WELLS FARGO
INVESTMENT INSTITUTE

Investment Strategy

WEEKLY GUIDANCE FROM OUR INVESTMENT STRATEGY COMMITTEE

November 18, 2019

Commodities in Portfolios

John LaForge
Head of Real Asset Strategy

Key takeaways

» *Commodities historically have tended to go through multi-year periods in which they perform exceptionally well (super-cycle bulls), and then exceptionally poorly (super-cycle bears).*

» *We suspect that the current super-cycle bear, which started in 2011, still has a few more years to go.*

» *Our Bloomberg Commodity Index Total Return target midpoint for September 30, 2020 is just 4% higher than the current level.*[1]

What it may mean for investors

» *When considering risk and other asset choices, we do not believe that this is an opportune time to add commodities to a portfolio for either a "strategic" or "tactical" time frame.*

"When the student is ready, the teacher will appear." –Zen Koan

History has proven that asset diversification has been one of the keys to successful investing. Diversifying one's portfolio is no easy task, of course. There are many types of assets, each dancing to the tune of their own drummer. Chart 1 highlights this "dancing" dynamic between three major asset classes; commodities (Chart 1, top panel), stocks (Chart 1, middle panel), and bonds (Chart 1, bottom panel). The white areas in each panel represent long-term bull markets, while the shaded areas represent long-term bear markets. When you step back and look at all three panels together, you will notice that the mixture of whites and grays creates a checkered pattern. This tells us that stocks, bonds, and commodities have not necessarily moved together over the long term. So, if commodities are often un-correlated with stocks and bonds—which history says is good for portfolio diversification and risk-adjusted returns—why don't we have any allocation to commodities right now? This is our topic today.

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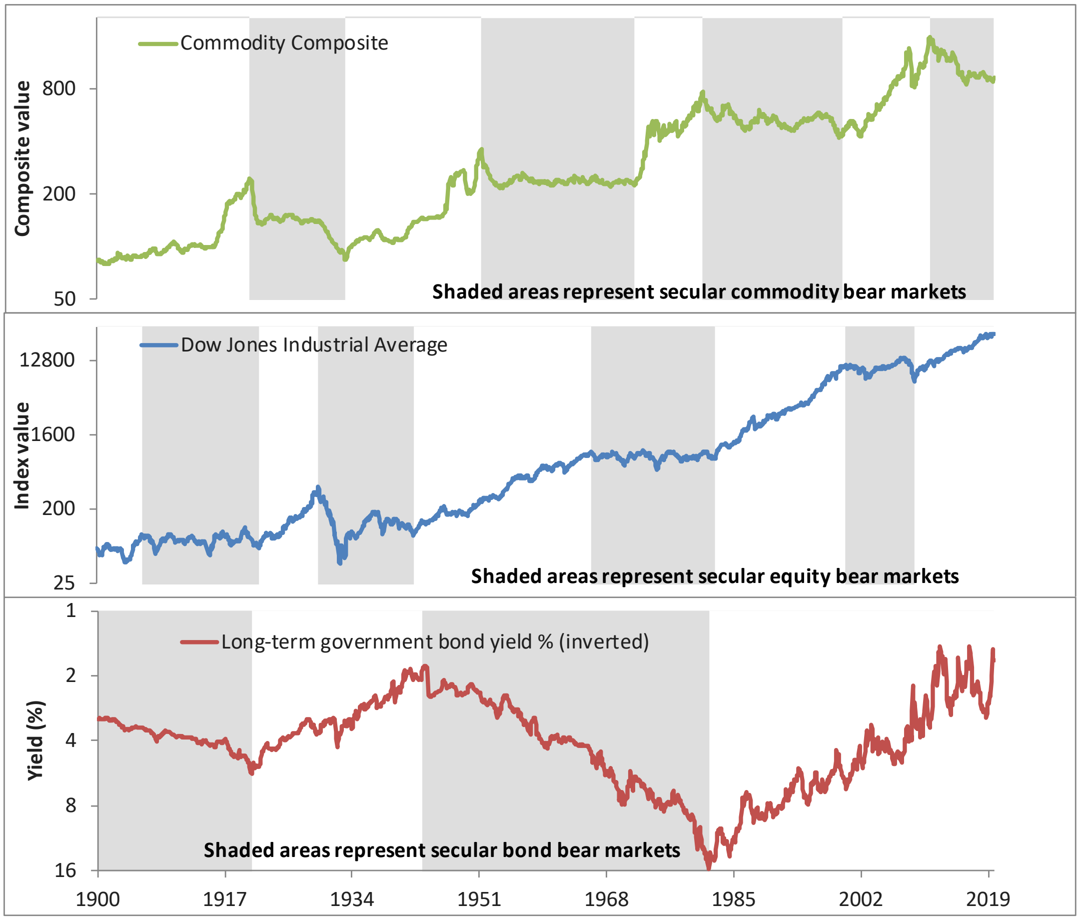
[1] As of November 13, 2019.

