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Commodity Portfolio Strategist Monthly

Gold and silver dance to different tunes

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Commodities
Global

Global Commodity Research
BofA Europe (Madrid)

Francisco Blanch
Commodity & Deriv Strategist
BofA Europe (Madrid)
+34 91 514 3070
francisco.blanch@bofa.com

Irina Shaorshadze
FICC Quant Strategist
BofAS
+1 646 855 7435
irina.shaorshadze@bofa.com

BCOM – Bloomberg Commodity Index

Bearish corn, wheat; bullish Brent and copper on 1M

In relative terms over a one month holding horizon, we are overweight Brent, gasoline, gasoil, soybean meal and lead. We are underweight natural gas, lean hogs, corn, wheat, Kansas wheat, coffee, and cotton. Over the next month, our model predicts positive roll yields for Brent, gasoline, sugar and copper. It predicts negative roll yields for WTI, heating oil, gasoil, live cattle, soybeans, soybean oil, cotton, nickel, zinc, lead. Similarly, over the next month, we expect positive excess returns for WTI, Brent, heating oil, gasoil and soybean meal. Looking over a 6M horizon, our model projects positive spot returns for most industrial metals and ags, and all energy. Over 6 months, our model projects positive excess returns for soybean meal and soybeans, Brent, gasoline and gasoil, heating oil, nickel, and silver. It projects negative excess returns for WTI, live cattle, soybean oil and aluminum.

Sentiment plummets but US hard data indicates resilience

There is a notable divergence in the U.S. economy, with pessimistic consumer sentiment contrasting sharply with robust hard data (see the report Confidence isn't everything). Despite falling sentiment indicators, consumer spending and the labor market have shown continued strength. This divergence of soft and hard data has been observed during the past few years. Our economics team anticipates consumer resilience this time around as well, though potential tariff increases pose a downside risk to this view. Anticipating the impact of proposed and potential retaliatory tariffs, our economists have revised their Q1 GDP forecast downward to 1.5% (q/q SAAR) from 2.5%. Combined with the expected inflationary pressure from the proposed tariffs, we see a growing risk of stagflation, a positive for BCOM commodities.

Still bullish gold, but we would avoid gold-silver spreads

Gold's impressive 2024 run was followed by another significant milestone: it reached a record-breaking $3,000 price in March 2025, and we have since increased our forecast to $3,500/oz (see the report Updating our gold price forecast). While traditionally inflation and real yields have been the main drivers of gold prices, recently central bank buying has emerged as the primary catalyst behind the current gold price increase. Silver's year-over-year performance also yielded a positive 41% in excess returns. Both metals are stores of value, but their market dynamics are influenced by distinct factors (see Silver won't lose its luster long-term), and both markets have faced structural transformations in recent decades. In this note we investigate the presence of a mean-reverting relationship between gold and silver and explore if this relationship has changed over time.

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.
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Refer to important disclosures on page 23 to 24.

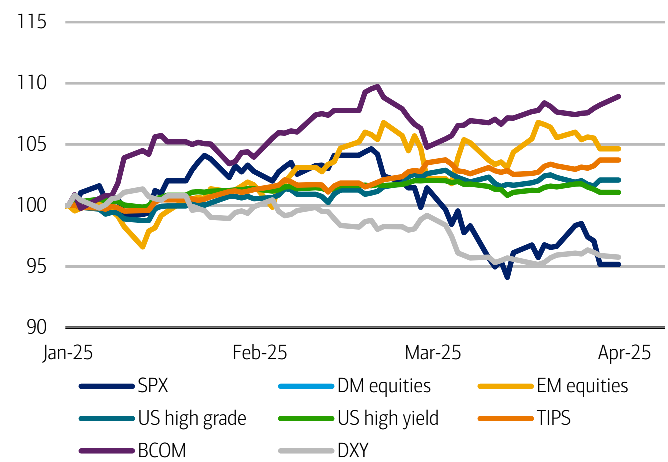
Commodity portfolio strategy March 2025

Over 1M horizon bearish corn, wheat, lean hogs; bullish Brent and copper

The BCOM TR index has posted 8.88% returns in 2025, with natural gas and Coffee, Silver and Gold outperforming and Soybeans and Wheat lagging index returns Exhibit 1 and Exhibit 2).

- In relative terms over a one month holding horizon, we are **overweight** Brent, gasoline, gasoil, soybean meal and lead. We are **underweight** natural gas, lean hogs, corn, wheat, Kansas wheat, coffee, and cotton.
- Over the next month, our model predicts positive roll yields Brent, gasoline, sugar and copper. It predicts negative roll yields for WTI, heating oil, gasoil, live cattle, soybeans, soybean oil, cotton, nickel, zinc, lead.
- Similarly, Over the next month, we expect positive excess returns for WTI, Brent, heating oil, gasoil and soybean meal.
- Looking over a 6M horizon, our model projects positive spot returns for most industrial metals and ags, and all energy.
- Over 6 months, our model projects positive excess returns for soybean meal and soybeans, Brent, gasoline and gasoil, heating oil, nickel, and silver. It projects negative excess returns for WTI, live cattle, soybean oil and aluminum.

Exhibit 1: Cross-asset returns indexed to Jan-25
Commodities has been a top performing asset YTD



Source: Bloomberg, BofA Global Research

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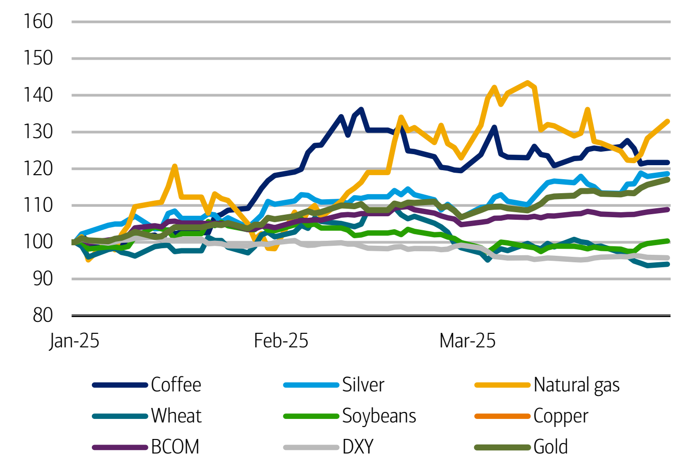
Exhibit 2: Cross-commodity returns indexed to Jan-25
Natural gas and coffee outperformed YTD



Source: Bloomberg, BofA Global Research

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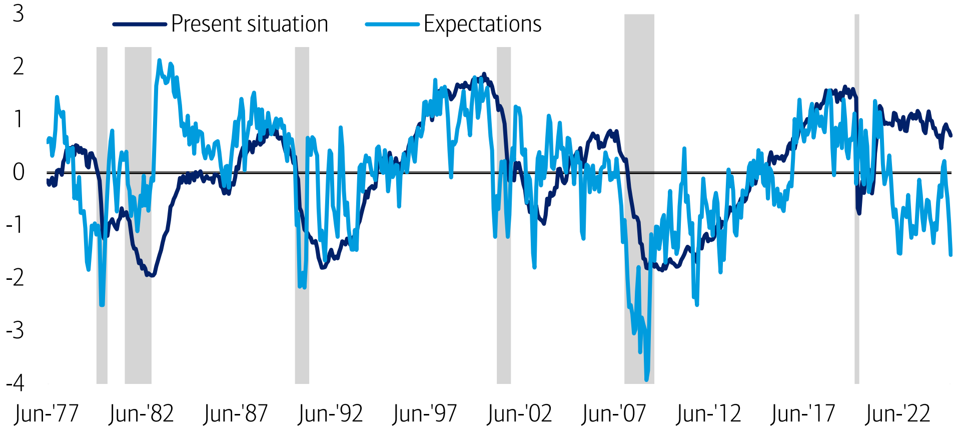
US hard data indicate resilience, even as the sentiment data plummets

There is a notable divergence in the U.S. economy, with pessimistic consumer sentiment contrasting sharply with robust hard data (Confidence isn't everything). Despite plummeting sentiment indicators, consumer spending and the labor market have shown continued strength (Exhibit 3). This divergence of soft and hard data is not new. In fact, it has been observed over the past few years, and this leads our economic team to anticipate consumer resilience this time around as well, though potential tariff increases pose a downside risk. Anticipating the impact of proposed and potential retaliatory tariffs, our economists have revised their Q1 GDP forecast downward to 1.5% (q/q SAAR) from 2.5%. Combined with the expected inflationary pressure from the proposed tariffs, this suggests a risk of stagflation.

Exhibit 3: Consumers have been pessimistic since mid-2021, but the economy hasn't rolled over
Components of consumer confidence (z-scores)



Source: Conference Board, BofA Global Research

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Energy (except for natural gas) down MoM; precious metals rally

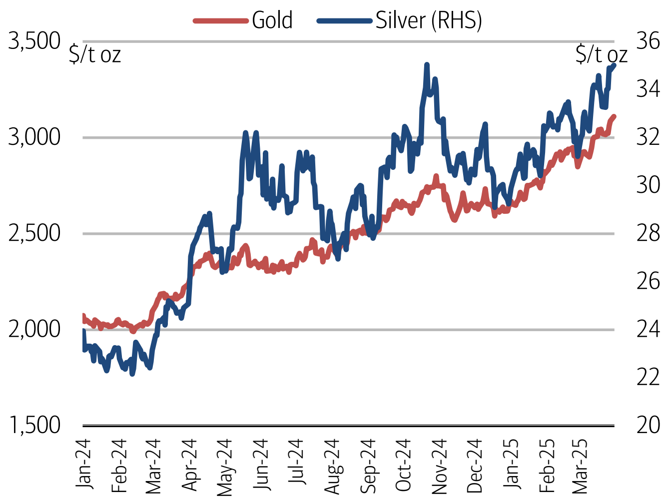
Increased tariff anxiety in March led to price declines across most energy commodities, excluding natural gas and gasoline. WTI crude oil finished March at approximately $69/bbl, down 1.1% year-to-date. Natural gas rose to $4.1/MMBtu from $3.8/MMBtu in February. Gold surged past $3,000/t oz for the first time, closing at $3,087/t oz in end of March. Silver saw an even larger monthly gain, up 11% YTD to $35/t oz. Metals remained in contango across the board in February, including aluminum which had been backwardated the previous month. Agricultural commodities also displayed contango, with contango steepening during March for all but soybean meal. Conversely, the energy complex remains in backwardation, with natural gas as the sole exception.

Gold and silver dance to different tunes

Gold has reached an all-time high price of $3,000/t oz in March 2025…

Gold's impressive 2024 run was followed by another significant milestone: it reached a record-breaking $3,000 price in March 2025 (Exhibit 4). While traditionally inflation and real yields has been the main drivers of gold prices, recently central bank buying has emerged as a primary catalyst of the gold rally. Silver's year-over-year performance also yielded a positive 41% in excess returns. Both metals are considered stores of value, but their market dynamics are influenced by distinct factors, and both markets have faced structural transformations over the past few decades. In this note we investigate the presence of a mean-reverting relationship between gold and silver and explore if this relationship has changed over time (Exhibit 5).

Exhibit 4: Spot prices for gold and silver (Jan 2024 – Mar 2025)
Gold prices have increased by 50% since January 2024, reaching $3,000/t oz in March 2025...



