

Global Commodities

Systematic backwardation strategy a decent but not perfect hedge against prolonged SoH closure

CITI'S TAKE

Backwardation QIS profited from supply disruptions due to the Iran conflict. The strategies can gain from [further escalation and energy shocks](#), while de-escalation and grain price spikes pose the biggest downside risks.

Commodities backwardation QIS typically go long/overweight commodities with backwardated futures curves and go short/underweight commodities with contangoed curves (see Figure 1). Backwardation QIS have seen positive returns YTD, in a year that's been so far adverse for other systematic commodities strategies including [curve carry](#) and [volatility carry](#) on certain commodities (see Figure 2).

The fundamental rationale for backwardation QIS is that the term structure of a commodity curve can be a good indicator of its return outlook by revealing short-term supply and demand dynamics. A commodity with a backwardated curve likely faces constrained supply or high demand implying a bullish near-term return outlook, whereas a commodity with a contangoed curve likely has ample supply or low demand implying a bearish near-term return outlook. Strategy implementation varies on contract tenor, rebalancing frequency, leverage ratio, choice of short leg (e.g. using contangoed commodities or simply benchmark indices), etc.

Backwardation QIS have historically outperformed during supply disruptions, particularly when associated with high dispersion across commodities returns. For example, when oil and products rallied on geopolitical shocks or when natural gas/agriculture commodities rallied on weather shocks, and other commodities markets (e.g. metals) stay relatively quiet/less stressed, commodities with relatively backwardated curves (energy/ags in this example) tend to outperform the others or the board-based indices, leading to positive returns on backwardation QIS (see Figure 3). Backwardation strategies have underperformed during recessions and demand shocks, amid broad contangoes and low dispersion (see Figure 4).

Backwardation strategies have managed to capture the energy rally following the outbreak of the Iran conflict. As crude curves have been in backwardation since Dec'25 and the product curves have been backwardated for longer, backwardation QIS were long/overweight on the petroleum complex heading into the conflict. Using Citi's Term Structure Alpha II (GSLE) backwardation index (BBG ticker: CCUDTSLN Index) as a proxy, the strategy was up 4.88% since the conflict broke out – of which 5.29% of the gain came from energy and 0.58% from aluminium (see Figure 5).

We have highlighted backwardation strategies as potential outperformers in the re-escalation scenario in our [Iran conflict systematic playbook](#) in April. The strategies are now still long/overweight on the petroleum complex, commodities most subject to Strait of Hormuz disruption risks (see Figure 6). While [our base case](#) assumes de-escalation and SoH reopening over the coming weeks, re-escalation and prolonged disruption will likely lead to further price upside. Top downside risks for backwardation QIS include de-escalation which materially weakens the front end of the energy curves, as well as [upside in grains prices](#) as backwardation QIS are now short CBOT grains due to their still contangoed curves.

See Appendix A-1 for Analyst Certification, Important Disclosures and Research Analyst Affiliation

Kenny Hu, CFA^{AC}

+65-6657-3873

kenny.x.hu@citi.com

Maximilian J Layton^{AC}

+44-20-7986-4556

max.layton@citi.com

Anthony Yuen^{AC}

+852-2501-2731

anthony.yuen@citi.com

Eric G Lee^{AC}

eric.g.lee@citi.com

Wenyu Yao^{AC}

wenyu.yao@citi.com

Francesco Martoccia^{AC}

francesco.martoccia@citi.com

Maggie Xueting Lin^{AC}

maggie.x.lin@citi.com

Tom Mulqueen^{AC}

tom.mulqueen@citi.com

Arkady Gevorkyan^{AC}

arkady.gevorkyan@citi.com

Shreyas Madabushi^{AC}

shreyas.madabushi@citi.com

Viswanathrao Kintali^{AC}

viswanathrao.kintali@citi.com

Xiaodan Zhu^{AC}

xiaodan.zhu@citi.com

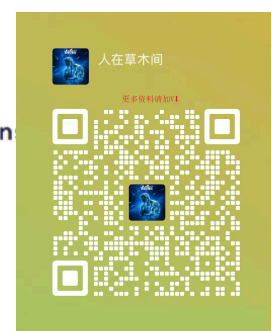


Figure 1. Illustration of a typical backwardation QIS strategy, using Citi Term Structure Alpha II (GSLE) Index (BBG ticker: CCUDTSLN Index) as an example. The strategy systematically goes long relatively backwardated commodities and short most commodities in the benchmark index (S&P GSCI Light Energy Index)

