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The commodity bull super-cycle

Why super-cycles matter, what we are seeing next, and what it means for investors

Deeper analysis of investment trends and topics **March 30, 2023**

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Key takeaways

- On March 20, 2020, a new commodity bull super-cycle[1] was born. Commodities have since outperformed most assets, and we suspect they should for years to come.
- Commodity prices have generally tended to move together over multi-year periods, called super-cycles. We believe 2020 marked the start of a new bull super-cycle.
- Today, we will discuss what we are seeing, and why we believe super-cycles should matter to investors.

"Any good thing that dies inside can rise again, if you want it hard enough. … It's not what it was. It's always different. It's always something else." — *Gregory David Roberts, "The Mountain Shadow"*

We spent a great deal of time advising investors to steer clear of commodities between 2012 and 2020. That changed in March 2020, when we upgraded commodities to favorable. What changed was that we believe we saw the start of a new commodity bull super-cycle. Today, we are going to discuss why super-cycles matter, where the bull stands, now three years old, and what the future may hold.

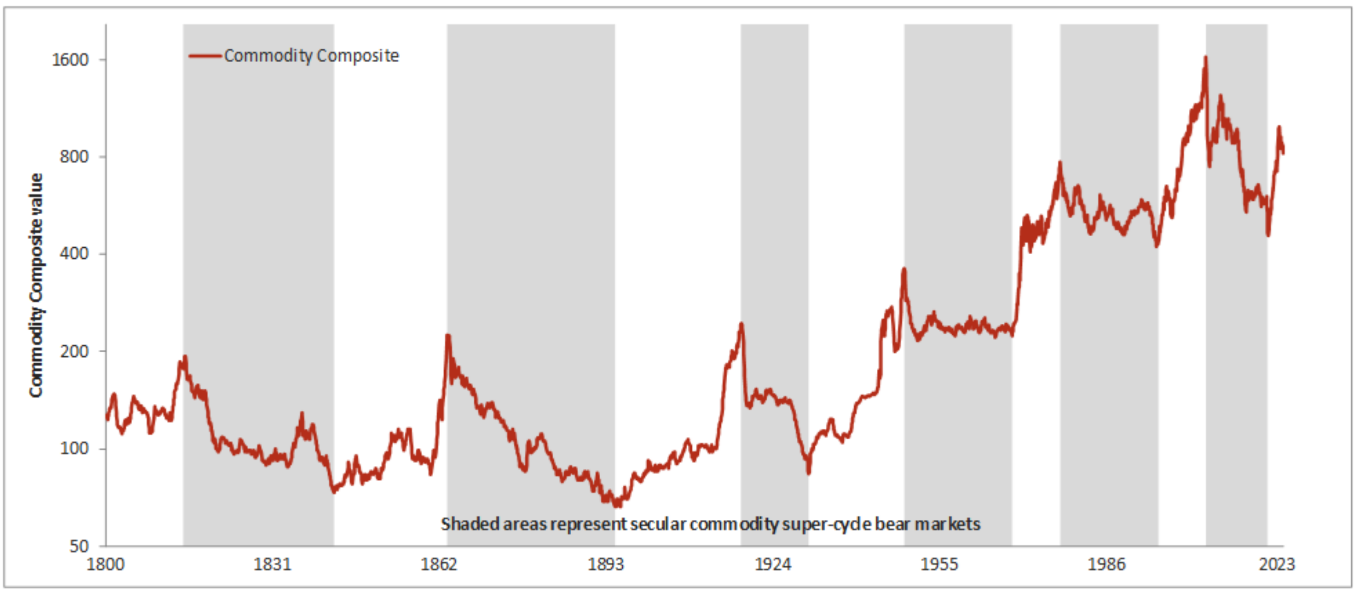
1. Bull super-cycles are an extended period of time, historically between 15-20 years where commodity prices tend to move upward together.

What this super-cycle stuff is all about

Commodities generally do not act like other major asset classes, like stocks or bonds. Commodities typically move together, like a big family, through long boom (bull markets) and bust (bear markets) cycles.

Because each cycle has typically lasted between 15 to 20 years, we call them super-cycles. Using data back to the year 1800, we can see in Chart 1, and in Tables 1 and 2, that the average bull super-cycle (white areas in chart) lasted 17 years, while the average bear super-cycle (shaded areas in chart) lasted 20 years.