Source: Bloomberg, BofA Global Research

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Exhibit 5: Spot price index for gold and silver (Jan 1996 – Mar 2025)
...and have delivered annualized returns of 8.5% since 1996, while silver has delivered annualized returns of 11% over the same period

Source: Bloomberg, BofA Global Research

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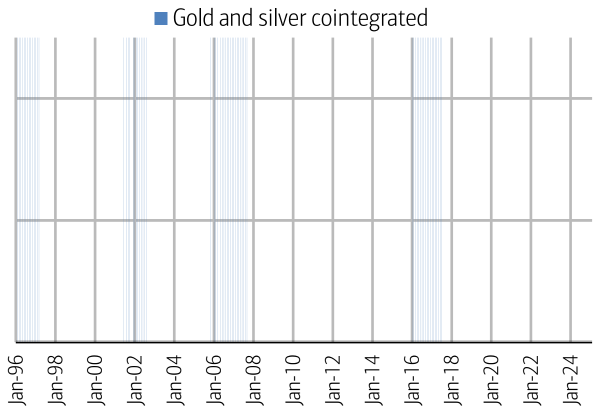
...and silver also rallied in 2024, but are gold and silver cointegrated?

Gold and silver have followed broadly a similar trajectory over the past three decades, even if the main drivers of their performance might differ. However, are they cointegrated? In other words, is there a mean reverting relationship between these two metals that lets one exploit the spread between the two either systematically or through discretionary strategies? As a reminder, spread trading is a potentially profitable strategy that exploits divergence between performance of two commodities when one expects the spread to mean revert. Our preferred implementation of a spread trading strategy tests for mean reversion (cointegration) of commodity pairs through a series of rolling regressions on a five-year window of daily performance data. For a detailed description of the spread value strategy, see Spreading out in commodity spread value.

Tests show that most of the time they are not...

When we perform the cointegration tests on the gold-silver pair, out of all monthly regressions from January 1996 to date, only 20% pass the test. In other words, we determine that the gold-silver pair is cointegrated only 20% of time. No wonder our preferred spread value strategy never picks up a gold-silver pair: we impose an additional filter and only consider those commodity pairs that are consistently cointegrated (cointegrated at least 80% of the time), and the gold-silver pair never makes the cut. Nevertheless, it is informative to look at the periods of time when such mean reverting relationship exists (Exhibit 6).

Exhibit 6: Gold and silver cointegration (mean reversion) test
Gold and silver are cointegrated in only 20% of rolling regressions, notably during episodes of market turmoil…



Source: Bloomberg, BofA Global Research

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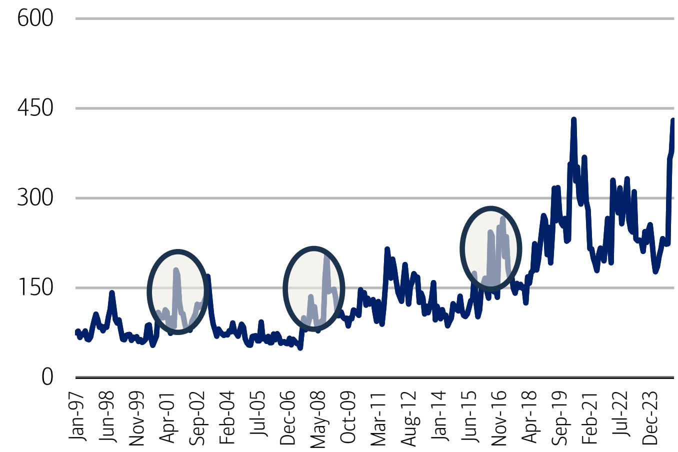
Exhibit 7: Global policy uncertainty indicator
…such as (1) dot-com bubble in 2002, (2) the GFC and (3) resumption of the interest rate hikes after rates at near zero for years after the GFC



Source: Bloomberg
Notes: Global Policy Uncertainty indicator data starts in Jan 1997

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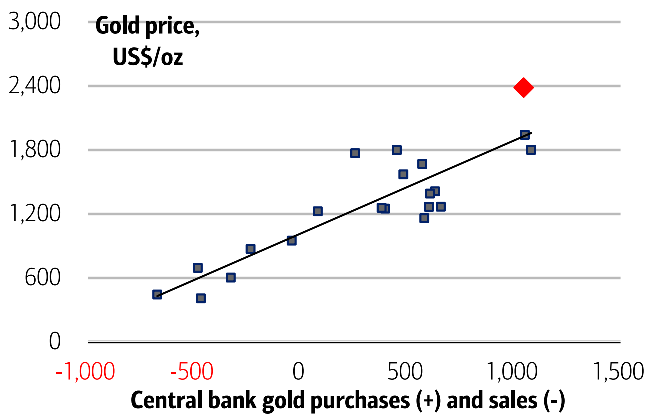
…except for the times of market turmoil and uncertainty…
It is striking that cointegration is found during times of market turmoil and increased uncertainty such as the following four episodes:

- The Asian market crisis in 1997
- The Dot-com bubble in 2002
- The runup to the Great Financial Crisis 2007-2008
- Dec 2015 – 2016, as the Fed started increasing rates after keeping them near zero since the Great Recession

However, the recent market turmoil did not induce gold-silver mean reversion…
It is intuitive that both precious metals might play a role of safe haven during periods of market disruption, and during such times the cointegration test for the pair is indeed positive. However clearly not all instances of increased uncertainty induce a mean-reverting episode between gold and silver. In fact, notable for their absence are the recent memorable episodes of COVID, Russia-Ukraine war, as well as the recent presidential elections. In other words, the mean-reverting relationship between gold and silver was historically rare and intermittent, and recently the white and yellow metal have decoupled even further.

…as recent gold demand is driven by price-insensitive central bank buying…
Beginning from the initial sanctions on Russian assets upon Russia's invasion of Crimea and precipitated by the further sanctions after the start of the Russia-Ukraine war in 2022, the primary driver of gold prices and demand comes from the central banks. Importantly, these central banks are relatively price-insensitive (Exhibit 8): the purchases are not motivated by inflation or real yields, but rather geopolitics (Gold plating guns and cannons). The Russian central bank had no choice but to shift its reserves to gold. Many emerging market banks have also ramped up gold purchases, concerned that traditional "safe assets" such as the US dollar and the US treasuries are not safe from the risk of freezing or confiscation (Exhibit 9).

Exhibit 8: Gold prices and central bank purchases
The gold price rally has been accompanied by rising central bank gold purchases...



Source: World Gold Council, Bloomberg, BofA Global Research

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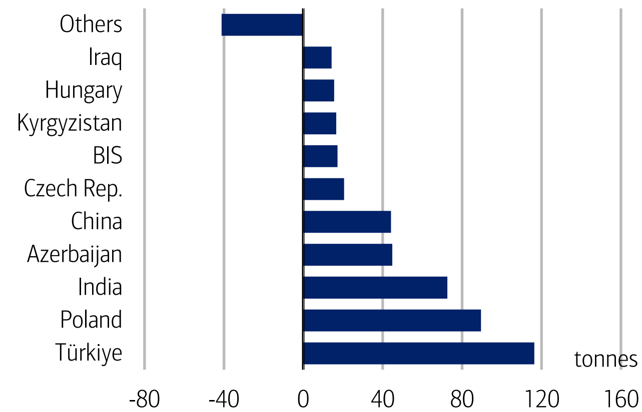
Exhibit 9: Central bank gold purchases
... and reserve managers in Europe and Asia have been key gold buyers



Source: World Gold Council, BofA Global Research

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...while silver is harder to store and is driven instead by industrial demand
Meanwhile, silver is less suitable as a reserve asset as it is harder to store. In fact, the central banks have recently been net-sellers of silver and its demand is primarily driven by the industrial applications (Silver won't lose its luster long-term).

We are bullish gold, but would avoid taking positions on gold-silver spreads
The gold rally is likely to continue as countries diversify away from the dollar, especially as the U.S. takes drastic measures to shrink both the budget and trade deficits. Gold is a scarce asset with limited additional supply either through mining or recycling. Hence the continued central bank demand that is accentuated by recent geopolitical tensions will likely continue to elicit the price response. Yet we see no evidence of mean reversion emerging in the gold-silver pair. In fact, the two metals have rarely been cointegrated, and their relationship has further decoupled recently.

1. Commodity fundamental views

Exhibit 10: BofA Commodity Research Themes and Outlook

Key takeaways

	Views
Macro outlook	• Our economists see world GDP rising 3.3% in 2025 and 2026.
WTI and Brent crude oil	• We project Brent and WTI to average $65/bbl and $61/bbl, respectively, in 2025. • The global oil balance should loosen in 2025 as non-OPEC supply growth outpaces global demand growth and OPEC+ continues with its voluntary cuts. • We forecast global demand growth of 1.1mn b/d YoY in 2025 and 1mn b/d in 2026. • Non-OPEC supply should grow roughly 1.4mn b/d YoY in 2025 and 800k b/d in 2026. • We project total US crude and NGL supply to rise 600k b/d in 2023 and 300k b/d in 2026. • OPEC crude oil supplies are set to rise 290k b/d in 2025 and remain flat in 2026 as OPEC+ actively manages balances.
Atlantic Basin petroleum products	• Refined product markets face risks from OPEC+ cuts, slowing demand growth, and the pace of global refining capacity growth.. • Global refining capacity growth of 1.13mn b/d in '24 and 730k b/d in '25 to overwhelm oil demand next year, weighing on margins. • We forecast RBOB-Brent to average $12/bbl in 2025, and we see ULSD-Brent cracks averaging $19/bbl over the same period
US natural gas	• US gas supply and demand growth should hit 1.8Bcf/d and 3.1Bcf/d YoY in 2025, lowering stocks to 3.75Tcf by October. • We forecast US Henry Hub natural gas prices will average $3.33/mmbtu in 2025 and rise to $4.05/mmbtu in 2026
LNG	• Global gas markets have tightened considerably heading into 2024/25 winter and are subject to upward price shocks if cold weather or further geopolitical escalation materialize • LNG supply is set to rise 22mn mt YoY in 2025 and 28mn mt in 2026 and we expect Europe to boost import by 15mn mt next year, leaving little room for demand growth elsewhere. • We forecast TTF prices to average 40EUR/MWh in 2025 and 35EUR/MWh in 2026
Thermal coal	• Spot and forward thermal coal prices rallied this year as seaborne supply ex-Indonesia has struggled to expand. • While OECD countries are prioritizing clean energy, EMs are poised to further grow their coal-fired power fleet. • With demand set to hold and inventories in a normal range, we keep our Newcastle forecast of $125/t for 2025.
Aluminium	• China is almost operating at its 45mt capacity cap and smelters ex-China have closed capacity. • Smelters globally have been under pressure on rising bauxite/ alumina prices. • We expect rising deficits going forward.
Copper	• Demand uncertainty over trade disputes, but energy transition spend to be supportive. • Demand in China has been patchy, but grid spending has completely offset weakness in housing. • Mine supply is extremely tight, pushing down smelter capacity utilisation rates.
Lead	• There are no immediate scrap or concentrates shortages, suggesting the market could flip back into surplus. EVs are not a threat yet.
Nickel	• Demand uncertainty over trade disputes, but energy transition spend to be supportive. • Indonesia is looking to slow the unfettered output growth seen in recent years, likely reducing surpluses and supporting prices in 2025/26.
Zinc	• Zinc mine supply remains extremely tight, reducing concentrates import and refined production China. • Beyond Kipushi, there are very few sizeable projects in the pipeline and output at a series of existing mines is falling.
Gold	• Gold is facing headwinds near-term as the market adjusts to Trump's economic policies, which may bring about higher inflation and a stronger USD. • There is also a risk the EM central bank reduce gold buying, if domestic currencies decline on tariffs. • Yet, ongoing macro uncertainty and rising global debt levels remain supportive.
Silver	• The silver market has rebalanced on production discipline and demand from new applications including solar panels. • As more spending on solar panels come through, silver should rally. Bottoming out of the global economy in 2025 should also help industrial demand.
Platinum/ Palladium	• Palladium has been moving into surplus, keeping pressure on prices. More production discipline is necessary. Potential trade restrictions on Russia may be worth following. • Any supply cuts may reduce the palladium surpluses, but will likely push platinum into a deficit, so prices might diverge.
Wheat	• Wheat market continues to lack direction and remains range-bound between 5-6$/bu. • We are neutral-to-bearish wheat prices going into 2025E and see an average $5.5/bu in 2025 compared to the current forward price of $5.8/bu.
Corn	• While we wait for the SAm crop, corn becomes a demand story that looks rather weak. • We are neutral-to-bearish corn and project prices to average $4/bu in 2025 relative to the current forward price of $4.4/bu
Soybeans	• With no weather-risk premium embedded in prices, and given a combination of looming record crops, weak demand, and the possibility of trade tensions between the US and China post elections, we maintain our bearish view for the soybean market. • We think prices should weaken into 2025E, averaging $9.7/bu in 2025E compared to the current forward price of $10.2/bu.
Sugar	• We are neutral sugar at current levels, with upside risk should the deficit turn out to be larger than expected.

