example of each curve structure is shown for WTI Crude Oil on the next page.
- Collateral yield. ACAP programs use the the Federal 3-Month Treasury Bill Rate for the hypothetical past performance values.

**The Alternative Commodity Algorithmic Program – Continuous Contract (“ACAP-CC”)** is comprised of the first two types listed above. Since the ACAP-CC is comprised of both long and short positions, the roll yield may be either positive or negative, depending on the position being established for the upcoming period.

**Alternative Commodity Algorithmic Program – Total Return (“ACAP”)** is comprised of all three types of return listed above.

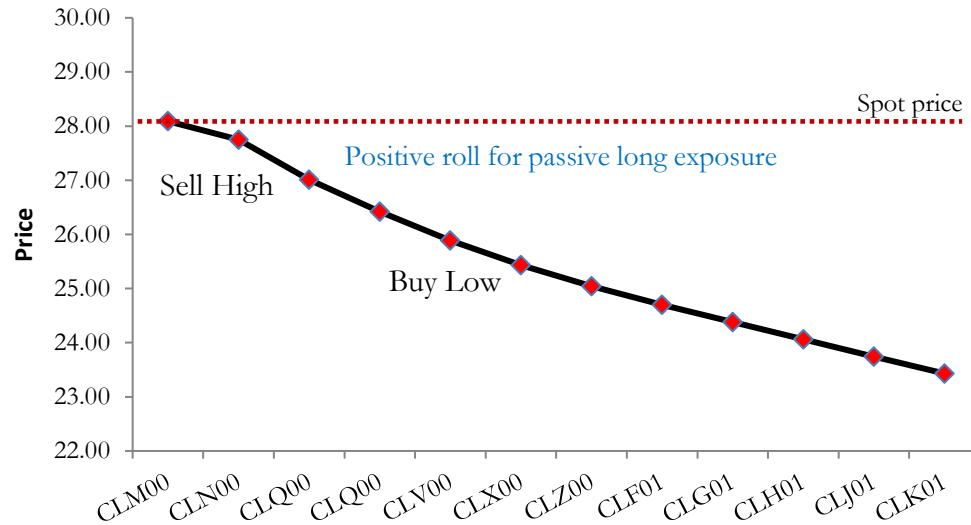
**Alternative Commodity Algorithmic Program – Strategy (“ACAP-S”)** is the ACAP less the expected management fee, performance fee, and transaction costs to provide a more representative return for an investor to use when comparing the hypothetical ACAP historical returns versus other investable programs.

# The Basics of Backwardated and Contango (Carry) Commodity Futures Forward Curves

## Backwardated Market – WTI Crude Oil

Data from 5/8/2000

Further out futures contracts trade at lower prices



**Statistical expectation that future prices to rise**

(Futures price of a given contract expected to converge upward to spot price)

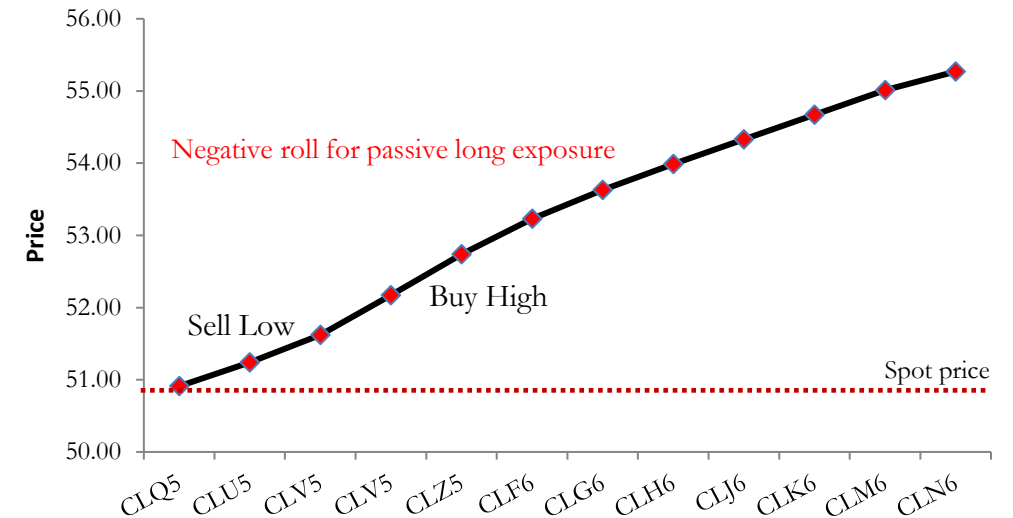
**Statistical expectation of a positive roll yield**

(Higher-priced near contract sold and lower-priced farther contract bought)