	Energy Sector						Industrial Metals Sector						Agriculture Sector						Livestock Sector			
	WTI Crude Oil	Brent Crude	Natural Gas	Gasoline	Gas Oil	Heating Oil	Copper	Aluminum	Lead	Nickel	Zinc	Wheat (CBOT)	Wheat (KCBOT)	Cotton	Corn	Sugar	Soybeans	Coffee	Cocoa	Lean Hogs	Live Cattle	
<p>✓ Step 1: Calculate the Backwardation Indicator</p> <ul style="list-style-type: none"> Calculate the Backwardation Indicator for each commodity (Simple Backwardation Indicator for illustration purposes only) 	0.5%	0.4%	20.6%	11.6%	3.3%	6.1%	-1.2%	-4.5%	-1.5%	1.4%	3.5%	1.5%	0.2%	17.7%	23.2%	6.6%	-4.9%	0.8%	4.3%	-15.6%	-10.9%	
<p>✓ Step 2: Sector Selection (4 commodities)</p> <ul style="list-style-type: none"> Select the commodities with the highest Backwardation Indicator from each sector 				L			L															L
<p>✓ Step 3: Primary Selection (4-6 commodities)</p> <ul style="list-style-type: none"> Select 4-6 more commodities with the highest Backwardation Indicator regardless of sector and avoid selecting commodities which are only marginally backwardated where possible Select 4 if there are 6 or fewer commodities with a positive Backwardation Indicator remaining Select 5 if there are 7 commodities with a positive Backwardation Indicator remaining Select 6 if there are 8 or more commodities with a positive Backwardation Indicator remaining 				L	L	L	L				L	L	L	L								L
<p>✓ Step 4: Exposure (8-10 commodities)</p> <ul style="list-style-type: none"> Steps 2 and 3 should result in a total of 8 to 10 commodities selected Long exposure is taken on the Citi CUBES Distributed mono-index for each commodity selected Additionally, short exposures are taken on the S&P GSCI mono-index for 1-2 commodities Short and Long legs are weighted according to the S&P GSCI Light Energy with weights scaled up to 100% maintaining the 10% cap on Agriculture and Livestock commodities (Any excess is distributed proportionally) 	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

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Source: Citi Research, Citi Markets

Figure 2. Backwardation strategies have outperformed YTD as Iran conflict driven market volatility hurt performance for other systematic strategies such as **curve carry** and **volatility carry** on certain commodities