Source: BofA Global Research estimates

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2. Commodity price, roll yield and excess return views

Exhibit 11: Spot and excess return and roll yield views
The table presents our directional views on spot and excess returns and roll yields

		Price view			Roll yield view			Excess returns view			Relative to Benchmark
		1M	3M	6M	1M	3M	6M	1M	3M	6M	1M holding
Energy											
	WTI Crude	Neutral	Positive	Positive	Negative	Negative	Negative	Positive	Negative	Negative	Neutral
	Brent Crude	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive	Positive
	Gasoline (RB)	Positive	Positive	Positive	Positive	Positive	Positive	Neutral	Positive	Positive	Positive
	Heating oil	Positive	Positive	Positive	Negative	Negative	Negative	Positive	Negative	Positive	Neutral
	Gasoil	Positive	Positive	Positive	Negative	Negative	Negative	Positive	Positive	Positive	Positive
	Natural Gas	Neutral	Positive	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Negative
Livestock											
	Live Cattle	Positive	Positive	Positive	Negative	Negative	Neutral	Neutral	Negative	Negative	Neutral
	Lean Hogs	Positive	Neutral	Neutral	Positive	Negative	Neutral	Neutral	Neutral	Neutral	Negative
Ags											
	Corn	Neutral	Positive	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Negative
	Wheat	Neutral	Positive	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Negative
	Soybeans	Neutral	Positive	Positive	Negative	Negative	Negative	Neutral	Positive	Positive	Neutral
	Kansas wheat	Neutral	Positive	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Negative
	Soybean oil	Neutral	Neutral	Neutral	Negative	Negative	Negative	Neutral	Negative	Negative	Neutral
	Soybean meal	Neutral	Positive	Positive	Neutral	Neutral	Neutral	Positive	Positive	Positive	Positive
Soft Commodities											
	Coffee	Neutral	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Negative
	Sugar	Neutral	Neutral	Neutral	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
	Cotton	Neutral	Neutral	Positive	Negative	Negative	Neutral	Neutral	Negative	Neutral	Negative
Base Metals											
	Aluminum	Neutral	Positive	Positive	Neutral	Neutral	Neutral	Neutral	Neutral	Negative	Neutral
	Copper	Positive	Positive	Positive	Positive	Positive	Positive	Neutral	Positive	Neutral	Positive
	Nickel	Positive	Positive	Positive	Negative	Negative	Positive	Neutral	Positive	Positive	Neutral
	Zinc	Neutral	Positive	Positive	Negative	Negative	Neutral	Neutral	Positive	Neutral	Neutral
	Lead	Positive	Positive	Neutral	Negative	Negative	Negative	Neutral	Positive	Neutral	Neutral
Precious Metals											
	Gold	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
	Silver	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Positive	Neutral

Source: BofA Global Research estimates
Notes: Our spot, roll and excess return views are based on our model which incorporates quantitative, financial and economic variables, as well as on the fundamental market analysis.

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Over 1M horizon bearish corn, wheat, lean hogs; bullish Brent and copper

We use our framework that combines quantitative and fundamental variables to provide views on spot and excess returns, as well as roll yields. We also express relative view for excess returns over a one month holding period.

- In relative terms over a one month holding horizon, we are **overweight** Brent, gasoline, gasoil, soybean meal and lead. We are **underweight** natural gas, lean hogs, corn, wheat, Kansas wheat, coffee, and cotton.
- Over the next month, our model predicts positive roll yields Brent, gasoline, sugar and copper. It predicts negative roll yields for WTI, heating oil, gasoil, live cattle, soybeans, soybean oil, cotton, nickel, zinc, lead.
- Similarly, Over the next month, we expect positive excess returns for WTI, Brent, heating oil, gasoil and soybean meal.
- Looking over a 6M horizon, our model projects positive spot returns for most industrial metals and ags, and all energy.
- Over 6 months, our model projects positive excess returns for soybean meal and soybeans, Brent, gasoline and gasoil, heating oil, nickel, and silver. It projects negative excess returns for WTI, live cattle, soybean oil and aluminum.

Exhibit 12: Commodity spot prices and spot return projections
The table presents commodity spot prices and spot return projections by our quantitative model over 3 and 6 months

		Unit	Dec-24 (EOM)	Feb-25 (EOM)	Mar-25 (EOM)	May 2025F (EOM)	Aug 2025F (EOM)	Spot return YTD	Spot return MOM
Energy									
	WTI Crude	USD/bbl.	72	70	69	70	70	-1.1%	-0.6%
	Brent Crude	USD/bbl.	75	73	74	74	75	-0.5%	0.6%
	Gasoline (RB)	USd/gal.	2	2	2	2	2	3.7%	13.4%
	Heating oil	USd/gal.	2	2	2	2	2	-0.9%	-4.0%
	Gasoil	USD/MT	695	691	669	678	683	-1.3%	-3.1%
	Natural Gas	USD/MMBtu	3.6	3.8	4.1	4.1	4.1	3.8%	6.0%
Livestock									
	Live Cattle	USd/lb.	2	2	2	2	2	2.5%	5.6%
	Lean Hogs	USd/lb.	1	1	1	1	1	2.2%	3.6%
Ags									
	Corn	USd/bu.	5	5	5	5	5	-0.4%	-0.1%
	Wheat	USd/bu.	6	5	5	5	5	-1.4%	-1.6%
	Soybeans	USd/bu.	10	10	10	10	11	0.8%	1.1%
	Kansas wheat	USd/bu.	6	6	6	6	6	-0.4%	-1.2%
	Soybean oil	USd/lb.	0	0	0	0	0	4.3%	3.7%
	Soybean meal	USD/T.	308	292	294	304	305	-1.6%	0.6%
Soft Commodities									
	Coffee	USd/lb.	3	4	4	4	4	5.9%	0.2%
	Sugar	USd/lb.	0	0	0	0	0	-0.5%	-2.8%
	Cotton	USd/lb.	1	1	1	1	1	-0.7%	4.7%
Base Metals									
	Aluminum	USD/MT	2,536	2,621	2,534	2,533	2,559	0.0%	-3.3%
	Copper	USd/lb.	4	5	5	5	5	8.4%	13.6%
	Nickel	USD/MT	15,140	15,297	16,203	16,386	16,536	2.3%	5.9%
	Zinc	MMBtu	2,960	2,769	2,846	2,871	2,890	-1.3%	2.8%
	Lead	USD/MT	1,933	1,974	2,010	2,026	2,050	1.3%	1.8%
Precious Metals									
	Gold	USD/t oz.	2,641	2,849	3,087	3,175	3,252	5.3%	8.4%
	Silver	USD/t oz.	29	31	35	35	36	6.0%	11.5%

Source: Bloomberg, BofA Global Research estimates
Notes: Spot return YTD is presented in monthly terms. Three and six month-ahead projections are based on applying spot return projection from our quantitative model to current spot prices.

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Energy (except for natural gas) down MoM

Increased tariff anxiety in March led to price declines across most energy commodities, excluding natural gas and gasoline. WTI crude oil finished March at approximately $69/bbl, down 1.1% year-to-date. Natural gas rose to $4.1/MMBtu from $3.8/MMBtu in February. Gold surged past $3,000/t oz for the first time, closing at $3,087/t oz in end of March. Silver saw an even larger monthly gain, up 11% YTD to $35/t oz.

3. Select economic indicators

Exhibit 13: **Commodity excess returns by select economic indicators**
The table displays annualized excess returns by select economic indicators

		Growth S&P500		Change in OECD business confidence		Growth Industrial Production		China PMI	
		Negative	Positive	Negative	Positive	Negative	Positive	< mean	> mean
Energy									
	WTI Crude	-14.7%	3.6%	-19.8%	16.1%	-12.6%	3.5%	-22.2%	15.5%
	Brent Crude	-4.2%	8.8%	-11.3%	21.7%	-4.3%	9.9%	-15.8%	23.4%
	Gasoline (RB)	-5.8%	10.1%	-9.0%	19.5%	0.7%	6.7%	-11.3%	19.4%
	Heating oil	-4.9%	7.2%	-8.2%	15.3%	-10.4%	11.9%	-11.3%	16.4%
	Gasoil	-4.7%	9.5%	-7.4%	17.8%	-6.6%	11.9%	-12.6%	20.8%
	Natural Gas	-33.4%	-31.9%	-48.1%	-14.4%	-31.3%	-33.2%	-39.3%	-25.8%
Livestock									
	Live Cattle	-4.3%	1.1%	-7.4%	6.6%	-4.2%	1.4%	-3.1%	1.3%
	Lean Hogs	-18.8%	-5.5%	-19.6%	0.2%	-11.1%	-9.9%	-11.2%	-9.6%
Ags									
	Corn	5.5%	-12.5%	-6.2%	-5.6%	-14.6%	0.2%	-12.1%	0.1%
	Wheat	5.6%	-19.0%	-9.1%	-11.0%	-17.1%	-5.1%	-15.7%	-4.4%
	Soybeans	12.9%	1.0%	2.0%	9.1%	3.3%	6.7%	-3.6%	14.0%
	Kansas wheat	7.4%	-14.9%	-9.1%	-3.9%	-19.1%	1.9%	-15.9%	2.2%
	Soybean oil	9.2%	-3.0%	-3.8%	7.4%	-6.3%	6.9%	-7.6%	10.3%
	Soybean meal	14.3%	4.4%	5.2%	11.1%	10.2%	6.4%	-0.6%	16.3%
Soft Commodities									
	Coffee	1.7%	-6.3%	-8.8%	3.0%	-12.2%	2.8%	-4.8%	-2.0%
	Sugar	9.0%	-6.7%	1.8%	-4.1%	-15.1%	8.9%	-6.4%	4.3%
	Cotton	-6.8%	-4.5%	-20.8%	12.4%	-11.7%	-1.0%	-12.8%	1.8%
Base Metals									
	Aluminum	-2.1%	-2.5%	-14.4%	11.4%	-5.8%	0.0%	-15.5%	10.4%
	Copper	8.9%	4.7%	-12.8%	28.1%	-3.3%	12.9%	-9.1%	21.1%
	Nickel	2.1%	4.0%	-18.9%	28.8%	-5.4%	9.3%	-14.5%	20.5%
	Zinc	1.3%	1.7%	-14.2%	19.6%	-4.1%	5.5%	-3.2%	6.1%
	Lead	7.6%	4.0%	-5.3%	17.5%	0.6%	8.6%	-8.8%	19.1%
Precious Metals									
	Gold	7.7%	7.6%	5.7%	9.9%	1.2%	12.2%	4.5%	10.7%
	Silver	1.6%	7.7%	-4.4%	16.8%	-0.7%	9.8%	-5.7%	16.4%

Source: Bloomberg, BofA Global Research
Notes: F3F0 (F6F0) is measured as prompt minus 3[rd] (6[th]) contract, scaled by prompt, negative number indicating contango
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Exhibit 14: Select economic indicators
The Table represents the latest print relative to the historic performance

	Growth S&P500	Change in OECD business confidence	Growth Industrial Production	China PMI
Mean	0.50%	0.00%	0.04%	51
% positive	63%	47%	59%	51.03%
Latest print	-4.54%	0.13%	0.74%	50
Z-score	-1.14	0.58	0.59	-0.40

Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

US hard data indicate resilience, even as the sentiment data plummets

There is a notable divergence in the U.S. economy, with pessimistic consumer sentiment contrasting sharply with robust hard data. Despite plummeting sentiment indicators, consumer spending and the labor market have shown continued strength. This divergence, observed over the past few years, leads our economic team to anticipate consumer resilience, though potential tariff increases pose a downside risk. Anticipating the impact of proposed and potential retaliatory tariffs, our economists have revised their Q1 GDP forecast downward to 1.5% (q/q SAAR) from 2.5%. This, combined with the expected inflationary pressure from these proposed tariffs, suggests a risk of stagflation.