## Contango (Carry) Market – WTI Crude Oil

Data from 7/16/2015

Further out futures contracts trade at higher prices



**Statistical expectation that future prices to fall**

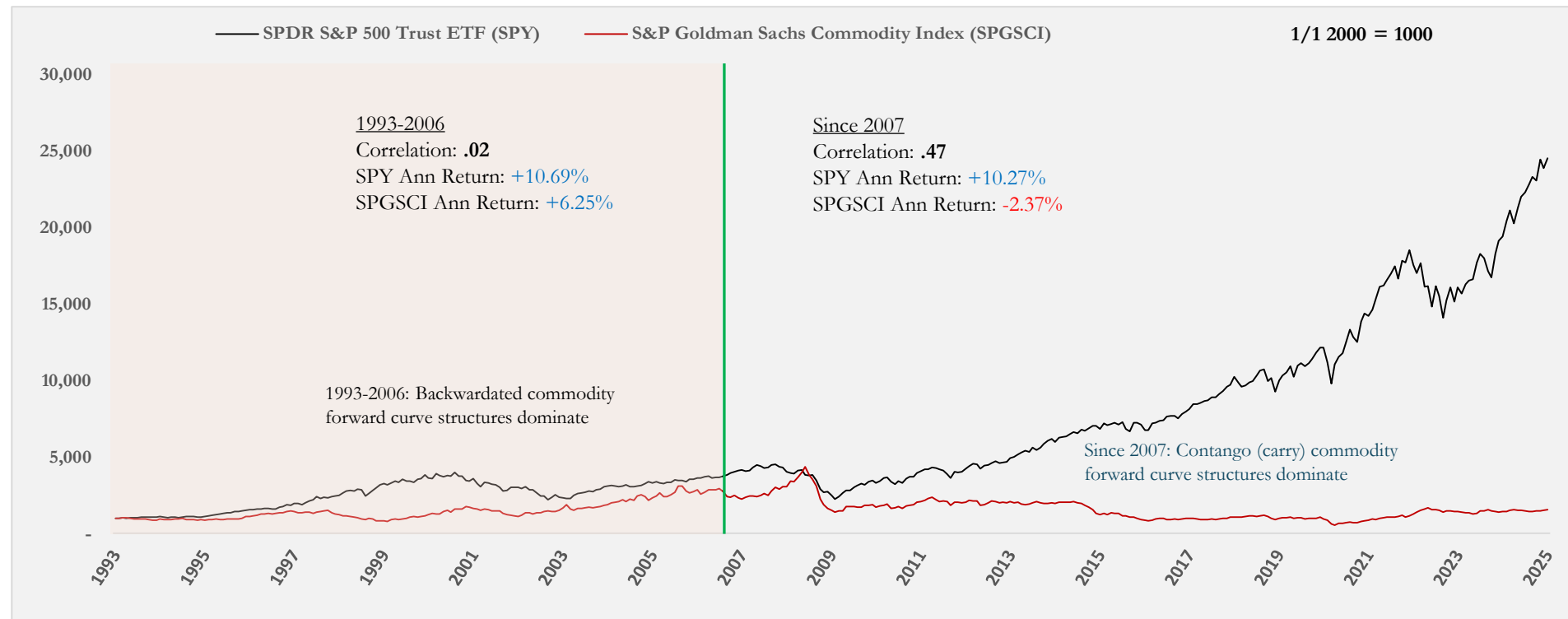
(Futures price of a given contract expected to converge downward to spot price)

**Statistical expectation of a negative roll yield**

(Lower-priced near contract sold and higher-priced farther contract bought)

# The Problem

- Since 2006, a paradigm shift in the commodity market forward curves, from primarily backwardated to primarily contango (carry), significantly diminished the expected return profile from long-only commodity exposures at the same time decreasing their non-correlated diversification benefits<sup>1</sup>. This development can be attributed largely to the massive increase in passive long-only funds entering the asset class.
- The utilization of various long-only commodity strategies offered by high-fee managers have been replicated by cost-effective mutual fund and ETF offerings. While these offerings provide lower costs, we do not believe that they address the primary shortcomings of long-only exposures: high correlation to equities and negative roll yields.
- Additionally, in our view, many of these lower cost programs utilize excess leverage to generate returns, have fee structures incompatible with the returns generated, utilize illiquid investments, and may have counter-party risk issues.



Updated through December 2024

<sup>1</sup> Source: “Alternative Commodity Investing for a New Paradigm”; Sultan, J., Murphy, R. (2017)  
Presented at the Institute for Higher Business Studies, Carthage - Tunisia (IHEC Carthage).

# The Opportunity

- Passive long-only commodity allocations benchmarked to established commodity indices, such as the S&P Goldman Sachs Commodity Index (SPGSCI) and the Bloomberg Commodity Index (BCI), are estimated to be over \$250 billion.
- Alternative Commodity Algorithmic Program (VCAP), in our view, is comparable to investable commodity-based and managed futures programs.
- Managed Futures have over \$350 billion in assets<sup>1</sup>.
- Current commodity-based ETFs have over \$126 billion in AUM, mostly in Gold related programs (\$110B)<sup>2</sup>.
- Broad-based commodity-based ETF's have about \$16 billion in assets<sup>2</sup>.
- Gold is primarily utilized as a useful diversifier to core equity/fixed income portfolios.