Factor	Index	Ticker	Abs. Return			1Y		3Y		5Y				
			1W	MTD	YTD	Ann. Return	Vol	Sharpe	Ann. Return	Vol	Sharpe	Ann. Return	Vol	Sharpe
Curve Carry	CitiCommodities F0-F0 Carry (BCOM Weighted)	CVICFF60	+1.28%	1.03%	-8.16%	-6.85%	7.1%	neg	-1.57%	5.2%	neg	0.43%	5.2%	0.06
	CitiCommodities F3-F0 Carry (BCOM Weighted)	CVICF3F0	-0.75%	0.75%	-5.38%	-4.82%	5.3%	neg	-1.49%	3.8%	neg	0.44%	3.9%	0.13
	CitiCUBES-D Spread Alpha (BCOM weighted) Index	CCUDDU15	-0.43%	1.02%	-5.88%	-4.61%	6.2%	neg	-1.11%	4.5%	neg	0.40%	4.2%	0.10
	CitiCUBES-D Balanced Alpha (BCOM weighted) Index	CCUDD18A	0.03%	1.1%	-3.80%	-1.79%	5.1%	neg	-0.39%	3.7%	neg	0.94%	3.5%	0.27
	CitiConvexity Carry (Fixed weights) Index	CICXCV04	-0.14%	-0.07%	-2.19%	-1.50%	1.2%	neg	-0.08%	0.9%	neg	1.8%	1.7%	0.20
	CitiCommodities Daily Risk-Adjusted FFD Market Neutral Carry Index	CICXKRAVD	-0.23%	0.39%	-1.44%	-2.16%	2.1%	neg	-0.07%	1.7%	neg	0.86%	2.0%	0.43
	CitiCommodities Adaptive Carry (BCOM Weighted) Basket Index	CICXKACDI	-0.22%	-0.05%	-2.72%	-1.72%	2.8%	neg	0.12%	2.4%	0.05	1.92%	2.6%	0.61
	CitiCommodities Seasonally Adjusted F6-F0 (BCOM Weighted) Index	CVICSLA6	+1.25%	0.94%	-8.10%	-7.29%	7.0%	neg	-1.90%	5.1%	neg	0.41%	5.0%	0.08
Curve Congestion	CitiCommodities Congestion Alpha (BCOM-F0) Index	CVICCGD0	0.00%	0.59%	-0.38%	-0.19%	2.4%	neg	-0.52%	1.8%	neg	0.58%	1.5%	0.38
	CitiCommodities Congestion Alpha (BCOM-F2) Index	CVICCGD2	-0.04%	0.26%	-0.70%	-0.13%	1.3%	neg	0.30%	1.0%	0.29	1.2%	1.1%	1.00
	CitiCommodities Congestion Alpha (BCOM-F0) Index	CVICGPD3	-0.05%	0.38%	-0.69%	-0.17%	0.9%	neg	0.17%	0.6%	0.25	0.54%	1.1%	0.46
	CitiCommodities Congestion Pre-Post Roll Alpha (BCOM-F0) Index	CVICRTBI	0.4%	0.77%	-0.57%	-1.17%	2.2%	neg	-1.27%	1.6%	neg	0.93%	1.6%	0.08
	CitiCongestion Dynamic Alpha Index	CVICGGDC	0.00%	0.00%	-1.04%	-0.51%	0.9%	neg	-0.04%	0.7%	neg	0.6%	0.8%	0.94
	CitiCongestion Dynamic Alpha Focused Index	CVICGGDF	0.00%	0.00%	-0.77%	-0.34%	1.4%	neg	-0.05%	1.1%	neg	0.94%	1.2%	0.28
	CitiCommodities Post-Roll Alpha (BCOM Weighted) Index	CVICPAB0	0.1%	0.20%	0.0%	-0.71%	1.1%	neg	-0.51%	0.9%	neg	-0.08%	1.0%	neg
	CitiCommodities Post-Roll Congestion Dynamic Alpha Focused Index	CICXPABF	0.40%	0.37%	0.78%	0.79%	0.7%	1.02	-0.02%	0.6%	neg	0.37%	0.7%	0.55
Curve Backwardation	CitiCommodities Extended Post-Roll Alpha (BCOM Weighted) Index	CICXPABE	0.16%	0.16%	0.09%	-0.03%	1.2%	neg	0.26%	1.1%	0.23	0.45%	1.1%	0.40
	CitiCommodities Dynamic Backwardation Alpha Index	CVICDBAX	0.82%	1.03%	7.06%	5.43%	6.7%	0.81	1.16%	5.5%	0.21	2.32%	5.1%	0.46
	CitiCommodities Dynamic Backwardation Alpha extended Universe-Agriculture and Livestock Index	CVICDBFX	1.0%	1.3%	7.12%	3.74%	6.6%	0.43	-0.04%	6.6%	neg	4.09%	6.9%	0.63
	CitiCommodities Term Structure Alpha II (Light Energy Capped) Index	CCUOTSIN	2.9%	2.7%	8.36%	11.8%	9.8%	1.14	8.92%	9.2%	0.97	7.40%	9.7%	0.76
	CitiCommodities Term Structure (BCOM Weighted) Alpha II Index	CCUOTSDN	1.50%	2.44%	7.95%	84.36%	12.3%	1.17	5.11%	10.5%	0.49	6.41%	10.0%	0.64
	CitiCommodities Term Structure Alpha III (BCOM Weighted) Capped Index	CICXTSBM	1.2%	0.4%	16.64%	15.9%	14.4%	1.06	2.37%	11.5%	0.21	3.46%	11.8%	0.23