4. Select quantitative indicators

Exhibit 15: Commodity Quantitative signals

The table is based on data from December 2005 to present

		F3F0	F6F0	% in contango		Avg timespread		Z-score		Skew		% Skew>0		Z-score	
				F3/F0	F6F0	F3/F0	F6F0	F3/F0	F6F0	6M	9M	6M	9M	6M	9M
Energy															
	WTI Crude	1.3%	3.5%	65.0%	57.2%	-1.1%	-1.6%	0.29	0.23	-0.29	-0.17	33%	33%	0.18	0.24
	Brent Crude	1.8%	3.9%	48.1%	46.9%	-0.3%	-0.6%	0.09	0.10	-0.35	-0.25	36%	34%	0.26	0.34
	Gasoline (RB)	0.0%	4.0%	37.6%	44.9%	0.4%	0.6%	-0.06	-0.06	-0.10	-0.08	35%	33%	0.27	0.36
	Heating oil	2.4%	2.5%	60.9%	60.9%	-0.3%	-0.9%	0.07	0.13	0.11	0.11	47%	47%	0.09	0.13
	Gasoil	1.4%	2.1%	56.4%	53.9%	-0.1%	-0.5%	0.02	0.09	-0.33	-0.11	39%	35%	0.12	0.15
	Natural Gas	-4.1%	-11.3%	82.7%	81.1%	-5.4%	-10.3%	0.55	0.58	0.08	0.15	66%	64%	-0.45	-0.51
Livestock															
	Live Cattle	3.9%	3.7%	63.8%	60.9%	-0.8%	-1.5%	0.15	0.21	-0.15	-0.22	56%	54%	-0.10	-0.11
	Lean Hogs	-9.4%	7.1%	70.0%	63.4%	-5.9%	-8.4%	0.46	0.45	-0.18	-0.12	65%	69%	-0.36	-0.47
Ags															
	Corn	3.0%	-3.6%	81.5%	70.8%	-2.7%	-4.8%	0.45	0.46	-0.09	-0.30	56%	56%	-0.17	-0.17
	Wheat	-6.2%	-16.7%	91.4%	91.4%	-4.5%	-9.3%	1.24	1.22	0.45	0.23	79%	82%	-0.77	-0.92
	Soybeans	-1.0%	-1.5%	64.6%	50.6%	0.3%	1.5%	-0.08	-0.23	0.50	0.21	49%	47%	-0.02	0.01
	Kansas wheat	-5.0%	-15.5%	84.4%	83.1%	-3.1%	-6.9%	0.93	0.91	0.64	0.38	77%	78%	-0.70	-0.77
	Soybean oil	-1.3%	-1.6%	81.5%	78.2%	-0.6%	-1.2%	0.24	0.27	0.26	0.09	63%	64%	-0.28	-0.30
	Soybean meal	-3.2%	-5.3%	48.6%	42.8%	1.4%	3.1%	-0.29	-0.41	1.13	0.90	65%	66%	-0.41	-0.48
Soft Commodities															
	Coffee	2.2%	9.6%	84.4%	81.9%	-2.9%	-6.6%	1.04	1.07	-0.33	-0.15	63%	65%	-0.24	-0.31
	Sugar	0.6%	6.4%	55.6%	51.9%	-0.6%	-0.7%	0.09	0.06	0.09	0.40	67%	65%	-0.24	-0.21
	Cotton	-3.6%	-7.7%	62.1%	55.6%	-1.0%	-1.0%	0.16	0.08	-0.12	0.34	56%	53%	0.00	0.01
Base Metals															
	Aluminum	-2.2%	-2.9%	84.4%	88.1%	-0.7%	-1.6%	1.03	1.04	0.64	0.59	58%	60%	-0.10	-0.07
	Copper	-1.4%	-3.1%	71.2%	66.3%	0.0%	0.6%	0.00	-0.14	0.12	0.08	47%	47%	0.17	0.18
	Nickel	-1.0%	-2.4%	84.4%	81.1%	-0.1%	-0.1%	0.09	0.03	0.22	0.31	59%	57%	-0.17	-0.19
	Zinc	-0.5%	-0.7%	69.1%	68.3%	-0.2%	-0.4%	0.31	0.21	-0.06	0.23	56%	53%	-0.07	-0.08
	Lead	-1.5%	-2.1%	67.1%	67.1%	-0.1%	-0.1%	0.17	0.08	0.07	-0.12	51%	51%	-0.09	-0.10
Precious Metals															
	Gold	-1.8%	-4.3%	100.0%	100.0%	-0.8%	-2.0%	1.21	1.21	-0.86	-0.83	39%	40%	0.35	0.37
	Silver	-4.1%	-7.1%	100.0%	98.4%	-1.0%	-2.3%	1.36	1.38	-0.35	-0.23	32%	29%	0.52	0.60

Source: Bloomberg, BofA Global Research

Notes: F3F0 (F6F0) is measured as prompt minus 3rd (6th) contract, scaled by prompt, negative number indicating contango

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Energy remains backwardated, with the exception of natural gas

Metals remained in contango across the board in February, including aluminum which had been backwardated in January. Agricultural commodities also displayed contango, with contango steepening during March for all but soybean meal. Conversely, the energy complex remains in backwardation, with natural gas as the sole exception.

5. CFTC positioning & hedging pressure indicators

Exhibit 16: Net commercial position and total open interest – EOM January 2025
The Z-scores are based on data from December 2005 to present

		Net Commercial Position	Open interest	% NCP/OI	Z-score	Mean % NCP/OI	SD
Energy							
	WTI Crude	-239,074	2,124,731	-11%	0.79	-15%	4%
	Gasoline (RB)	-64,960	428,477	-15%	0.90	-20%	5%
	Heating oil	-23,761	363,019	-7%	0.07	-7%	7%
	Natural Gas	68,894	1,623,486	4%	-0.49	7%	6%
Livestock							
	Live Cattle	-116,903	480,869	-24%	-1.13	-15%	8%
	Lean Hogs	-111,641	432,911	-26%	-1.75	-11%	9%
Ags							
	Corn	-331,924	2,693,244	-12%	-0.97	-3%	9%
	Wheat	61,168	576,397	11%	0.54	7%	8%
	Soybeans	24,458	1,128,352	2%	0.58	-4%	11%
	Kansas wheat	4,307	274,363	2%	0.51	-5%	13%
	Soybean oil	-75,063	626,102	-12%	-0.38	-8%	12%
	Soybean meal	20,158	657,949	3%	1.63	-16%	12%
Soft Commodities							
	Coffee	-66,157	217,789	-30%	-1.86	-6%	13%
	Sugar	16,135	1,097,488	1%	1.05	-11%	12%
	Cotton	34,405	314,762	11%	1.97	-17%	14%
Base Metals							
	Copper (COMEX)	-22,419	286,175	-8%	-0.46	-1%	14%
Precious Metals							
	Gold	-301,433	871,137	-35%	-0.66	-28%	10%
	Silver	-70,268	207,446	-34%	-0.80	-25%	12%

Source: Bloomberg, BofA Global Research

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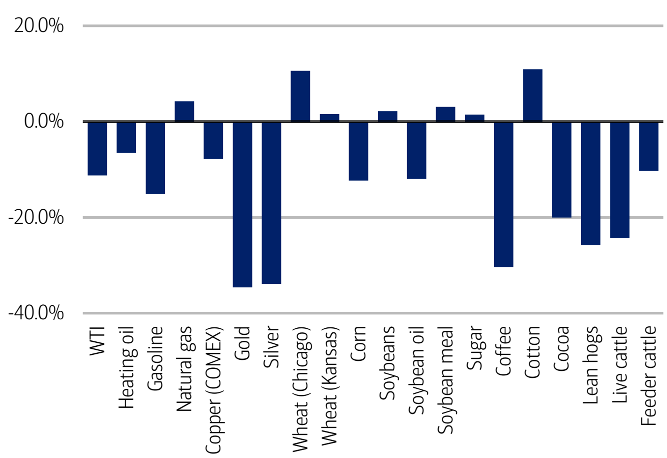
Exhibit 17: % Share net commercial position out of total open interest
The chart is based on the September CFTC positioning data



Source: Bloomberg, BofA Global Research

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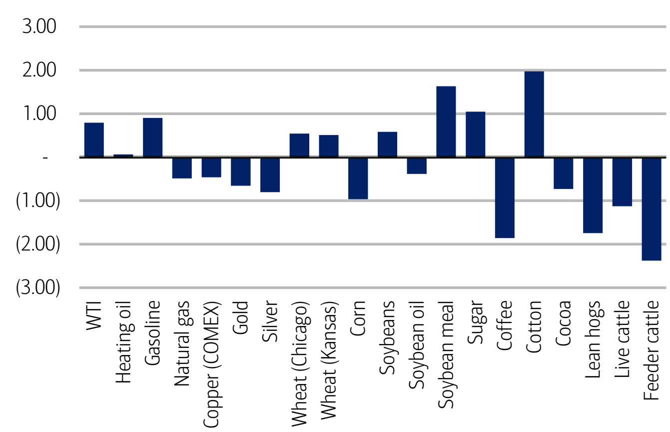
Exhibit 18: Z-score of % share net commercial position out of total open interest
The Z-scores are based on data from December 2005 to present



Source: Bloomberg, BofA Global Research

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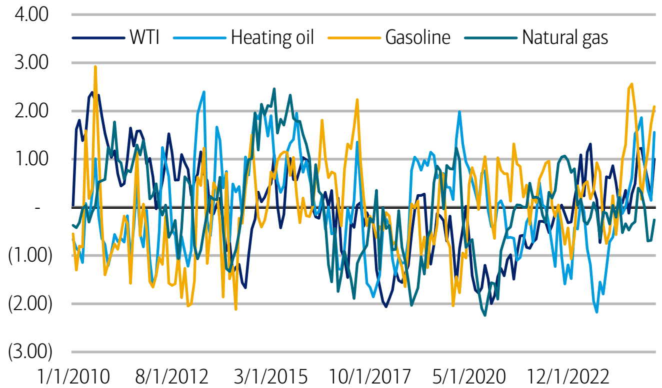
Commercials net short in metals, livestock, and energy except for natural gas

Commercial positions were net short all energy (other than natural gas), livestock, copper and precious metals. In ags, commercials were short corn, soybeans, and soybean oil, but long wheat, Kansas wheat and soybean meal.