## Benefits of Alternative Investments<sup>3</sup>

- **Expanded investment universe**

Alternative investments can be a way to expand beyond traditional asset classes, providing additional investment options to potentially grow and protect your wealth.

- **Enhanced returns and income**

Various types of alternative investments can help improve total returns and income, potentially bolstering a portfolio's overall performance across market cycles.

- **Diversification**

Alternative investments can provide returns that differ from traditional investments as well as the opportunity to manage risk.

Rank	Asset Class	Avg Correlation with 17 other asset classes <sup>3</sup>
1	Managed Futures	-0.18
2	Treasuries	-0.06
3	Private Real Estate	0.13
4	Macro Strategies	0.15
5	TIPS	0.27
6	Venture Capital	0.28
7	Investment-grade Bonds	0.33
8	Distressed Debt	0.35
9	High-Yield Bonds	0.36
10	Equity Market Neutral Strategies	0.40
11	Direct Lending	0.42
12	Emerging-Market Equity	0.42
13	Equity-Generalist	0.44
14	REITs	0.45
15	U.S. Small Cap	0.46
16	Developed-Market Equity	0.49
17	U.S. Large Cap	0.51
18	Buyout	0.51

<sup>1</sup> BarclayHedge: <https://www.barclayhedge.com/solutions/assets-under-management/cta-assets-under-management/>

<sup>2</sup> Morningstar: <https://www.morningstar.com/commodity-etfs>

<sup>3</sup> Fidelity Research Institutional Insights, "Alternative Investments and Their Roles in Multi-Asset Class Portfolios White Paper" August 2023



# The Solution

- The Alternative Commodity Algorithmic Program – Total Return (ACAP) provides consistent non-correlated diversification to a core 60/40 equity/fixed income portfolio compared to long-only commodity programs.
- The Alternative Commodity Algorithmic Program- Strategy (ACAP-S) is the hypothetical performance of ACAP accounting for estimated management, performance, and transaction fees.
- ACAP transacts only in highly-liquid, US Exchange listed futures contracts, substantially diminishing the potential issues associated with counter-party risk inherent in many alternative investments.

Table 1

## Alternative Commodity Algorithmic Program - Strategy vs Comparable Investable Commodity Programs

Updated through 01/31/25

Program	Symbol	AUM	Inception Date	Expense Ratio	YTD	3 yr	5yr*	10 yr*	Since Inception	Sharpe Ratio	Adjusted Sharpe <sup>1</sup>	Max Drawdown	Correl to SPY <sup>2</sup>	Sharpe Ratio for diversified portfolio <sup>3</sup>
Alternative Commodity Algorithmic Program - Strategy	ACAP-S	-	11-28-2014 (10.18yrs)	1.20% est	+0.59%	+19.87%	+19.40%	+19.67%	+19.44%	2.57	2.36	-7.00%	-0.08	0.98
Invesco Optimum Yield Diversified Commodity Strategy	PDBC	\$4,528,470,000	11-28-2014 (10.18yrs)	0.59%	+2.46%	+2.74%	+10.82%	+3.57%	+1.99%	0.01	0.01	-44.52%	+0.41	0.59
Alternative Commodity Algorithmic Program - Strategy	ACAP-S	-	10-31-2013 (11.25yrs)	1.20% est	+0.59%	+19.87%	+19.40%	+19.67%	+17.70%	2.35	2.15	-7.00%	-0.09	1.05
First Trust Global Tactical Commodity Strategy Fund	FTGC	\$2,193,260,000	10-31-2013 (11.25yrs)	1.02%	+3.89%	+5.74%	+12.23%	+2.64%	+0.77%	-0.07	-0.06	-57.64%	+0.44	0.66
Alternative Commodity Algorithmic Program - Strategy	ACAP-S	-	02-28-2006 (18.92yrs)	1.20% est	+0.59%	+19.87%	+19.40%	+19.67%	+16.98%	2.31	1.96	-7.00%	-0.08	0.93
Invesco DB Commodity Index Tracking Fund	DBC	\$1,441,190,000	02-28-2006 (18.92yrs)	0.87%	+2.76%	+2.90%	+10.87%	+3.75%	+0.75%	-0.04	-0.03	-74.55%	+0.48	0.54
Alternative Commodity Algorithmic Program - Strategy	ACAP-S	-	10-31-2014 (10.25yrs)	1.20% est	+0.59%	+19.87%	+19.40%	+19.67%	+19.17%	2.52	2.34	-7.00%	-0.09	0.99
iShares GSCI Cmd Dyn Roll Stgy ETF	COMT	\$871,820,000	10-31-2014 (10.25yrs)	0.48%	+3.36%	+4.10%	+8.27%	+3.60%	+0.80%	-0.06	-0.05	-46.59%	+0.42	0.59
Alternative Commodity Algorithmic Program - Strategy	ACAP-S	-	07-31-2006 (18.51yrs)	1.20% est	+0.59%	+19.87%	+19.40%	+19.67%	+16.82%	2.27	1.94	-7.00%	-0.08	0.95
iShares S&P GSCI Commodity-Indexed Trust	GSG	\$900,320,000	07-31-2006 (18.51yrs)	0.75%	+3.45%	+5.61%	+9.22%	+1.35%	-4.29%	-0.25	-0.20	-88.68%	+0.47	0.47
Alternative Commodity Algorithmic Program - Strategy	ACAP-S	-	01-31-2012 (13.0yrs)	1.20% est	+0.59%	+19.87%	+19.40%	+19.67%	+16.13%	2.22	2.02	-7.00%	-0.07	1.15
LoCorr Long/Short Commodity Strategies Fund	LCSIX	\$631,880,000	01-31-2012 (13.0yrs)	0.00%	+2.52%	-1.29%	+3.26%	+5.21%	+3.65%	0.29	0.25	-22.96%	-0.15	0.91