Chart 1. Super-cycles—commodities, stocks, and bonds



Sources: Bloomberg, Prices by G. F. Warren and F. A. Pearson, Bureau of Labor Statistics (BLS), Bureau of Economic Research (NBER), Federal Reserve Economic Data, Wells Fargo Investment Institute. Monthly data: January 31, 1900 - October 31, 2019. Long-term government bond yields are a composite and consist of: American Railroad bond yields high grade from 1900-1919, the yield on long-term U.S. bonds from 1919-1953, and the yield on 10-year U.S. Treasury bonds from 1953 - today. **Past performance is no guarantee of future results. For illustrative purposes only.**

Which assets to mix, and when, can be a tough call for many investors. This is one important reason why Wells Fargo Investment Institute exists. We help investors to understand the how, when, and why behind asset allocation—and other investment choices.

Commodities can be one of the trickiest major asset classes to add to a portfolio, particularly over the long term (what we call a "strategic" time frame or one that is 10 years or longer). The reason is that, historically, commodities generally have gone through multi-year periods in which they performed exceptionally well (super-cycle bull markets), and then exceptionally poorly (super-cycle bear markets). The exceptionally poorly performing times (super-cycle bears) historically have lasted roughly 20 years on average—which, as one could guess—can be a real drag on portfolio performance. This is a prime reason why Wells Fargo Investment Institute does not currently have a "strategic" portfolio allocation to commodities. Commodities have been "knee-deep" inside a super-cycle bear, since 2011, and we suspect that they will remain that way for a few more years.

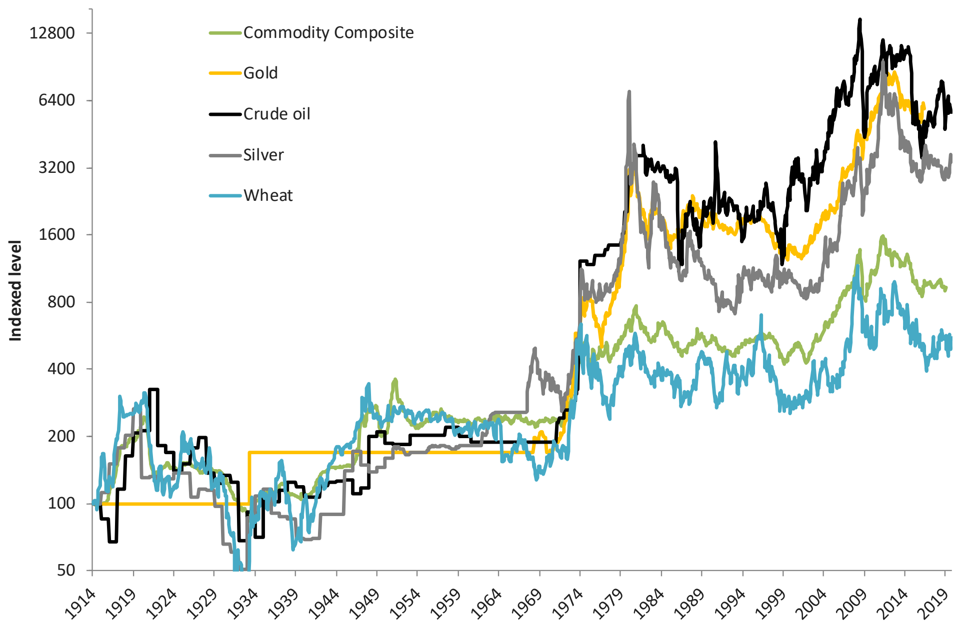
We have found that individual commodities have historically moved together over these long periods. To help highlight these trends we created Chart 2, which shows the price of gold (gold line), silver (silver line), oil (black line), wheat (blue line), and our

Commodity Composite (green line), from 1914 to today. Notice how they moved together. Looking at a more recent period, the chart shows that prices peaked together between 2008 and 2011, and that none of these price peaks have been challenged since that time. Most individual commodity prices have followed this trend.