Exhibit 19: Z-score of % share net commercial position out of total open interest - energy

The Z-scores are based on data from December 2005 to present



Source: Bloomberg, BofA Global Research

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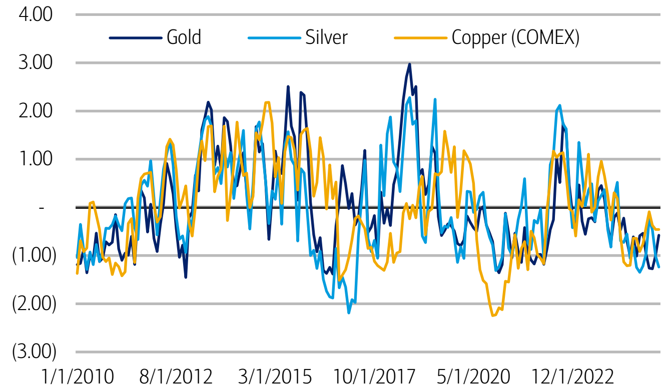
Exhibit 20: Z-score of % share net commercial position out of total open interest - metals

The Z-scores are based on data from December 2005 to present



Source: Bloomberg, BofA Global Research

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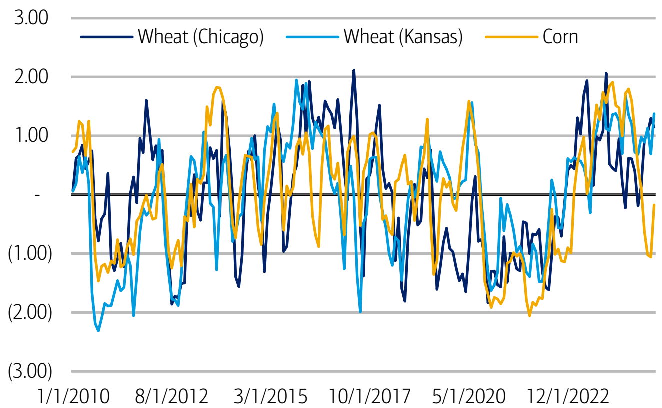
Exhibit 21: Z-score of % share net commercial position out of total open interest – wheat, Kansas wheat and corn

The Z-scores are based on data from December 2005 to present



Source: Bloomberg, BofA Global Research

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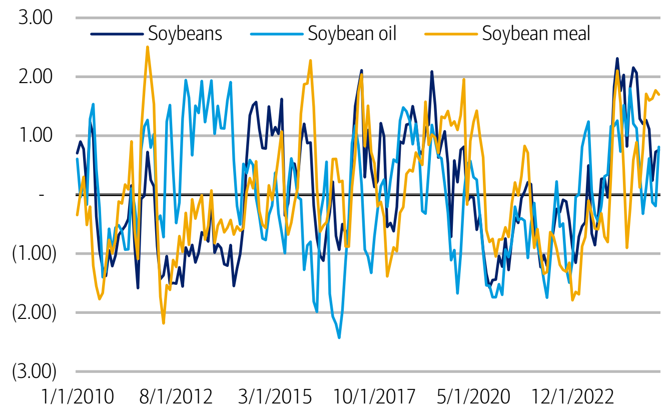
Exhibit 22: Z-score of % share net commercial position out of total open interest – soybeans, soybean oil and soybean meal

The Z-scores are based on data from December 2005 to present



Source: Bloomberg, BofA Global Research

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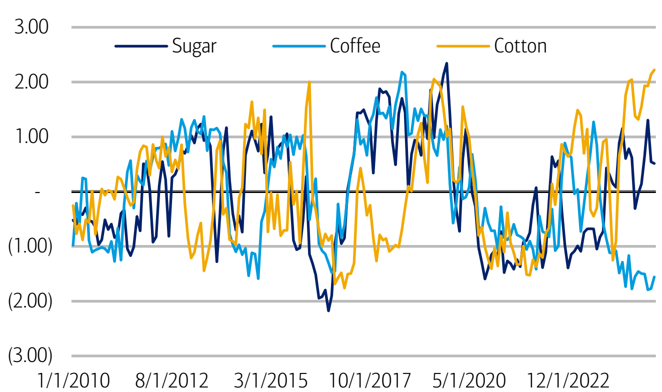
Exhibit 23: Z-score of % share net commercial position out of total open interest – softs

The Z-scores are based on data from December 2005 to present



Source: Bloomberg, BofA Global Research

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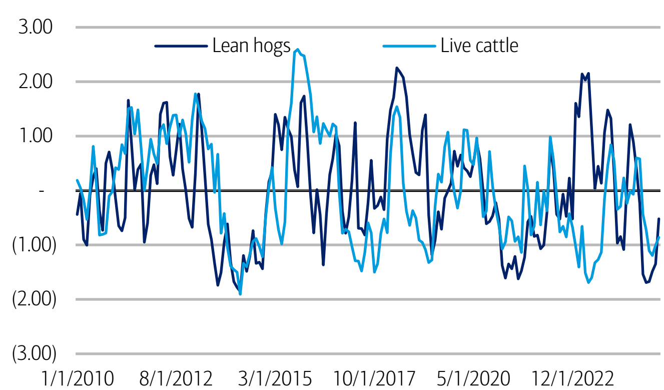
Exhibit 24: Z-score of % share net commercial position out of total open interest – livestock

The Z-scores are based on data from December 2005 to present



Source: Bloomberg, BofA Global Research

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6. Commodity inventory estimates

Exhibit 25: Commodity inventory estimates

Seasonal Z-scores are based on data 2000 to present

		Units	March 2024	Avg March (2000-2024)	Z-score	Data source / exchange
Energy						
	WTI Crude	1,000 barrels	829,776	1,002,656	1.49	US DOE
	Gasoline (RB)	1,000 barrels	239,128	224,482	-0.96	US DOE
	Gasoil	1,000 MT	2,108	2,387	0.53	PJK International
	Natural Gas	Billion cuft	1,744	1,602	-0.30	US DOE
Ags						
	Corn	MBU	1,540	1,375	0.07	USDA
	Wheat	MBU	794	695	-0.20	USDA
Base Metals						
	Aluminum	MT	702,607	2,321,158	0.92	LME, Shanghai
	Copper	MT	533,921	569,964	0.12	LME, Shanghai, Comex
	Nickel	MT	237,229	151,521	-0.56	LME, Shanghai
	Zinc	MT	213,636	539,388	0.88	LME Shanghai
	Lead	MT	299,162	173,080	-1.17	LME, Shanghai
Precious Metals						
	Gold	t oz	43,347,626	10,150,195	-3.88	Nymex
	Silver	t oz	472,420	181,110	-3.40	Nymex

Source: Bloomberg, BofA Global Research

Note: The table displays the inventory estimates from government agencies and main exchanges. Due to differences in measurement units and the differences in scope of estimates across sectors and commodities, we also present inventory Z-scores. Z-scores are based on mean and standard deviation of monthly estimates from January 2000 to present for respective commodities. Z-scores are seasonally adjusted by using inventory mean and standard deviation for respective months.

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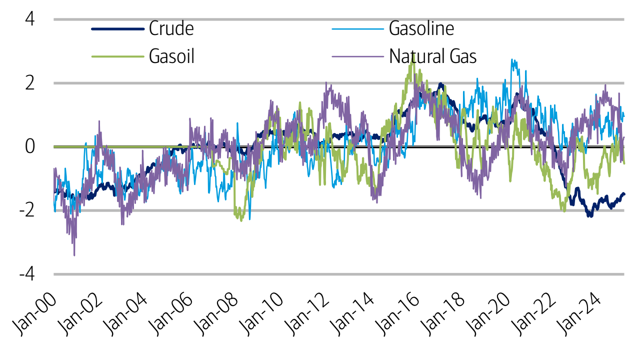
Exhibit 26: Commodity inventory Z-score trend - energy

Z-scores are based on commodity inventory data Jan 2000 to present



Source: Bloomberg, BofA Global Research

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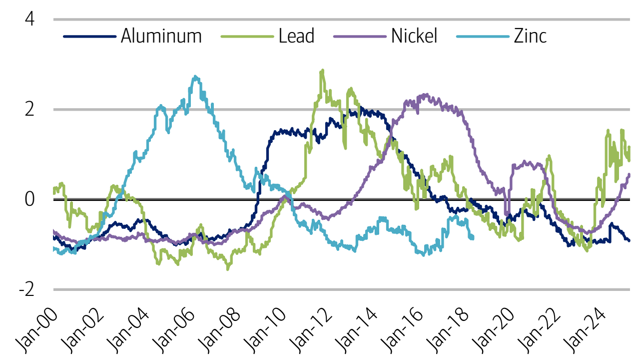
Exhibit 27: Commodity inventory Z-score trend - metals

Z-scores are based on commodity inventory data Jan 2000 to present



Source: Bloomberg, BofA Global Research

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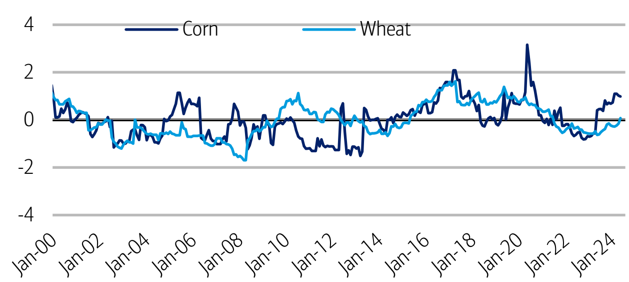
Exhibit 28: Commodity inventory Z-score trend - ags

Z-scores are based on commodity inventory data Jan 2000 to present



Source: Bloomberg, BofA Global Research

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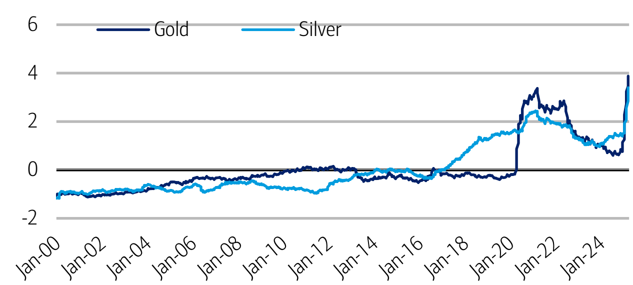
Exhibit 29: Commodity inventory Z-score trend - precious metals

Z-scores are based on commodity inventory data Jan 2000 to present



Source: Bloomberg, BofA Global Research

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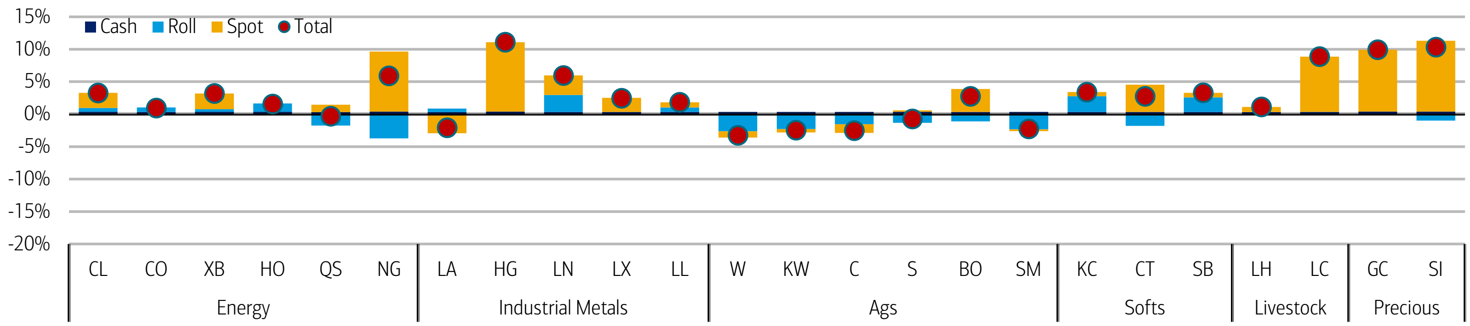
7. Total, spot, excess and roll returns YTD