	CitiCommodities Term Structure Alpha III (BCOM Weighted) (No Momentum Filter) Capped Index	CICXTSBI	1.92%	2.46%	5.93%	11.38%	12.0%	0.95	4.48%	10.3%	0.44	5.86%	9.6%	0.61
	CitiCommodities Skewness Basket Index I	CICXSRBF	-2.87%	1.79%	-6.56%	17.79%	18.0%	0.99	13.76%	15.2%	0.91	15.71%	15.2%	1.03
Skewness	CitiCommodities Skewness on Spreads Index	CICXKSDI	0.26%	-0.17%	0.0%	1.83%	3.2%	0.58	2.44%	3.0%	0.82	2.69%	3.3%	0.81
	CitiCommodities Tail Mean Reversion Series Index	CIMACOTI	0.27%	0.44%	3.12%	21.47%	9.4%	2.29	13.88%	8.6%	1.62	9.9%	9.1%	1.03
	CitiCommodities Commodity Producer Margin Value Index	CICXWALI	0.72%	0.36%	5.0%	5.5%	7.0%	0.79	2.88%	7.6%	0.38	2.59%	8.9%	0.23
Value	CitiCommodities Commodity Producer Margin Value Index	CICXWAB1	2.33%	2.35%	16.10%	17.18%	6.2%	2.16	8.50%	5.7%	1.49	8.36%	5.7%	1.46
	CitiCommodity Intraday Momentum Overnight Mean Reversion	CVICRBE3	2.8%	0.4%	-4.0%	2.86%	22.8%	0.13	13.59%	17.9%	0.76	10.93%	19.5%	0.56
Momentum	CitiCommodities Momentum (Fixed Weights)	CICXMDM1	0.20%	-0.23%	4.59%	1.45%	4.3%	0.34	2.68%	3.3%	neg	-0.47%	3.6%	neg
	Brent -1m tenor, 10-25d Calls, Daily DH	CICXCORE	4.60%	5.76%	22.75%	11.59%	32.6%	0.36	13.60%	23.6%	0.58	21.04%	21.9%	0.96
Short Vol	Brent -1m tenor, 10-25d Calls, Intraday DH	CICXCOSE	4.69%	5.30%	19.06%	8.4%	30.8%	0.27	8.40%	22.2%	0.38	16.41%	19.4%	0.85
	Brent -3m tenor, ATM Straddles, Daily DH (Bollinger Band)	CICXCOMF	1.84%	0.9%	-10.2%	-11.0%	14.4%	neg	6.63%	7.7%	0.57	10.5%	12.5%	0.81
	WTI -1.5w tenor, 10-30d Calls, Intraday DH	CICXCLSF	1.9%	2.00%	12.74%	12.9%	7.5%	1.73	5.20%	5.5%	0.95	6.40%	5.0%	1.28
	WTI -1.5w tenor, 10-30d Strangles, Intraday DH	CICXCLFF	0.93%	0.97%	5.57%	8.12%	5.0%	1.61	2.91%	3.9%	0.76	2.44%	4.7%	0.52
	WTI -3m tenor, ATM Straddles, Daily DH (Bollinger Band)	CICXCLME	1.77%	0.6%	-10.96%	1.66%	15.2%	0.11	6.55%	12.3%	0.53	6.9%	13.5%	0.52
	COMX Copper -3m tenor, ATM Straddles, Intraday DH	CICXHGQE	-0.11%	-1.87%	4.95%	-38.34%	40.6%	neg	-2.68%	28.0%	neg	-2.71%	22.3%	neg
	COMX Copper -3m tenor, ATM Straddles, Daily DH	CICXHGPE	-0.36%	-2.49%	6.90%	-34.28%	43.4%	neg	-4.08%	30.1%	neg	-4.53%	24.4%	neg
	COMX Copper -3m tenor, ATM Straddles, Daily DH (Bollinger Band)	CICXHGTE	-0.54%	-2.59%	9.2%	-29.69%	53.9%	neg	-19.41%	37.3%	neg	-6.78%	30.0%	neg
	Gold -1.5w tenor, 10-30d Calls, Intraday DH	CICXWQGE	0.9%	0.1%	-11.38%	-11.7%	12.9%	neg	-3.47%	9.5%	neg	-1.66%	8.0%	neg
	Soybean -3m tenor, ATM Straddles, Daily DH (Bollinger Band)	CICXKSUE	-0.38%	-1.24%	4.4%	13.90%	7.4%	1.89	2.12%	7.9%	0.27	-0.28%	9.9%	neg
	Com -3m tenor, ATM Straddles, Daily DH (Bollinger Band)	CICXKXTE	0.05%	-0.47%	3.38%	9.1%	7.8%	1.17	4.37%	9.3%	0.47	13.43%	10.0%	1.34
	Feed Weight Basket, Brent, CitiCOSE 30%, Corn CitiCXTE 17.5%, Soybean CitiCSUE 17.5%, Copper CitiXHGTE 17.5%, Gold CitiXGSE 17.5%	CICXKH52	1.9%	0.96%	5.88%	-1.59%	11.1%	neg	1.48%	8.2%	0.18	6.80%	7.5%	0.90
	Gold -1.5w tenor, Short 10-20d Calls & Intraday DH, Long 50d Call & EOD Daily DH	CICXWQSC	-0.29%	-0.90%	-9.50%	-12.29%	10.0%	neg	-1.80%	7.9%	neg	-1.25%	7.9%	neg
	Gold -1.5w tenor, Short 10-20d Calls & Intraday DH, Long 50d Call & EOD Daily DH, 0.75% Skew Filter	CICXWQSF	-0.96%	-0.96%	-8.71%	-9.54%	8.4%	neg	0.91%	6.6%	0.14	1.64%	6.0%	0.27