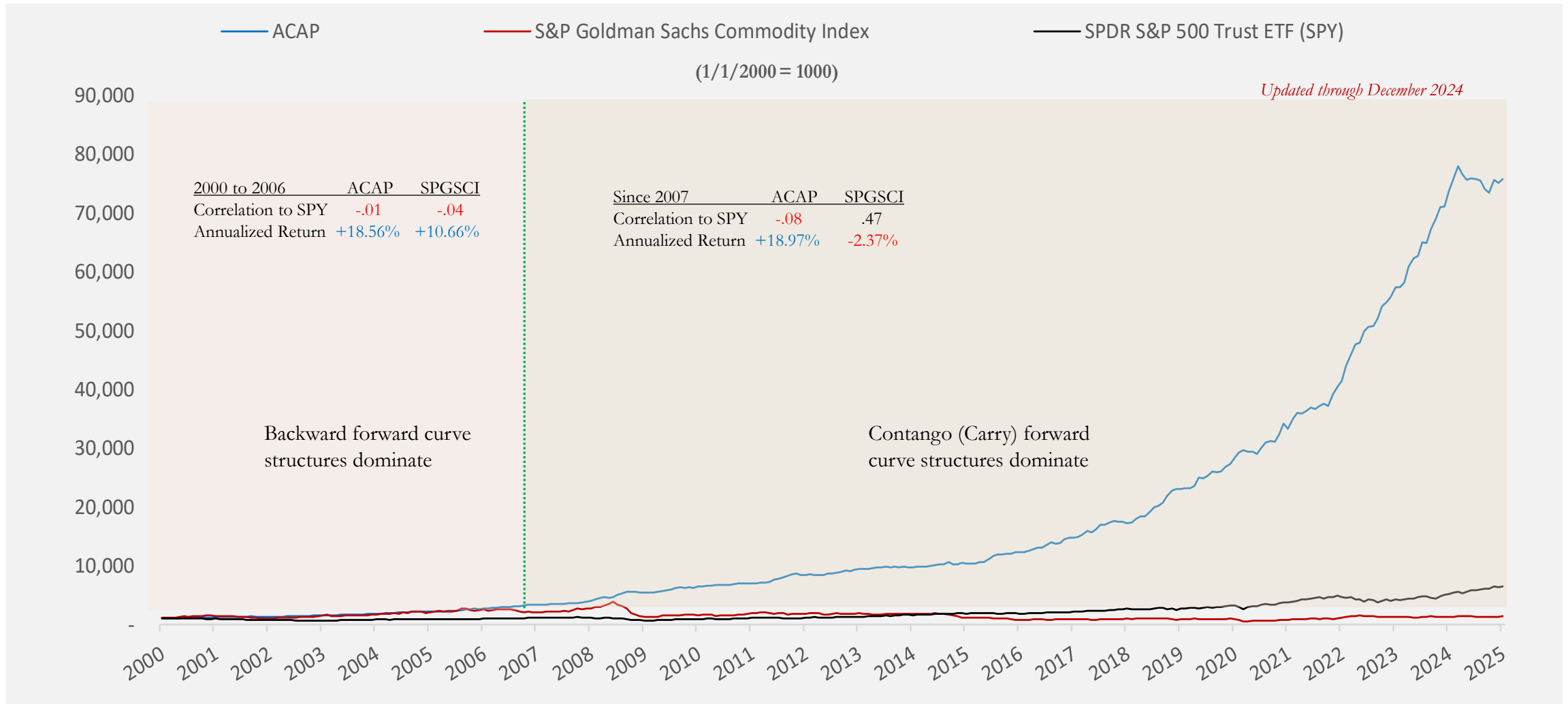
<sup>1</sup> Adjusted Sharpe is the Sharpe Ratio adjusted for serial correlation