With all of that being said about the long term, there are shorter-term periods ("tactical" time frame or 6-18 months) when adding commodities to portfolios has made sense. Like other assets, commodities can become "short-term oversold," and become undervalued. The 2014-2016 period comes to mind, during which oil prices dropped from above $100 per barrel to under $30 per barrel—dragging with them the prices of the major commodities. A level of $30 per barrel was clearly too low. Since these lows in January 2016, the price of Brent crude oil (which serves as the world's major oil benchmark) has averaged $59 per barrel.

Is November 2019 one of these great "tactical" times to add commodities to a portfolio? Our opinion is no. Our commodity target midpoint for September 30, 2020 is 4% higher than today's level, which does not appear to be any great bargain once risk and other assets are factored in.[2] Our 175 target midpoint (170-180 target range), is based on the Bloomberg Commodity Index Total Return (BCOM), which currently sits at 168. Details behind why we use the BCOM, over the other major commodity indices, can be found in the Real Assets section of this report.

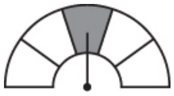
Chart 2. Oil, gold, silver, and wheat versus commodities (1914-present)



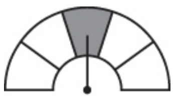
Sources: Bloomberg, Kitco, U.S. Department of Agriculture (USDA), Prices by Warren and Pearson, BLS, NBER, FRED, Wells Fargo Investment Institute. Crude oil prices prior to 1950 are taken from BP statistical review; from 1951 to April 1983 are Bloomberg Arabian Gulf Arab Light Crude Spot prices, and prices from May 1983 to today are Bloomberg West Texas Intermediate Cushing crude spot price. Monthly data: January 31, 1914- October 31, 2019. Values shown in log scale. Indexed to 100 as of start date. The price of gold prior to 1920 is represented by the average London fix price as reported by Kitco. Gold price from 1920 on is the spot price. The price of silver prior to 1950 is represented by the average London fix price as reported by Kitco. Silver price from 1950 on is the spot price. The price of wheat prior to 1960 is represented by the average price of wheat received by farmers as reported by the USDA. From 1960 on is the wheat front month futures contract price. **Past performance is no guarantee of future results.**

[2] Today's level is as of November 13, 2019.

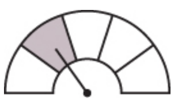
Audrey Kaplan
Head of Global Equity Strategy



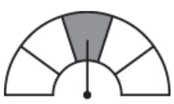
Neutral
U.S. Large Cap Equities



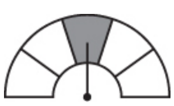
Neutral
U.S. Mid Cap Equities



Unfavorable
U.S. Small Cap Equities



Neutral
Developed Market
Ex-U.S. Equities



Neutral
Emerging Market Equities

Cyclicals versus Defensives set a new cycle high on November 11

Cyclical sectors have outperformed defensives year to date, with a 14.6% return gap on November 11 (see chart).[3] In 3-, 5-, 10-year, and shorter periods, cyclical sectors have outperformed defensives since the S&P 500 low in March 2009.[4] We continue to lean toward high-quality cyclicals as we move toward 2020. Our favored sectors include:

Information Technology (IT): This sector ranks #1 on our Quality Pillar. In our view, the price-to-free-cash-flow (P/FCF) ratio reflects attractive valuation, and IT offers a compelling total yield. Twelve-month forward earnings per share (EPS) growth appears neutral; but IT ranked third for third quarter year-over-year EPS growth "beats" over expectations (85%). We believe that fundamentals are compelling as companies' cash flow and leverage ratios appear healthy.