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Source: Citi Research, Citi Markets, Bloomberg

Figure 3. Backwardation QIS outperformed following the outbreak of the Russia/Ukraine war. Using CCUDTSLN Index as a proxy, backwardation QIS benefited from long/overweight position on energy and select metals for which Russia is a major producer

PAA for CCUDTSLN Index		Feb 23, 2022 - Jun 30, 2022	
Petroleum	WTI Crude Oil	CL	1.51%
Petroleum	Brent Crude Oil	CO	1.01%
Petroleum	Heating Oil (ULSD)	HO	1.34%
Petroleum	Gas Oil	QS	0.98%
Petroleum	Gasoline (RBOB)	XB	0.37%
Natural Gas	Natural Gas (Henry Hub)	NG	1.06%
Industrial Metals	Aluminium (LME)	LA	2.21%
Industrial Metals	Lead (LME)	LL	0.18%
Industrial Metals	Nickel (LME)	LN	2.39%
Industrial Metals	Copper (LME)	LP	1.47%
Industrial Metals	Zinc (LME)	LX	-0.94%
Grains	Corn	C	0.14%
Grains	Kansas Wheat (Hard Red Winter Wheat)	KW	-0.16%
Grains	Chicago Wheat (Soft Red Winter Wheat)	W	-0.60%
Grains	Soybean	S	-0.01%
Softs	Cocoa (US)	CC	0.08%
Softs	Cotton (No.2)	CT	0.04%
Softs	Coffee (Arabica C)	KC	0.14%
Softs	Sugar (No.11)	SB	-0.08%
Livestock	Live Cattle	LC	0.42%
Livestock	Lean Hogs	LH	-0.34%
CCUDTSLN Index			11.21%

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Source: Citi Research, Citi Markets

Figure 4. Backwardation QIS underperformed following the first global outbreak of the COVID pandemic as prices collapsed across commodities sectors on extreme demand/recession fears leading to low dispersion in returns and broad contangoes

PAA for CCUDTSLN Index		Jan 21, 2020 - Jun 30, 2020	
Petroleum	WTI Crude Oil	CL	1.91%
Petroleum	Brent Crude Oil	CO	-12.31%
Petroleum	Heating Oil (ULSD)	HO	-0.62%
Petroleum	Gas Oil	QS	0.35%
Petroleum	Gasoline (RBOB)	XB	-3.68%
Natural Gas	Natural Gas (Henry Hub)	NG	0.25%
Industrial Metals	Aluminium (LME)	LA	1.03%
Industrial Metals	Lead (LME)	LL	-0.26%
Industrial Metals	Nickel (LME)	LN	0.58%
Industrial Metals	Copper (LME)	LP	2.80%
Industrial Metals	Zinc (LME)	LX	-0.44%
Grains	Corn	C	1.54%
Grains	Kansas Wheat (Hard Red Winter Wheat)	KW	0.53%
Grains	Chicago Wheat (Soft Red Winter Wheat)	W	0.90%
Grains	Soybean	S	0.77%
Softs	Cocoa (US)	CC	-0.29%
Softs	Cotton (No.2)	CT	0.22%
Softs	Coffee (Arabica C)	KC	0.26%
Softs	Sugar (No.11)	SB	-2.35%
Livestock	Live Cattle	LC	-0.44%
Livestock	Lean Hogs	LH	1.63%
CCUDTSLN Index			-7.64%