\* Time period covered may be less than column label

<sup>2</sup> SPY is the SPDR S&P 500 Trust ETF

<sup>3</sup> Diversified Portfolio is comprised of 51% SPY ETF, 34% iShares Core US Aggregate Bond ETF, and 15% of the listed program

# The ACAP program accounts for the paradigm shift in the commodity futures forward curve



Please see the Disclaimers in the front of this document for further information on hypothetical performance and its limitations.  
There is always a substantial risk of loss.

## The Alternative Commodity Algorithmic Program Methodology – an overview

The ACAP weighting methodology incorporates a “risk-parity” scheme that is implemented to smooth out the expected return profile of the program. The weighting scheme uses historic volatility time frames that seek to account for the seasonality characteristics of each component commodity as well as factoring in recent volatility movements.

- 1) Each component begins equally weighted.
- 2) Each component’s recent volatility level is determined. If the recent volatility is greater than 50%, that component will have no position for the upcoming period.
- 3) Each component’s recent and historic average monthly volatility over the most recent 10 years is calculated and this information is used to adjust the upcoming monthly weight for that commodity.
- 4) ACAP may incorporate leverage, but the maximum overall leverage is limited to 1.15. The historic average leverage for ACAP has been .91

## The Alternative Commodity Algorithmic Program Methodology – an overview

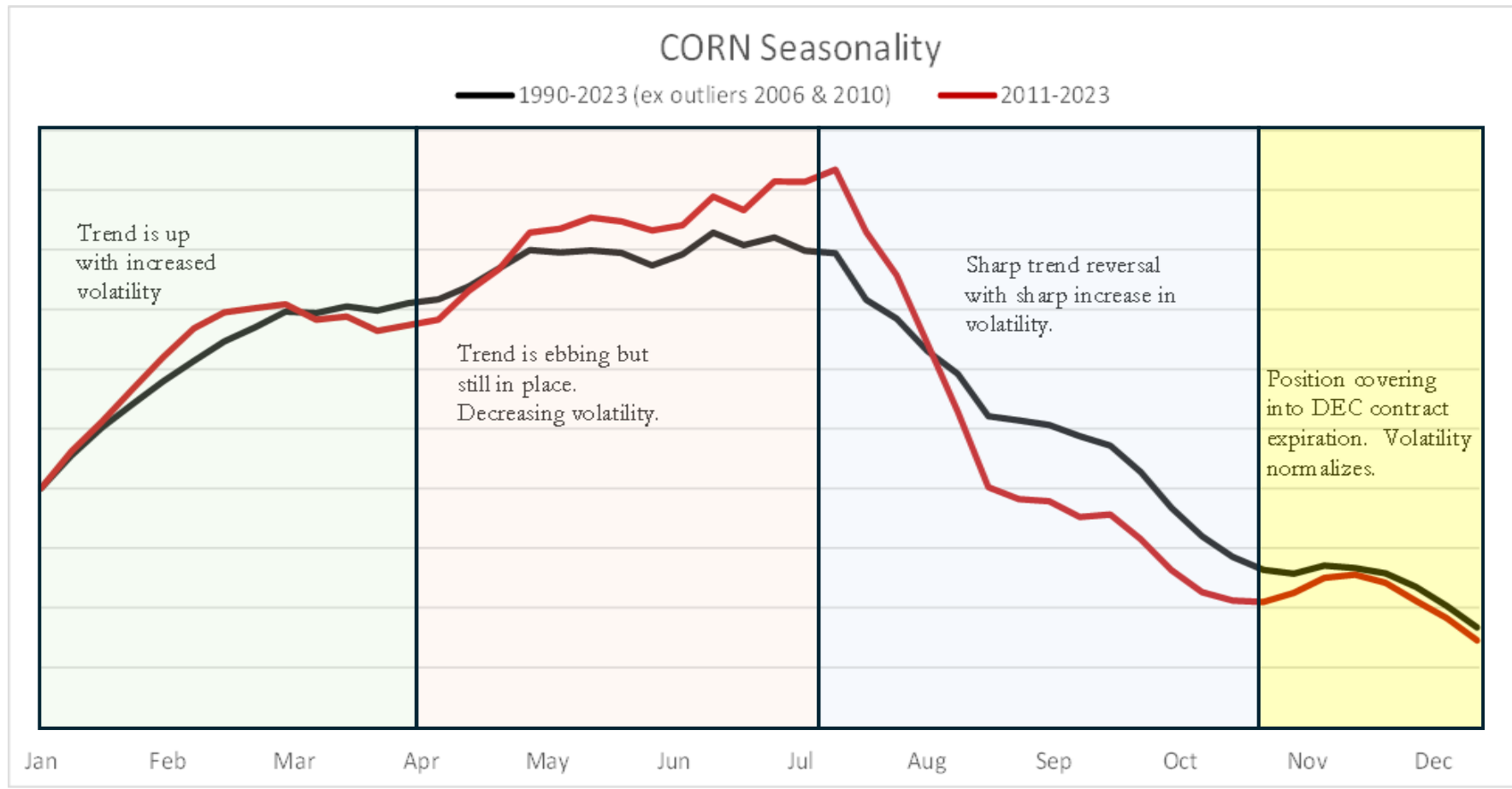
**EXAMPLE:** There are 20 components for ACAP. The weighting for WHEAT is determined on Mar 31, 2021 to be implemented for the upcoming April period, established on the close Apr 1, 2021.