Exhibit 30: Commodity total, excess, spot and roll returns, MoM

The chart displays commodity returns from February 2025 through March 2025 EOM presented in monthly terms



Source: Bloomberg, BofA Global Research

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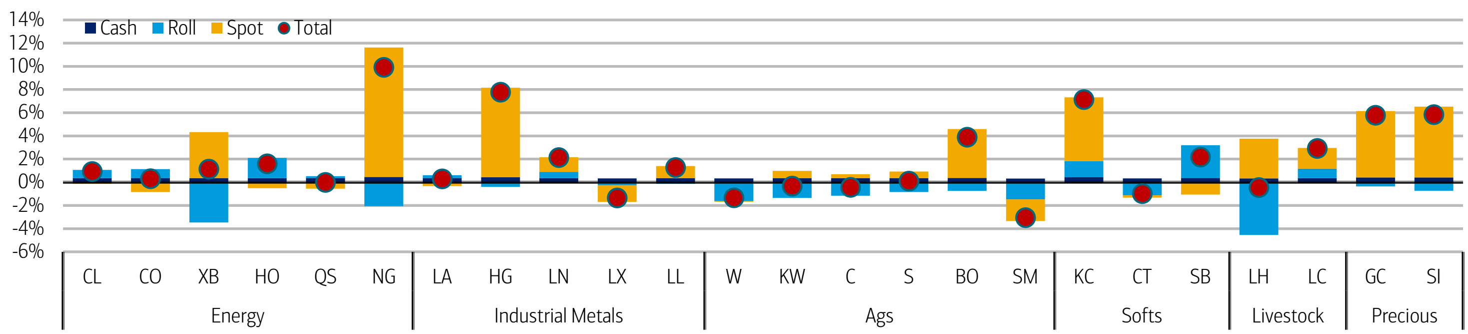
Exhibit 31: Commodity total, excess, spot and roll returns, YTD

The chart displays commodity returns from December 2024 through March 2025 EOM presented in monthly terms



Source: Bloomberg, BofA Global Research

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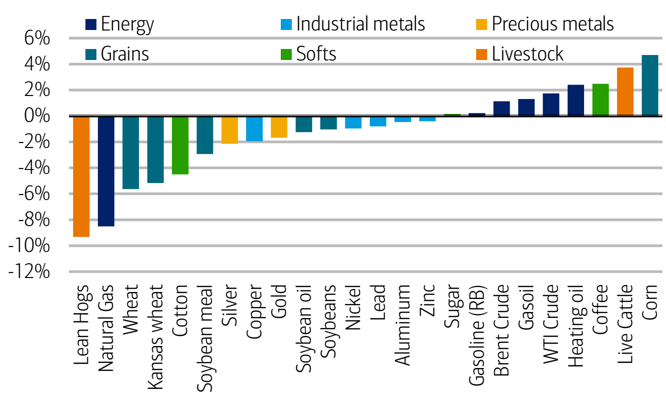
Exhibit 32: Commodity F3F0 backwardation

The chart shows backwardation as measured by 1st-3rd contract scaled by 1st contract. The negative value indicates contango.



Source: Bloomberg, BofA Global Research

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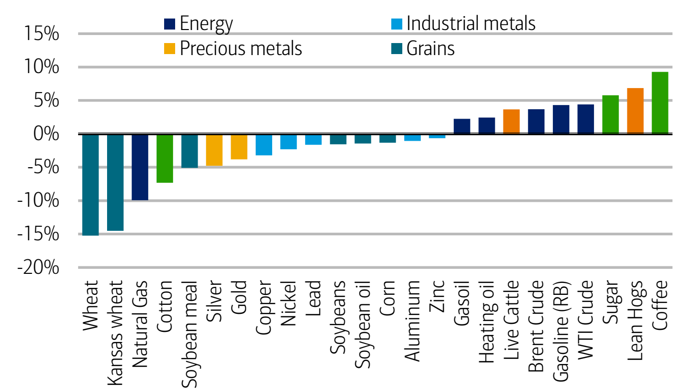
Exhibit 33: Commodity F6F0 backwardation

The chart shows backwardation as measured by 1st-6th contract scaled by 1st contract. The negative value indicates contango.



Source: Bloomberg, BofA Global Research

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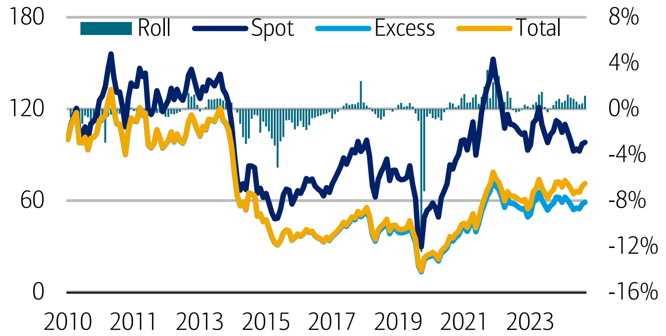
8. Commodity total, excess, spot and roll return trend