Chart 1: Commodity bear market super-cycles



Sources: Bloomberg, Prices by G.F. Warren and F.A. Pearson, Bureau of Labor Statistics (BLS), Bureau of Economic Research (NBER), and Wells Fargo Investment Institute. Monthly data: January 31, 1800 - February 28, 2023. See page 13 for Commodity Composite definition. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Table 1

Commodity bull super-cycles	Percentage gain	Length (years)
1791-1814	132.5%	23.5
1843-1864	208.2%	21.6
1896-1920	269.7%	24.0
1933-1951	331.5%	18.3
1971-1980	249.5%	9.1
1999-2008	291.8%	9.0
2020-today	80.8%	3.0
Average Bull (without current)	**247.2%**	**17.6**

Table 2

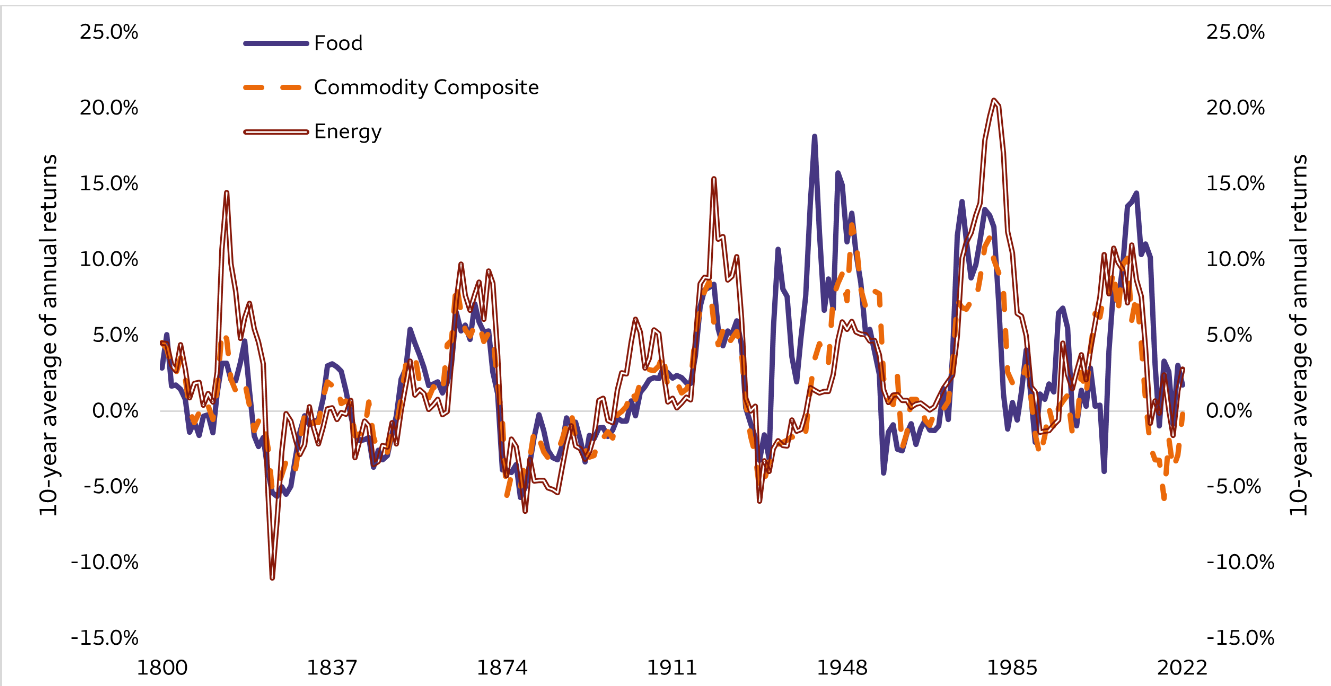
Commodity bear super-cycles	Percentage gain	Length (years)
1814-1843	-62.2%	28.3
1864-1896	-70.7%	31.8
1920-1933	-65.7%	12.8
1951-1971	-38.6%	20.4
1980-1999	-45.7%	18.6
2008-2020	-73.2%	11.7
Average Bear	**-59.4%**	**20.6**

Sources: Bloomberg, and Wells Fargo Investment Institute. Performance is based on the Commodity Composite. See page 13 for Commodity Composite definition. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Commodities typically move together as a family

Super-cycles are like black holes. Escaping the gravity of a super-cycle is difficult for the individual commodity. Understanding which super-cycle investors are in, bull or bear, may often dictate whether they make or lose money, no matter the individual commodity. Chart 2 captures rolling 10-year performance returns between energy commodities (red line), food commodities (purple line), and the commodity complex as a whole (orange dashed line). Notice that over these rolling 10-year periods, all commodity groups tended to follow each other around.