- 1) WHEAT core weight is 5.00% (1/20 components)
- 2) WHEAT historic APRIL period volatility for the previous 10 years is 28%.
- 3) The average for all ACAP components for the previous 10 years in April is 24%
- 4) The WHEAT initial weighting is adjusted to 4.28% ( $.0500 * (.2400 / .2800)$ )
- 5) Additional volatility check: If the most recent 21-day annualized volatility for WHEAT is greater than 50%, no position is established for WHEAT for the upcoming period. The elevated short-term volatility is outside of acceptable ACAP parameters.

A final check on the establishment of positions for the upcoming month is not related to volatility but to where the most recent price of the component is at the time the position determination program is run (the last business day of the month).

When determining the position for WHEAT, if the position to be established is LONG but the closing price on March 31st is above the ACAP calculated Bollinger Band, no position is established for the upcoming month as the entry price level is too high. If the position to be established is SHORT but the closing price on March 31st is below the ACAP calculated Bollinger Band, no position is established for the upcoming month as the entry price level is too low.

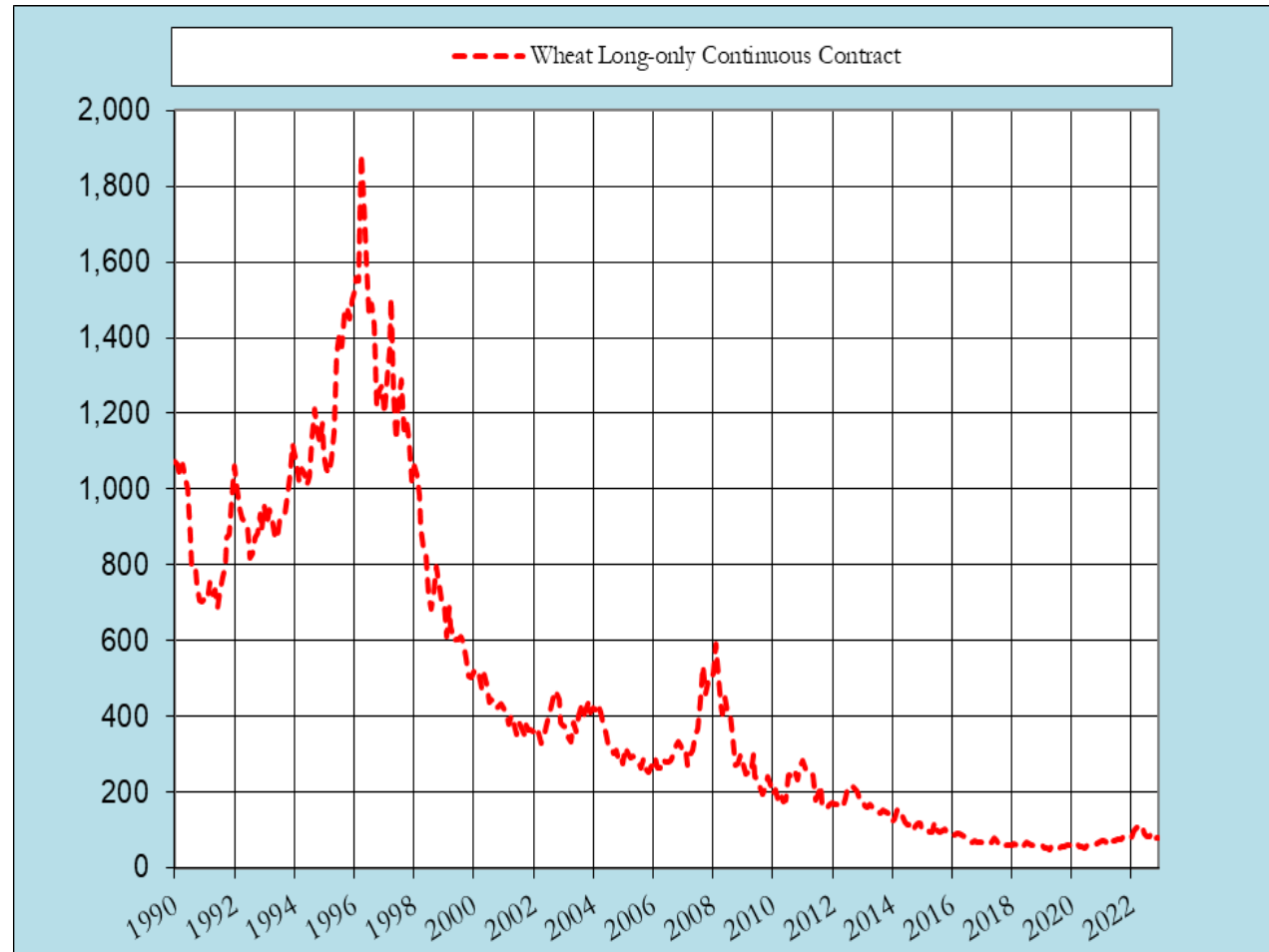
The following chart shows the CORN seasonality pattern that has historically been exhibited in the market since 1990. The data shown is derived using the December CORN futures price for each year from 1990 to 2023.