Exhibit 34: WTI Crude - CL
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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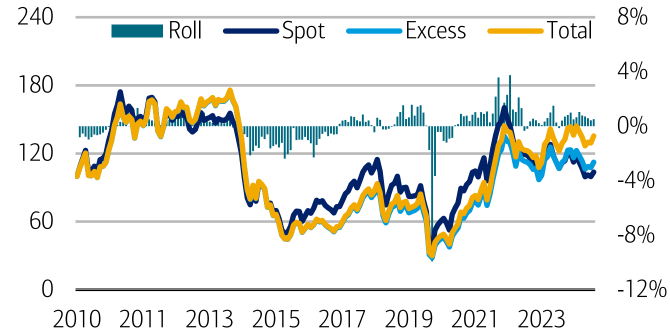
Exhibit 35: Brent Crude - CO
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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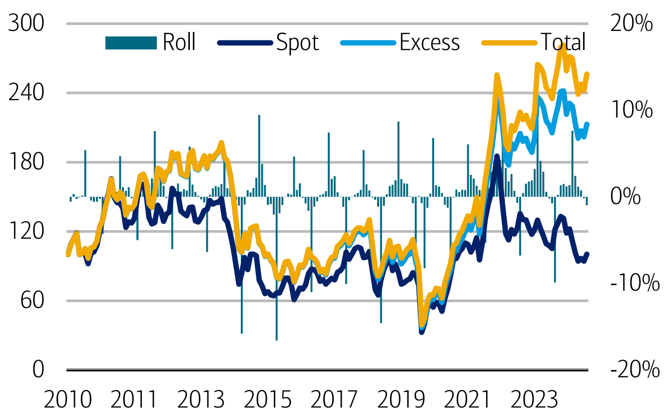
Exhibit 36: Gasoline - RB
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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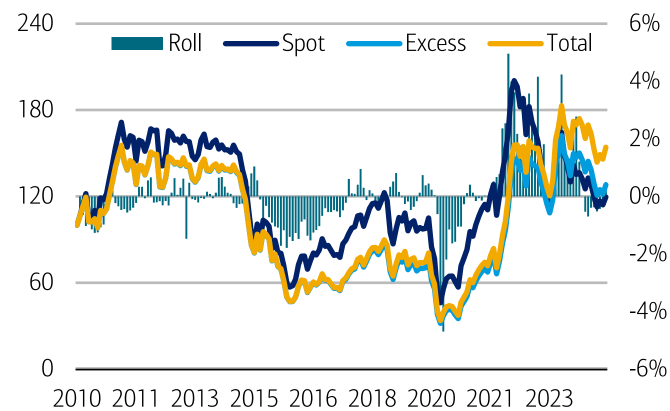
Exhibit 37: Heating Oil - HO
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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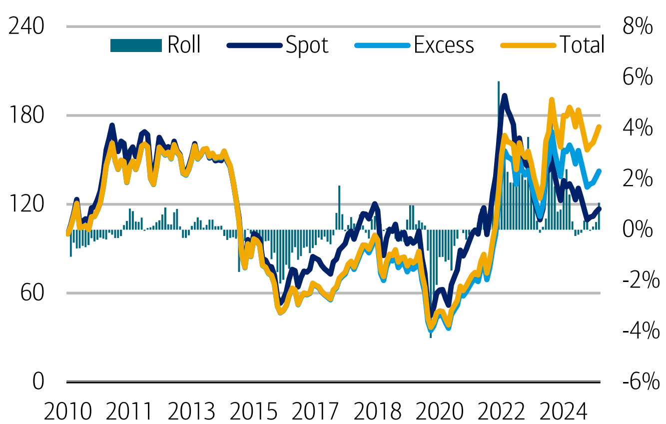
Exhibit 38: Gasoil - GO
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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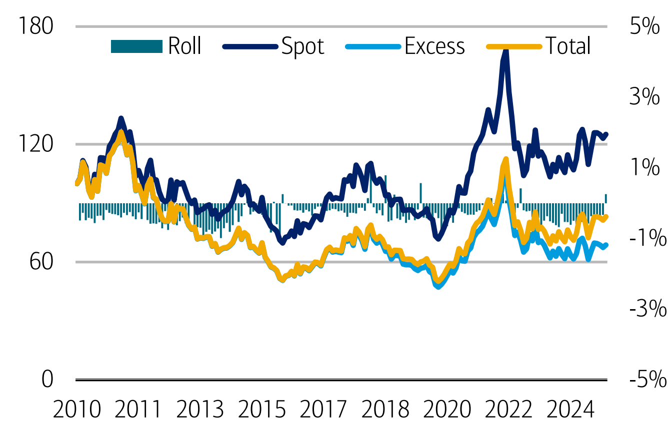
Exhibit 39: Aluminum - AL
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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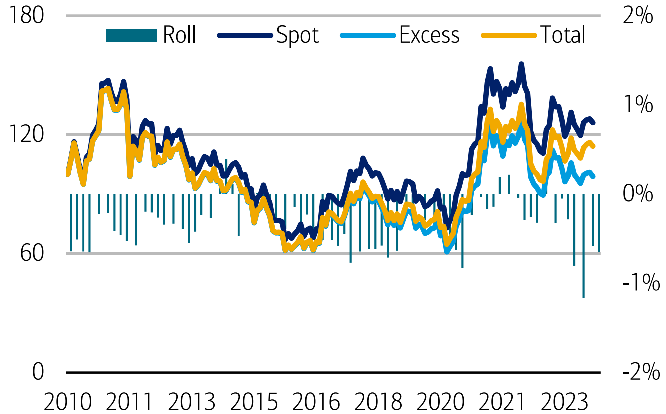
Exhibit 40: Copper - HG
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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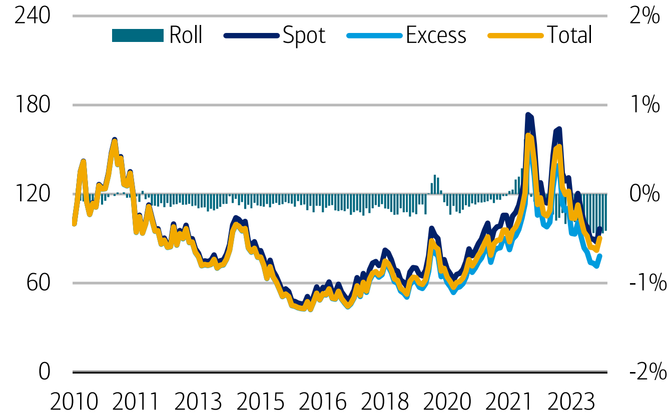
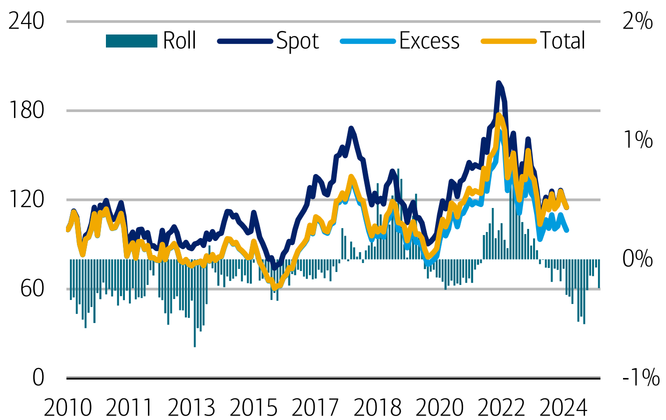
Exhibit 41: Nickel - LN
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 42: Zinc - ZS
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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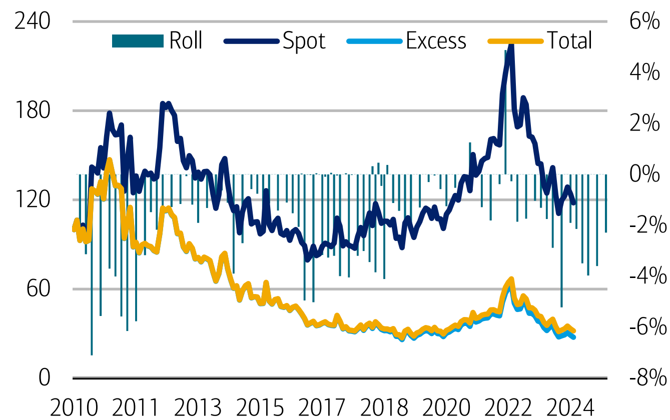
Exhibit 43: Wheat - W
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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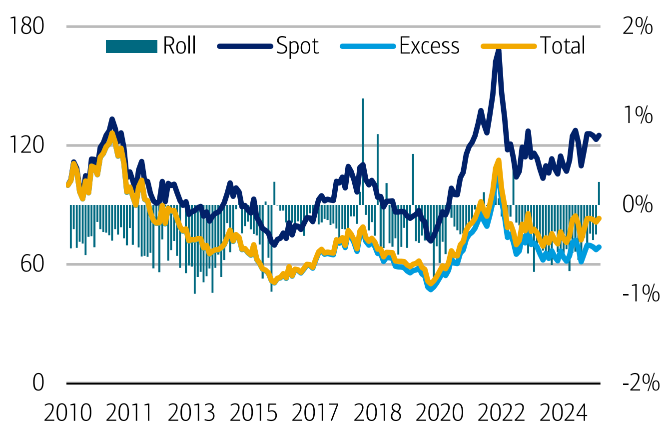
Exhibit 44: Kansas Wheat - KW
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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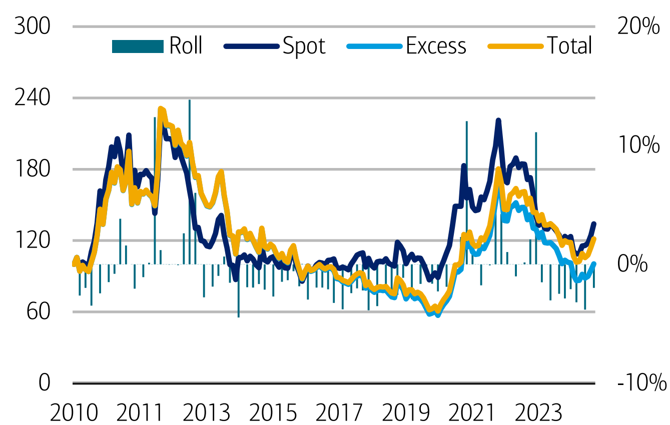
Exhibit 45: Corn - C
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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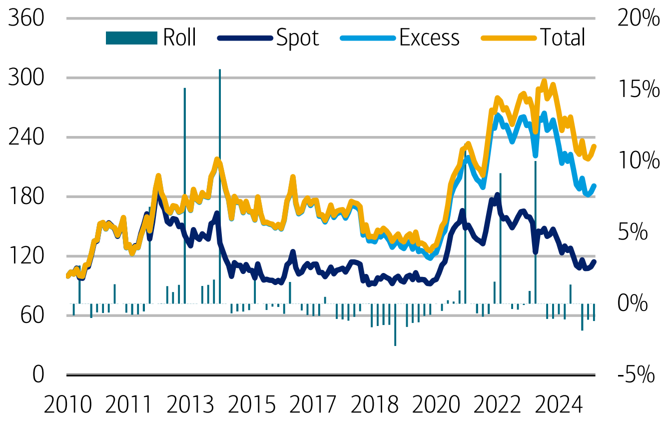
Exhibit 46: Soybeans - S
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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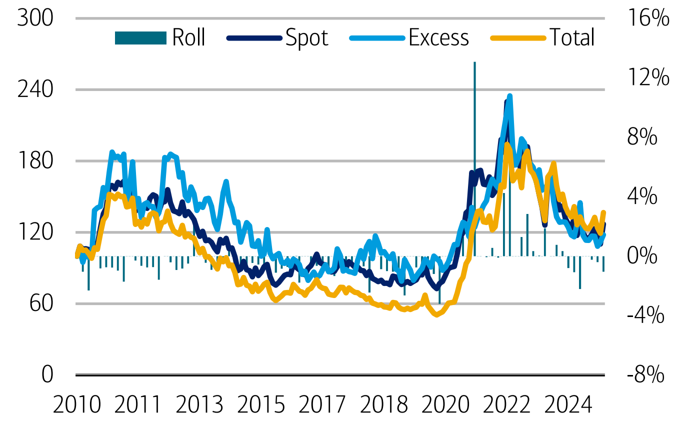
Exhibit 47: Soybean Oil - BO
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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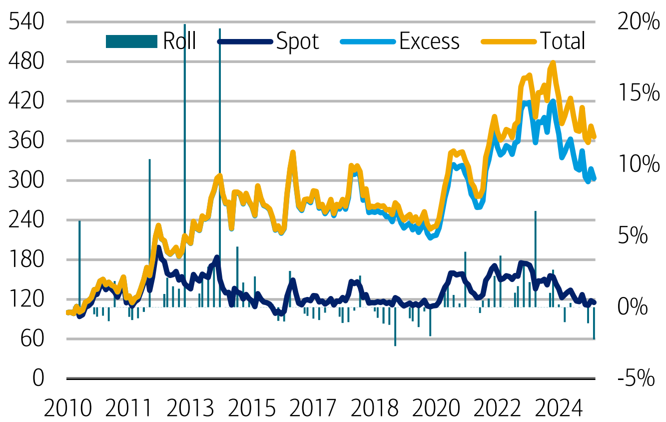
Exhibit 48: Soybean Meal - SM
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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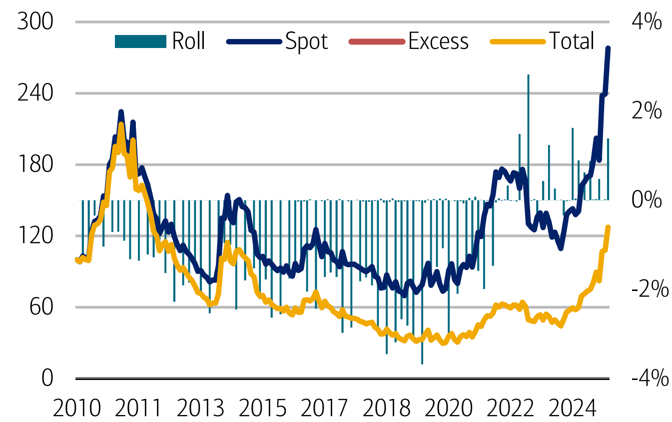
Exhibit 49: Coffee - KC
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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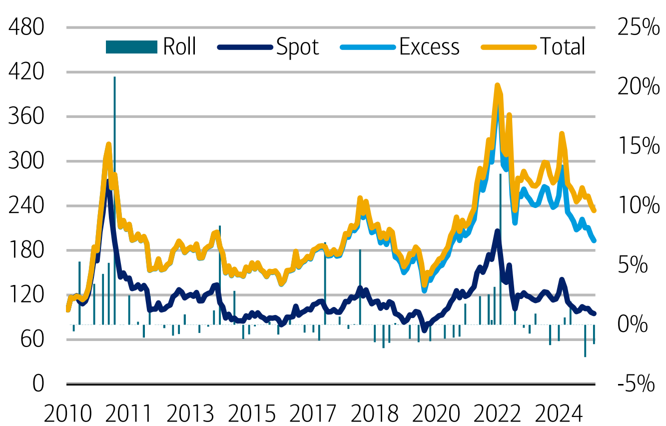
Exhibit 50: Cotton - CT
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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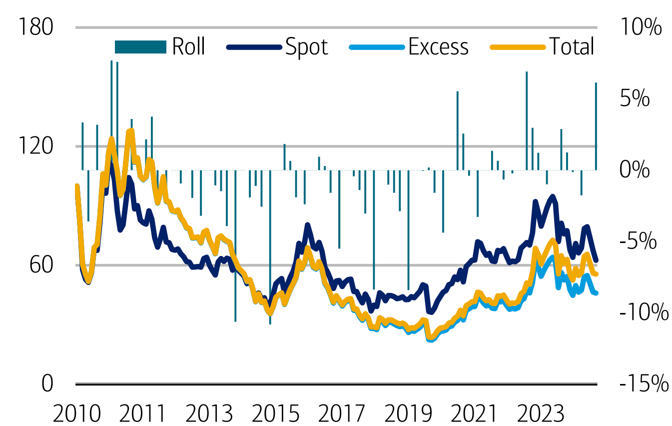
Exhibit 51: Sugar - SB
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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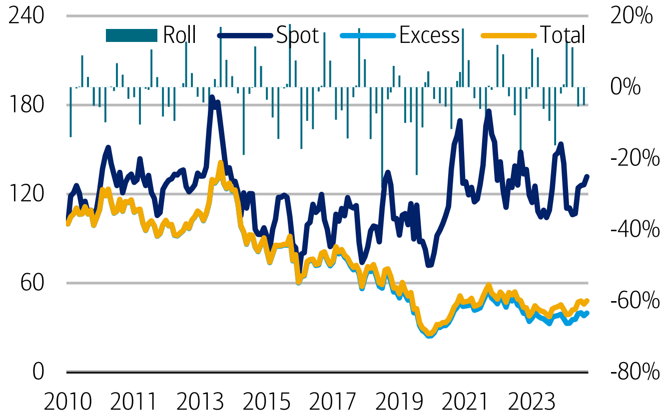
Exhibit 52: Live Hogs - LH
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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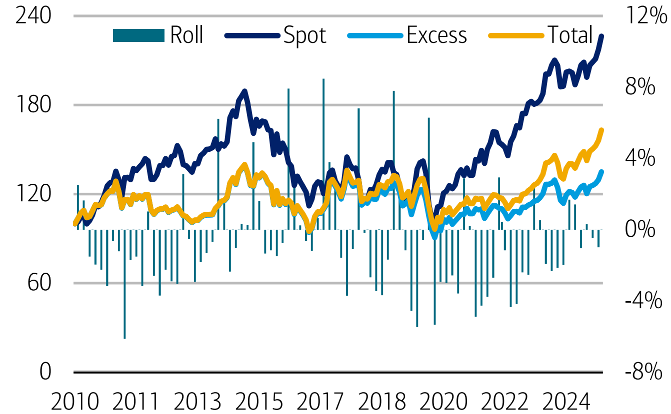
Exhibit 53: Live Cattle - LC
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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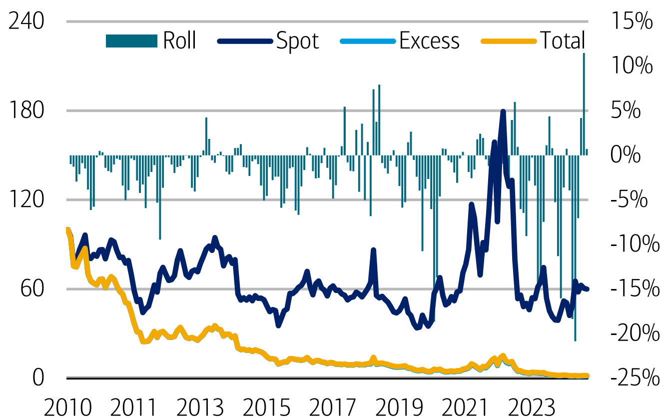
Exhibit 54: Natural Gas - NG
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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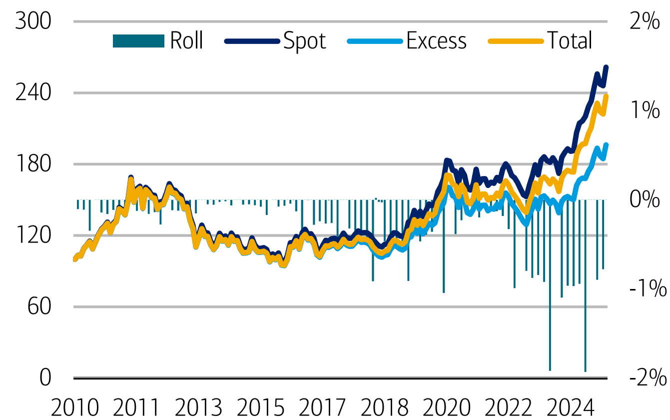
Exhibit 55: Gold - GC
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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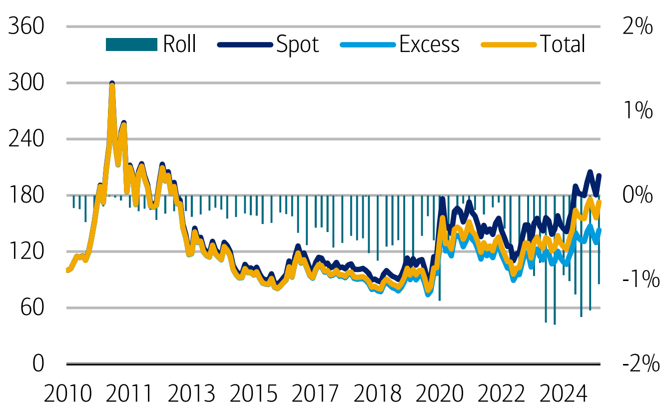
Exhibit 56: Silver - SI
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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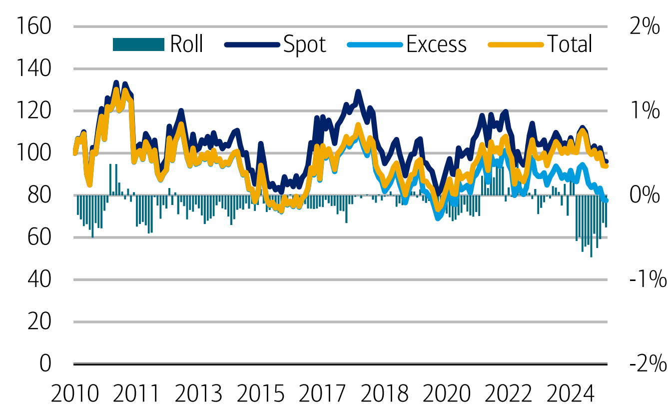
Exhibit 57: Lead - LL
Spot, excess, total and roll returns