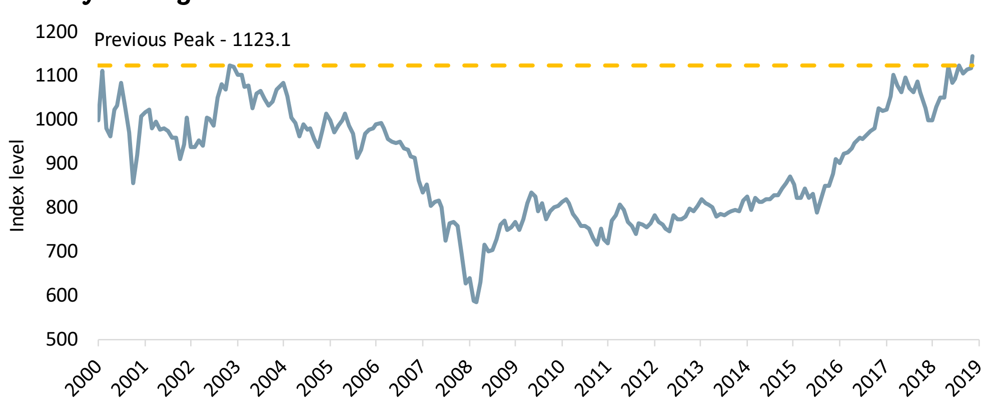
Consumer Discretionary (CD): CD scores highly on our Macro Pillar. We expect ongoing, resilient consumer spending, fueled by a still-growing labor market and rising wages. Relative to other S&P 500 sectors, CD rates highly for profitability (#1), dividend-growth trend (#2), and forecast total yield (#3). It ranks third for 12-month earnings-growth expectations.

Financials: Financials rank highest on our Value Pillar, which includes the trailing price/earnings ratio (P/E) and Total Yield, versus other S&P 500 sectors. On the Quality Pillar, Financials rank near the middle of the pack. We are favorable, given our outlook for modest economic growth and improving loan demand. A steepening yield curve has helped Financials outperform over the three months ended on November 11.

Key takeaway

» We remain favorable on cyclical sectors generally; we favor high quality, growth sectors such as IT and CD. We believe that investors should seek value in the deeply discounted Financials sector.

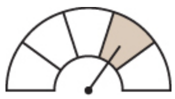
MSCI USA Cyclicals Sectors—Defensive Sectors Return Spread Index sets a new cycle high



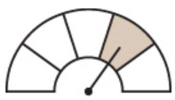
Sources: Wells Fargo investment Institute and Bloomberg. As of November 11, 2019. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment.

[3] Based on the MSCI USA Cyclicals Sectors – Defensive Sectors Return Spread USD Index. Returns are through November 11, 2019.
[4] Ibid.

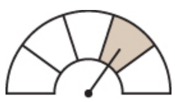
Peter Wilson, Senior Global Fixed Income Strategist



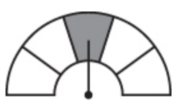
Favorable
U.S. Taxable Investment Grade Fixed Income



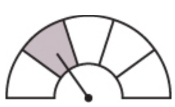
Favorable
U.S. Short-Term Taxable Fixed Income



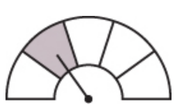
Favorable
U.S. Intermediate Term Taxable Fixed Income



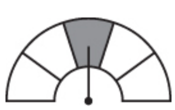
Neutral
U.S. Long-Term Taxable Fixed Income



Unfavorable
High Yield Taxable Fixed Income



Unfavorable
Developed Market Ex.-U.S. Fixed Income



Neutral
Emerging Market Fixed Income

First out? Sweden may end negative rates in December

Sweden's economy is small, and it has a low weighting in international bond and currency indices. Nonetheless, we view Sweden as important to follow for two reasons. First, as an open economy with a high dependence on exports, Sweden can be a useful bellwether for the current trade-driven economic slowdown. Secondly, the Sveriges Riksbank (Sweden's central bank) often has been at the forefront of monetary policy innovation—quick to follow the European Central Bank in cutting rates into negative territory, for example (see chart).

So it was noteworthy that the Riksbank signaled at its October monetary meeting that it was ready to raise its policy rate from the current level of -0.25% to zero, as soon as the December meeting. In our opinion, this signal should be seen not as a hawkish surprise—made because the central bank had become more optimistic about the economy—but as a conscious move to exit the negative-rate regime.