Traditional trend following methodologies would get long during the early rising price period in January and likely remain long through at least August (likely longer) depending on the length of the trend variable parameters. The suddenness of the trend reversal causes many trend following systems to suffer significant losses, often losing any profits made year-to-date and missing the trend reversal opportunity.

The information shown represents the return profile of a passive long-only exposure to WHEAT using listed futures contracts. Returns shown do not include interest (non-collateralized).

<b>Avg Annual Ret%</b>	Cont Contract
<b>1991 to present</b>	<b>- 8.00%</b>
1991 to 2000	- 4.74%
1996 to 2005	- 15.86%
2001 to 2010	- 4.69%
2006 to 2015	- 10.26%
2011 to 2020	- 12.63%
2016 to present	- 7.45%
<b>Annualized Vol</b>	C Cont
<b>1991 to present</b>	<b>27.59%</b>
1991 to 2000	22.33%
1996 to 2005	23.66%
2001 to 2010	31.31%
2006 to 2015	35.48%
2011 to 2020	28.26%
2016 to present	25.67%
<b>Sharpe Ratios</b>	C Cont
<b>1991 to present</b>	<b>(0.38)</b>
1991 to 2000	(0.43)
1996 to 2005	(0.83)
2001 to 2010	(0.22)
2006 to 2015	(0.32)
2011 to 2020	(0.47)
2016 to present	(0.37)