Source: Bloomberg, BofA Global Research

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9. Cross-commodity spot and excess return correlation

Exhibit 58: Cross commodity spot return correlation

The correlations are based on data from December 2005 to present

	CL	CO	XB	HO	QS	NG	LA	HG	LN	LX	LL	W	KW	C	S	BO	SM	KC	CT	SB	LH	LC	GC
CO	92%																						
XB	74%	80%																					
HO	78%	83%	68%																				
QS	80%	89%	70%	94%																			
NG	11%	13%	9%	16%	12%																		
LA	36%	40%	29%	32%	35%	14%																	
HG	43%	48%	46%	41%	44%	5%	63%																
LN	25%	29%	30%	28%	29%	14%	53%	56%															
LX	29%	32%	26%	26%	29%	12%	62%	71%	52%														
LL	28%	28%	17%	23%	26%	5%	46%	53%	42%	55%													
W	7%	9%	5%	12%	10%	8%	18%	23%	17%	22%	18%												
KW	6%	7%	5%	10%	10%	7%	16%	22%	17%	18%	17%	93%											
C	20%	22%	16%	26%	23%	14%	21%	21%	19%	20%	11%	60%	59%										
S	25%	31%	25%	31%	31%	13%	24%	30%	23%	22%	21%	50%	51%	63%									
BO	38%	41%	36%	48%	44%	21%	27%	42%	27%	34%	27%	36%	40%	46%	69%								
SM	11%	16%	10%	19%	18%	3%	11%	11%	14%	7%	9%	43%	42%	54%	82%	32%							
KC	12%	14%	7%	10%	16%	8%	20%	23%	16%	25%	22%	33%	34%	28%	32%	27%	23%						
CT	25%	29%	22%	24%	27%	17%	23%	28%	29%	28%	23%	21%	25%	31%	30%	37%	18%	24%					
SB	20%	23%	13%	16%	18%	4%	21%	20%	13%	19%	24%	7%	10%	18%	19%	18%	14%	28%	24%				
LH	18%	22%	21%	11%	14%	6%	12%	15%	9%	15%	-2%	8%	6%	1%	11%	16%	1%	3%	1%	-2%			
LC	22%	17%	1%	14%	12%	-6%	11%	8%	1%	7%	4%	-5%	-4%	-5%	3%	13%	0%	6%	7%	-2%	15%		
GC	13%	17%	17%	11%	10%	1%	25%	31%	29%	33%	19%	20%	19%	20%	18%	21%	10%	31%	12%	15%	-4%	-3%	
SI	34%	36%	34%	26%	26%	5%	35%	41%	42%	39%	34%	18%	18%	26%	23%	29%	13%	30%	16%	17%	3%	3%	78%

Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 59: Cross commodity excess return correlation

The correlations are based on data from December 2005 to present

	CL	CO	XB	HO	QS	NG	LA	HG	LN	LX	LL	W	KW	C	S	BO	SM	KC	CT	SB	LH	LC	GC
CL																							
CO	95%																						
XB	86%	91%																					
HO	87%	92%	83%																				
QS	83%	91%	81%	97%																			
NG	6%	7%	5%	12%	13%																		
LA	35%	40%	36%	37%	34%	11%																	
HG	39%	43%	44%	41%	37%	1%	64%																
LN	27%	30%	31%	31%	28%	16%	59%	59%															
LX	31%	34%	30%	33%	32%	14%	67%	75%	57%														
LL	31%	31%	27%	28%	25%	8%	53%	64%	52%	68%													
W	5%	4%	5%	7%	5%	15%	20%	22%	21%	14%	16%												
KW	1%	1%	3%	4%	4%	14%	20%	20%	20%	11%	14%	95%											
C	18%	21%	22%	26%	25%	15%	21%	24%	20%	15%	16%	70%	70%										
S	26%	29%	27%	33%	30%	17%	22%	35%	23%	23%	26%	55%	51%	68%									
BO	40%	42%	43%	49%	44%	25%	22%	40%	28%	29%	30%	36%	35%	46%	66%								
SM	11%	13%	9%	16%	15%	4%	13%	21%	14%	14%	14%	52%	47%	62%	87%	30%							
KC	9%	8%	4%	11%	11%	10%	22%	25%	16%	25%	22%	26%	26%	23%	25%	19%	18%						
CT	26%	30%	31%	33%	31%	26%	27%	33%	32%	33%	21%	20%	23%	37%	28%	35%	15%	14%					
SB	25%	28%	26%	25%	25%	4%	20%	27%	15%	21%	27%	14%	15%	27%	25%	22%	17%	28%	27%				
LH	26%	29%	26%	30%	29%	21%	24%	16%	14%	15%	6%	3%	1%	4%	14%	19%	8%	1%	2%	11%			
LC	27%	24%	19%	18%	17%	-7%	1%	9%	-5%	11%	8%	-8%	-6%	-12%	-4%	8%	-5%	-4%	2%	1%	34%		
GC	5%	7%	9%	6%	3%	-9%	29%	28%	34%	27%	23%	12%	11%	18%	15%	10%	12%	29%	6%	15%	-13%	-12%	
SI	29%	31%	32%	23%	20%	-4%	39%	42%	47%	35%	36%	13%	12%	21%	22%	22%	14%	25%	11%	17%	-5%	3%	77%

Source: Bloomberg, BofA Global Research

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Technical appendix:

Return projections using combination forecasts

First, we run time series regressions using 57 potential explanatory variables….

We model commodity excess returns using monthly data Dec 2000 to Dec 2023 as follows:

$$r_{t+1} = \alpha_i + \beta_i x_{i,t} + \epsilon_{t+1}$$

We run this equation for each commodity and each independent variable (24 x 57 regressions). This gives us a series of one-step-ahead rolling forecasts:

$$\left\{\hat{r}_{i,t+1}\right\}_{t=n}^{T-1}$$

where n indicates the number of initial in-sample observations that we set to 10 years.

$$\hat{r}_{i,n+1} = \hat{\alpha}_{i,n} + \hat{\beta}_{i,n} x_{i,n}$$

$$\hat{r}_{i,n+2} = \hat{\alpha}_{i,n+1} + \hat{\beta}_{i,n+1} x_{i,n+1}$$

$$\ldots$$

…and use the filtering rule to select variables with high explanatory power

The regression we ran are univariate, but most regressions do not result in significant coefficients for explanatory variables. We introduce the performance-based filtering rule to deal with numerous predictors with low explanatory power. We only keep the projected forecasts by those independent variables where the underlying gives significant beta at 1% confidence. In other words, for each forecast for each commodity, each month, we evaluate 57 forecasts, and only keep the ones where the regression had highly significant $\hat{\beta}$ for that specific forecasting point.

Third, we use model averaging to produce commodity forecasts

Then we average all the selected forecasts. We do this every month to generate one month-ahead forecast.

$$\hat{r}_{i,n+1} = \sum_{i=1}^{N} w_{i,t} r_{i,t+1}$$

Various weighing schemes are possible, but for simplicity we have used a simple average forecast. Even while using the simple average for aggregating the predictions, there are still various ways to aggregate the predictions. For simplicity and better interpretability, we aggregate the predictors by type (econ, finance, quant) and also by a combination of these categories.

Fourth, we impose further filtering rules based on significance and robustness

As a final step, we impose further filtering rules. The final directional views are informed by those projections that have a highly significant predictive power historically and are robust to alternative aggregation approaches. Those projections that do not pass this strict filtering step are changed to "neutral". Spot, roll and excess return directional views are based on projected return signs. Spot return views are based on projected spot return magnitudes. Relative commodity views are based on projected excess return ranks.

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