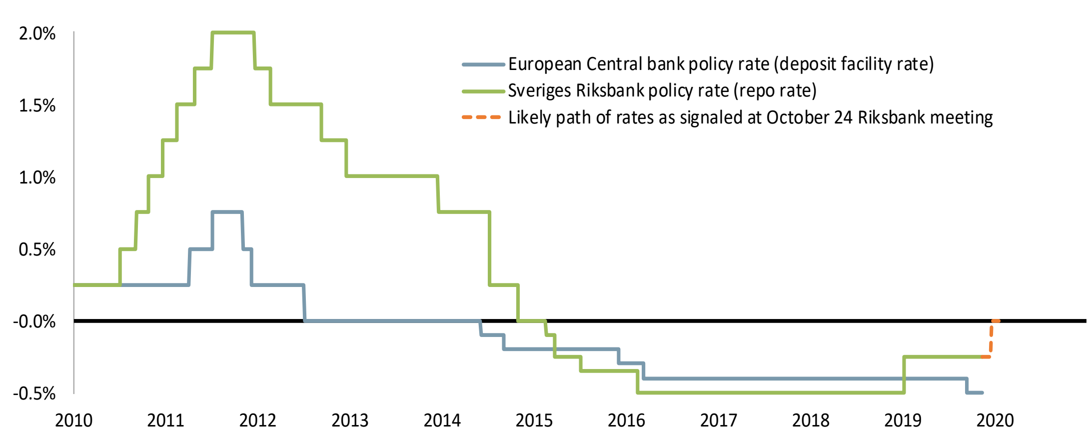
The central bank commented that "if negative nominal interest rates are perceived as a more permanent state, the behavior of agents may change, and negative effects may arise."[5] This is in line with the conclusions of our recent study on negative interest rates.[6] Sweden may be ahead of what other central banks with negative-rate regimes are concluding. The understanding that further rate cuts may be counterproductive means that European bond yields' current drift higher—even without a significant brightening in the economic outlook—may be the correct market response, in our opinion.

Key takeaways

» At its latest policy meeting, the Swedish central bank signaled its intention to exit its negative-rate regime (in place since 2015) by raising policy rates to zero as soon as December.

» The view that prolonged negative rates may be counterproductive—mirrored in the bond market—means that we may have seen the lows in eurozone bond yields for now.

Sweden signals that it may want to end the negative-rate experiment

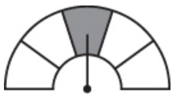


Sources: Bloomberg, Wells Fargo Investment Institute, November 12, 2019. Sveriges Riksbank is the Swedish central bank. Repo = repurchase agreement.

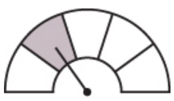
[5] Sveriges Riksbank, Monetary Policy Report, October 2019.
[6] Wells Fargo Investment Institute,"Living in a Negative Interest-Rate World", October 31, 2019.

Austin Pickle, CFA
Investment Strategy Analyst

"He who knows only his own side of the case knows little of that."
—*John Stuart Mill*



Neutral
Commodities



Unfavorable
Private Real Estate

Why the Bloomberg Commodity Index?

In the cover story of this report, we discuss our September 30, 2020 target range for the Bloomberg Commodity Index Total Return (BCOM). Why did we choose the BCOM as our benchmark over other popular commodity indices? What does this mean for investors? Let's take a look.

Other prevalent commodity indices include the S&P GSCI Index (GSCI), Thompson Reuters Equal Weight Index (CCI), and DBIQ Optimum Yield Diversified Index (DBIQ). We have five main rationales for selecting the BCOM. The first is fair representation of the entire commodity complex; the BCOM is composed of roughly one-third metals, one-third energy, and one-third agriculture—while the GSCI and DBIQ indices are overweight energy (60% and 50% weightings, respectively)—and the CCI is overweight agriculture (50% weighting). The second is diversification; the BCOM has weight caps at the commodity and sector levels, which means that no one commodity or sector should ever dominate the index. The third is a weighting scheme that considers both production and trading volume. The fourth is sector views; the BCOM provides subindices for each commodity sector. The fifth is transparency; we can access BCOM composition and weighting data in real-time.

It is useful for investors to understand these benchmark differences. For example, if we turn favorable on the BCOM but are most unfavorable on the Energy sector, buying an investment that tracks the GSCI would not align with our view. With wildly different composition and weighting schemes, commodity indices—and the investments that track them—can have wildly different returns.

Key takeaways

» Commodity indices often have wildly different composition, weighting schemes, and returns.

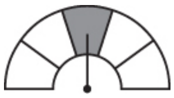
» We have carefully selected the BCOM as our commodity benchmark.