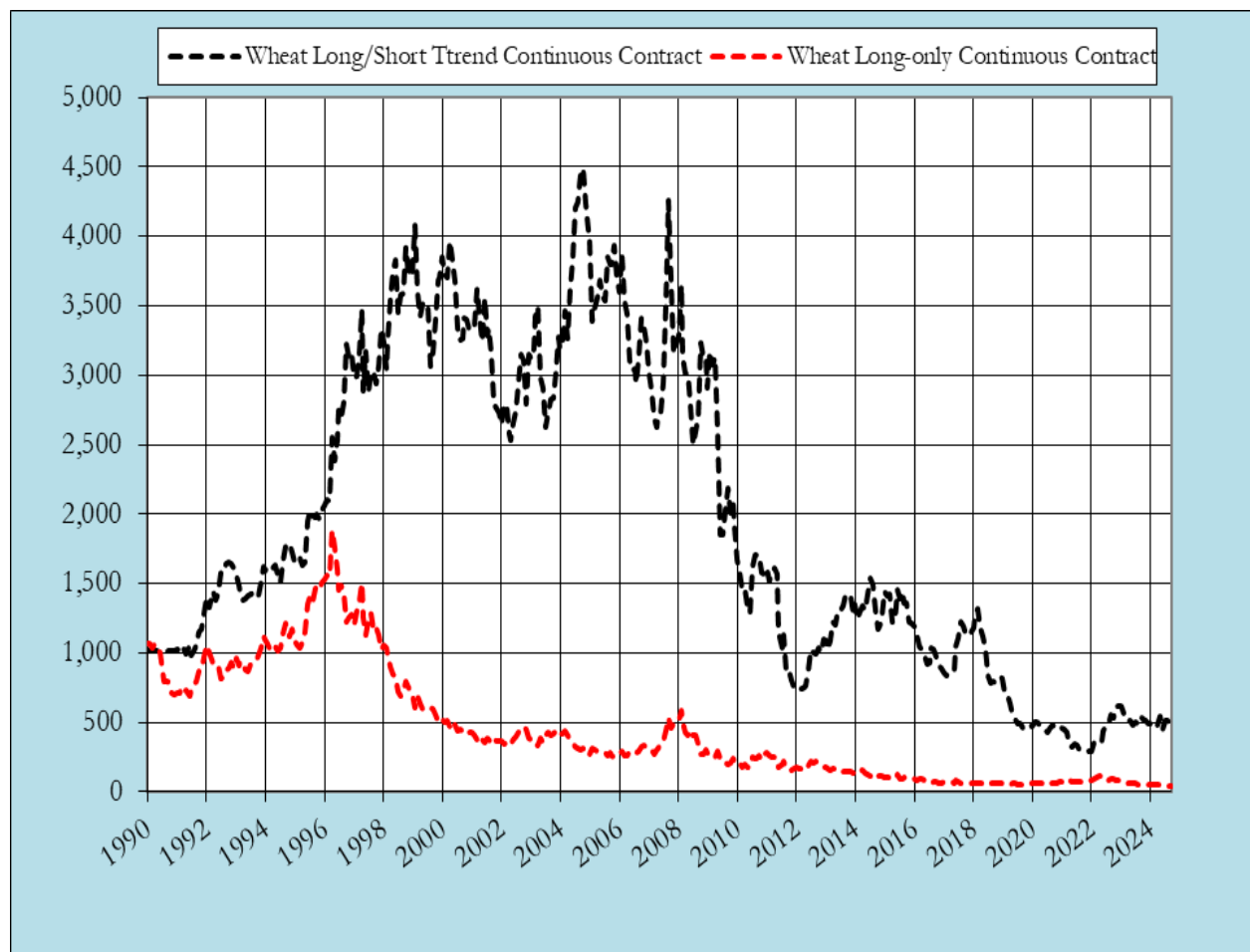


The information shown represents the return profile of an active long/short trend following program exposure to WHEAT using listed futures contracts. Returns shown do not include interest (non-collateralized).

	Cont	
<b>Avg Annual Ret%</b>	Contract	L/S Trend
<b>1991 to present</b>	<b>- 8.00%</b>	<b>- 1.26%</b>
1991 to 2000	- 4.74%	+ 12.58%
1996 to 2005	- 15.86%	+ 6.20%
2001 to 2010	- 4.69%	- 7.22%
2006 to 2015	- 10.26%	- 10.54%
2011 to 2020	- 12.63%	- 11.20%
2016 to present	- 7.45%	- 9.30%

	Cont	
<b>Annualized Vol</b>	Contract	L/S Trend
<b>1991 to present</b>	<b>27.59%</b>	<b>25.41%</b>
1991 to 2000	22.33%	20.32%
1996 to 2005	23.66%	22.58%
2001 to 2010	31.31%	27.80%
2006 to 2015	35.48%	30.95%
2011 to 2020	28.26%	25.46%
2016 to present	25.67%	25.55%

	Cont	
<b>Sharpe Ratios</b>	Contract	L/S Trend
<b>1991 to present</b>	<b>(0.38)</b>	<b>(0.05)</b>
1991 to 2000	(0.29)	0.62
1996 to 2005	(0.67)	0.27
2001 to 2010	(0.15)	(0.26)
2006 to 2015	(0.29)	(0.34)
2011 to 2020	(0.45)	(0.44)
2016 to present	(0.29)	0.00



The information shown represents the return profile of the ACAP methodology with the seasonality factor for WHEAT using listed futures contracts. Returns shown do not include interest (non-collateralized).

- ACAP methodology factors:
- Monthly SMA/EMA trend algo
  - Risk-parity type weighting
  - Bollinger Band price level test
  - Seasonality factor

	Cont	
<b>Avg Annual Ret%</b>	Contract	ACAP
<b>1991 to present</b>	<b>- 8.00%</b>	<b>+ 18.61%</b>
1991 to 2000	- 4.74%	+ 13.98%
1996 to 2005	- 15.86%	+ 19.50%
2001 to 2010	- 4.69%	+ 19.11%
2006 to 2015	- 10.26%	+ 16.96%
2011 to 2020	- 12.63%	+ 21.78%
2016 to present	- 7.45%	+ 20.37%
<b>Annualized Vol</b>	C Cont	ACAP
<b>1991 to present</b>	<b>27.59%</b>	<b>26.42%</b>
1991 to 2000	22.33%	20.77%
1996 to 2005	23.66%	21.98%
2001 to 2010	31.31%	28.82%
2006 to 2015	35.48%	32.87%
2011 to 2020	28.26%	28.09%
2016 to present	25.67%	26.86%
<b>Sharpe Ratios</b>	C Cont	ACAP
<b>1991 to present</b>	<b>(0.38)</b>	<b>0.61</b>
1991 to 2000	(0.43)	0.44
1996 to 2005	(0.83)	0.72
2001 to 2010	(0.22)	0.59
2006 to 2015	(0.32)	0.48
2011 to 2020	(0.47)	0.75
2016 to present	(0.37)	0.68