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Source: Citi Research, Citi Markets

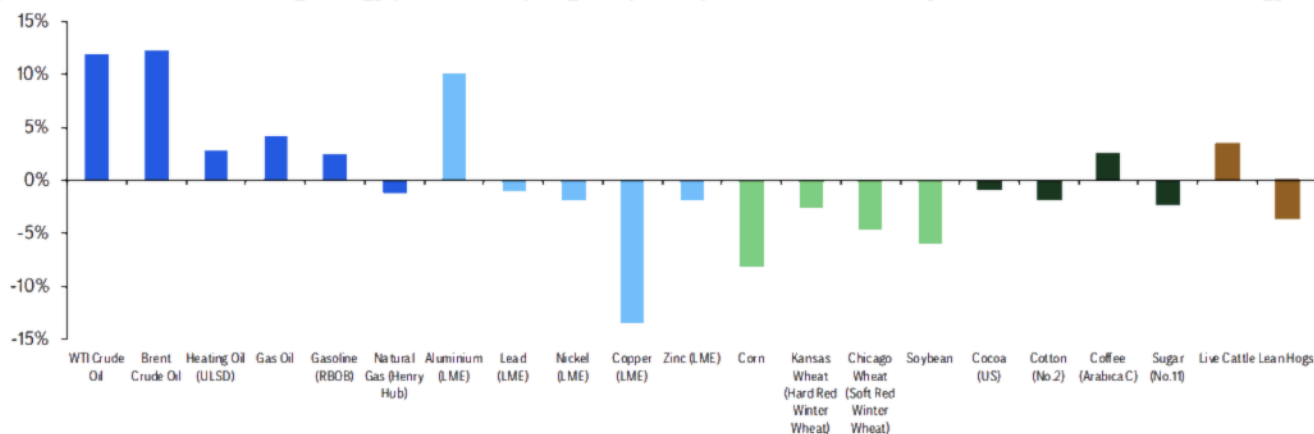
Figure 5. Backwardation QIS outperformed following the outbreak of the Iran conflict this year, with energy and aluminium (commodities whose flows are most disrupted by the Strait of Hormuz situation) accounting for vast majority of the positive performance so far

PAA for CCUDTSLN Index		Feb 27, 2026 - May 15, 2026	
Petroleum	WTI Crude Oil	CL	0.31%
Petroleum	Brent Crude Oil	CO	0.59%
Petroleum	Heating Oil (ULSD)	HO	2.24%
Petroleum	Gas Oil	QS	1.46%
Petroleum	Gasoline (RBOB)	XB	0.48%
Natural Gas	Natural Gas (Henry Hub)	NG	0.20%
Industrial Metals	Aluminium (LME)	LA	0.58%
Industrial Metals	Lead (LME)	LL	0.01%
Industrial Metals	Nickel (LME)	LN	-0.03%
Industrial Metals	Copper (LME)	LP	0.03%
Industrial Metals	Zinc (LME)	LX	-0.04%
Grains	Corn	C	0.04%
Grains	Kansas Wheat (Hard Red Winter Wheat)	KW	-0.39%
Grains	Chicago Wheat (Soft Red Winter Wheat)	W	-0.27%
Grains	Soybean	S	0.05%
Softs	Cocoa (US)	CC	-0.24%
Softs	Cotton (No.2)	CT	-0.30%
Softs	Coffee (Arabica C)	KC	0.09%
Softs	Sugar (No.11)	SB	-0.15%
Livestock	Live Cattle	LC	-0.10%
Livestock	Lean Hogs	LH	0.31%
CCUDTSLN Index			4.88%

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Source: Citi Research, Citi Markets

Figure 6. Using CCUDTSLN Index as an example, backwardation QIS are still long the petroleum complex (due to continued curve backwardation) and short CBOT grains (due to continued curve contango despite recent spot price gains). De-escalation hitting energy prices and spot grain price spikes are now the key downside risks for the strategy



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