BCOM commodity members, weights, and 2019 year-to-date performance

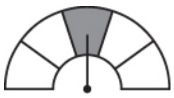
Commodity performance since 12/31/2018					
Commodity	YTD Performance	Index weight	Commodity	YTD Performance	Index weight
Nickel	47.5%	3.6%	Coffee	4.9%	2.5%
WTI oil	26.1%	8.5%	Soybeans	2.3%	5.7%
Gasoline	23.1%	2.6%	Wheat	1.5%	3.0%
Brent oil	15.9%	7.4%	Zinc	1.3%	3.0%
Gold	14.3%	13.2%	Copper	0.3%	7.0%
Ultra low sulfur diesel	13.6%	2.2%	Corn	0.3%	5.6%
Low sulphur gasoil	12.8%	2.6%	Soybean meal	-1.0%	3.1%
Soybean oil	11.3%	3.2%	Aluminum	-2.3%	3.9%
Silver	8.4%	3.9%	Live cattle	-4.3%	3.9%
Sugar	6.7%	3.0%	Cotton	-10.7%	1.2%
Lean hogs	5.2%	2.1%	HRW Wheat	-11.3%	1.1%
Bloomberg Commodity Index	**4.9%**		Natural gas	-12.0%	7.5%

Sources: Bloomberg, Wells Fargo Investment Institute, November 14, 2019. The commodities listed are the components of the BCOM. Green shading represents agriculture commodities, orange livestock, blue metals, and gray energy. WTI = West Texas Intermediate. **Past performance is no guarantee of future results.** An index is unmanaged and not available for direct investment.

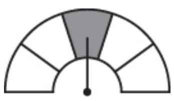
Justin Lenarcic, Global Alternative Investment Strategist



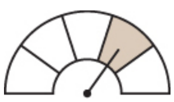
Neutral
Private Equity



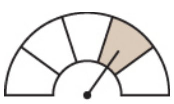
Neutral
Hedge Funds-Macro



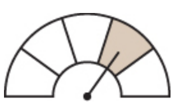
Neutral
Hedge Funds-Event Driven



Favorable
Private Debt



Favorable
Hedge Funds-Equity Hedge



Favorable
Hedge Funds-Relative Value

Alternative investments, such as hedge funds, private equity, private debt and private real estate funds are not suitable for all investors and are only open to "accredited" or "qualified" investors within the meaning of U.S. securities laws.

Despite new market highs, we believe that conditions remain favorable for short sellers

It may seem unfathomable to short equities and credit when many benchmark indices are trading at or near historical highs and credit spreads are tight. But we remain impressed with this "credit and stock pickers' market"— both for its duration, and its stability in the face of strong 2019 equity and credit benchmark returns.

In our view, the correlation of equities within an index is a good barometer for how easily hedge fund managers can identify potential winners and losers. When correlations are high, it becomes difficult to benefit from security selection, regardless of differences in fundamentals. While we have seen a steady increase in equity correlations since early 2017, they are only slightly above the long-term average. This has had a direct impact on the alpha (excess return) generated by long/short equity managers this year. In fact, year-to-date global alpha is above 2015 levels—and only slightly behind 2017—the two best years for alpha in recent years.[7]

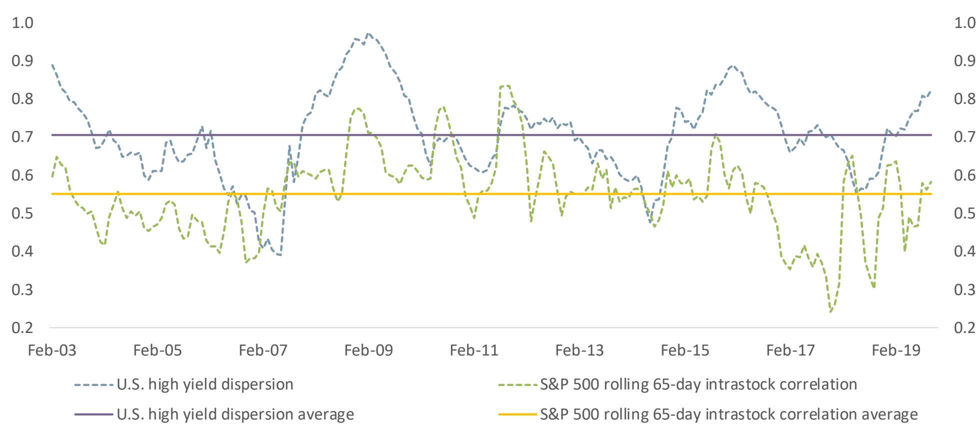
While we review correlations to measure the opportunity set for equities, we often reference dispersion when gauging the environment for long/short credit funds. Dispersion is defined as the proportion of bonds in the ICE BofAML U.S. High Yield Master II Index trading at 100 basis points above or below the overall index level.[8] The chart shows that high-yield credit dispersion has increased this year, providing more opportunities for managers to generate returns on long and short positions. With the cycle maturing, we anticipate that dispersion will remain elevated for quite a while.

Key takeaways

» Despite benchmark indices trading at or near historical highs, the environment for long and short security selection remains robust.

» Equity correlations, though higher, are slightly above historical averages. Credit dispersion is reaching levels last seen in 2015 and during the financial crisis.

Credit dispersion is increasing, while equity correlations have been stable



Sources: Strategas Research Partners, Bank of America Merrill Lynch, November 2019. High-yield corporate dispersion data in the chart is drawn from the ICE BofAML U.S. High Yield Master II Index. An index is unmanaged and not available for direct investment. Correlation is the degree to which two securities move in relation to each other. Intrastock correlation is the correlation of all S&P 500 stocks to each other, over a rolling 65 day period.

[7] Morgan Stanley Strategic Content Group, *"October 2019 Hedge Fund Recap"*, November 2019.
[8] One hundred basis points equal 1.00%.

Risk Considerations

Each asset class has its own risk and return characteristics. The level of risk associated with a particular investment or asset class generally correlates with the level of return the investment or asset class might achieve. **Stock markets**, especially foreign markets, are volatile. Stock values may fluctuate in response to general economic and market conditions, the prospects of individual companies, and industry sectors. **Foreign investing** has additional risks including those associated with currency fluctuation, political and economic instability, and different accounting standards. These risks are heightened in emerging markets. **Small- and mid-cap stocks** are generally more volatile, subject to greater risks and are less liquid than large company stocks. **Bonds** are subject to market, interest rate, price, credit/default, liquidity, inflation and other risks. Prices tend to be inversely affected by changes in interest rates. **High yield (junk) bonds** have lower credit ratings and are subject to greater risk of default and greater principal risk. The **commodities** markets are considered speculative, carry substantial risks, and have experienced periods of extreme volatility. Investing in a volatile and uncertain commodities market may cause a portfolio to rapidly increase or decrease in value which may result in greater share price volatility. **Real estate** has special risks including the possible illiquidity of underlying properties, credit risk, interest rate fluctuations and the impact of varied economic conditions.

Risks associated with the **Consumer Discretionary** sector include, among others, apparel price deflation due to low-cost entries, high inventory levels and pressure from e-commerce players; reduction in traditional advertising dollars, increasing household debt levels that could limit consumer appetite for discretionary purchases, declining consumer acceptance of new product introductions, and geopolitical uncertainty that could affect consumer sentiment. Investing in the **Financial** services companies will subject a investment to adverse economic or regulatory occurrences affecting the sector. Risks associated with the **Technology** sector include increased competition from domestic and international companies, unexpected changes in demand, regulatory actions, technical problems with key products, and the departure of key members of management. Technology and Internet-related stocks smaller, less-seasoned companies, tend to be more volatile than the overall market.

Alternative investments, such as hedge funds, private equity/private debt and private real estate funds, are speculative and involve a high degree of risk that is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program. They entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in a fund, potential lack of diversification, absence and/or delay of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds. Hedge fund, private equity, private debt and private real estate fund investing involves other material risks including capital loss and the loss of the entire amount invested. A fund's offering documents should be carefully reviewed prior to investing.

Hedge fund strategies, such as Equity Hedge, Event Driven, Macro and Relative Value, may expose investors to the risks associated with the use of short selling, leverage, derivatives and arbitrage methodologies. Short sales involve leverage and theoretically unlimited loss potential since the market price of securities sold short may continuously increase. The use of leverage in a portfolio varies by strategy. Leverage can significantly increase return potential but create greater risk of loss. Derivatives generally have implied leverage which can magnify volatility and may entail other risks such as market, interest rate, credit, counterparty and management risks. Arbitrage strategies expose a fund to the risk that the anticipated arbitrage opportunities will not develop as anticipated, resulting in potentially reduced returns or losses to the fund.

Definitions

Macro Pillar: Our Quality Pillar examines and reflects a sector's current and past operating performance (profitability and leverage), and it can be indicative of future operating performance. It may be a reliable quality measure for sectors, regardless of the level of earnings. It compares the 11 sectors using a leverage and liquidity measure; return on equity; and analyst estimate dispersion.

Quality Pillar: Our Quality Pillar examines and reflects a sector's current and past operating performance (profitability and leverage), and it can be indicative of future operating performance. It may be a reliable quality measure for sectors, regardless of the level of earnings. It compares the 11 sectors using a leverage and liquidity measure; return on equity; and analyst estimate dispersion.

Value Pillar: Our Value Pillar considers the premium or discount that the sector has to the S&P 500 Index and to other S&P 500 sectors. It considers forecast total yield, the 12-month trailing price-to-earnings ratio, and the price-to-free cash flow ratio.

Bloomberg Commodity Index represents futures contracts on 23 physical commodities. No related group of commodities (e.g., energy, precious metals, livestock and grains) may constitute more than 33 percent of the index as of the annual reweighting of the components. No single commodity may constitute more than 15 percent of the index.

Dow Jones Industrial Average is an unweighted index of 30 "blue-chip" industrial U.S. stocks.

DBIQ Optimum Yield Diversified Commodity Index tracks the performance of the broad commodity futures sector using DBIQ's Optimum Yield™ contract selection methodology where appropriate. The Fund seeks to track the excess return version of the index (DBLCDBCE). Because the Fund collateralizes its futures positions with positions in 3-month U.S. Treasuries, the results of the total return version of the index (DBLCDBCT) are displayed for performance purposes.

ICE BofA Merrill Lynch U.S. High Yield Master II Index tracks the performance of US dollar denominated below investment grade rated corporate debt publically issued in the US domestic market.

MSCI Cyclical Sectors-Defensive Sectors Return Spread Index aims to represent the performance of a strategy based on the return spread between a long position on constituents of one underlying component Index (MSCI USA Cyclical Sectors Index) while taking a short position on constituents of another component Index (MSCI USA Defensive Sectors Index).

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S&P 500 Index is a market capitalization-weighted index composed of 500 widely held common stocks that is generally considered representative of the US stock market.

S&P GSCI Index serves as a benchmark for investment in the commodity markets and as a measure of commodity performance over time. It is a tradable index that is readily available to market participants of the Chicago Mercantile Exchange. The index was originally developed by Goldman Sachs.

The Thompson Reuters Equal Weight Commodity Index (CCI Index) comprises 17 commodity futures that are continuously rebalanced: Cocoa, Coffee Copper, Corn, Cotton, Crude Oil, Gold, Heating Oil, Live Cattle, Lean Hogs, Natural Gas, Orange juice, Platinum, Silver, Soybeans, Sugar No. 11, and Wheat.

Commodity Composite measures a basket of commodity prices as well as inflation. It blends the historical commodity index introduced by George F. Warren & Frank A. Pearson, former academics at Cornell, collected and published commodity price data in their book, Prices, and the producer price index for commodities (PPI-Commodities), and the National Bureau of Economic Research (NBER) Index of Wholesale Prices of 15 Commodities and the Reuters Continuous Commodity Index. The index components and weightings, from Warren and Pearson's Prices, change over time but the 11 commodity groups used from 1786-1932 are: Farm Products, Foods, Hides and Leather products, Textile Products, Fuel and Lighting, Metals and Metal Products, Building Materials, Chemicals and drugs, Spirits (stopped tracking 1890), House furnishing Goods, and Miscellaneous. The PPI-Commodities is compiled by the Bureau of Labor Statistics and shows the average price change from the previous month for commodities such as energy, coal, crude oil and the steel scrap. The NBER Index of Wholesale Prices of 15 Commodities is a measure of price movements of 15 sensitive basic commodities whose markets are presumed to be among the first to be influenced by changes in economic conditions. The Reuters Continuous Commodity Index comprises 17 commodity futures that are continuously rebalanced: cocoa, coffee, copper, corn, cotton, crude oil, gold, heating oil, live cattle, Live hogs, natural gas, orange juice, platinum, silver, soybeans, sugar no. 11, and wheat. The Commodity Composite connects the aforementioned components at the following years: Warren and Pearson- Prices: 1720-1932, BLS PPI-Commodities: 1933-1946, NBER: 1946-1956, Reuters Continuous Commodity Index: 1956-Current

An index is unmanaged and not available for direct investment.

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