Chart 2: Commodity momentum since 1800 — 10-year moving average of annual rate of change



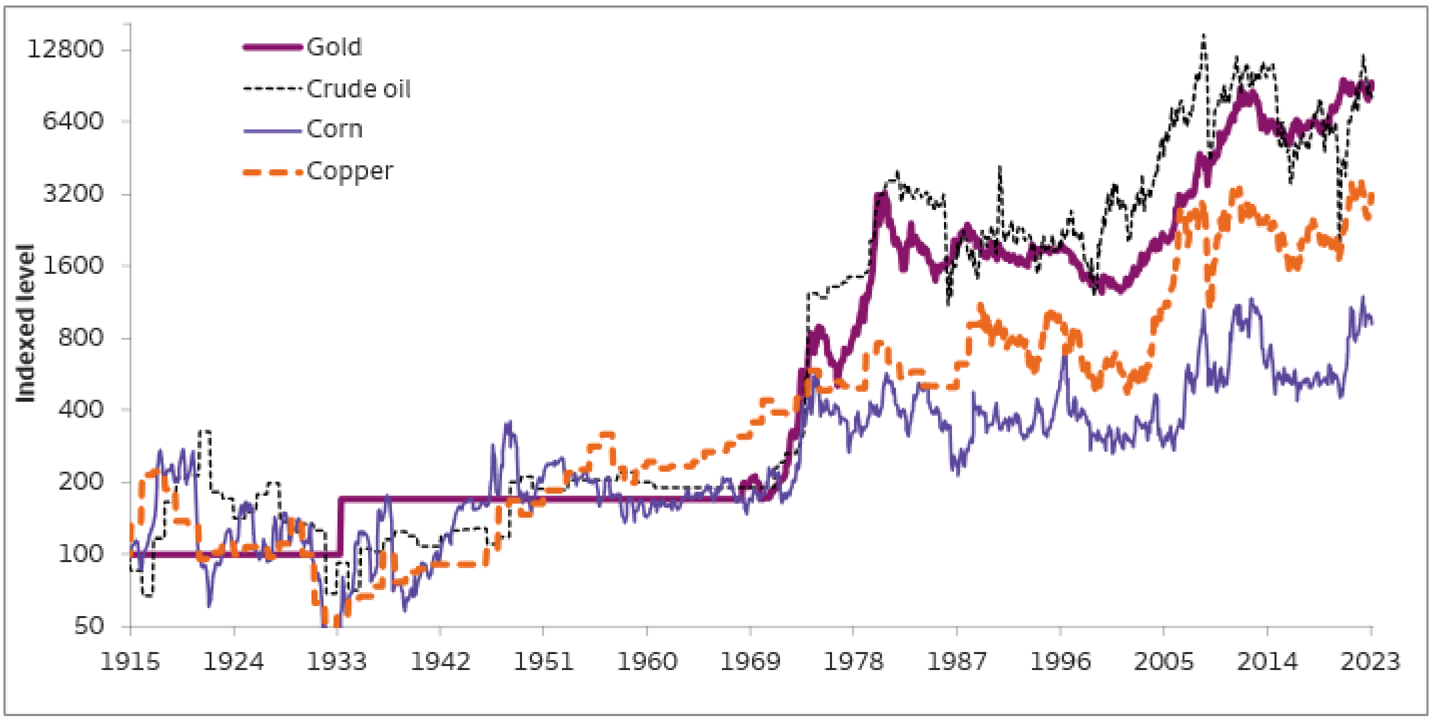
Source: Bloomberg, Prices by G.F. Warren and F.A. Pearson, Federal Reserve Bank of St. Louis, and Wells Fargo Investment Institute. Yearly data 1800 – 2022. See page 13 for Commodity Composite definition. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Why we have been bearish for so long

Starting at the turn of this century, commodity prices broadly started to spike. A new super-cycle bull market had been stoked, and it lasted from roughly 1999 to 2011 (the Bloomberg Commodity Index began to peak around 2008). Chart 3 highlights how individual commodities have trended during a bull super-cycle. Inside Chart 3 we can see that during the period from 1999 through 2011, oil prices jumped from $10 to $150 per barrel, copper from $0.60 to $4.60 per pound, gold from $250 to $1900 per ounce, and corn from $2 to $8 per bushel.

It was around 2012 that we started getting worried that prices had run too far too fast, which invited lots of competition, substitution, and political blowback. By 2012, nearly every commodity we followed was starting to roll over. As heartbreaking as this can be to witness in real time, it was not unexpected. This is how commodity boom and bust cycles have historically worked — they sow the seeds of their own destruction. Or as the old commodity saying goes, “high prices cure high prices.”

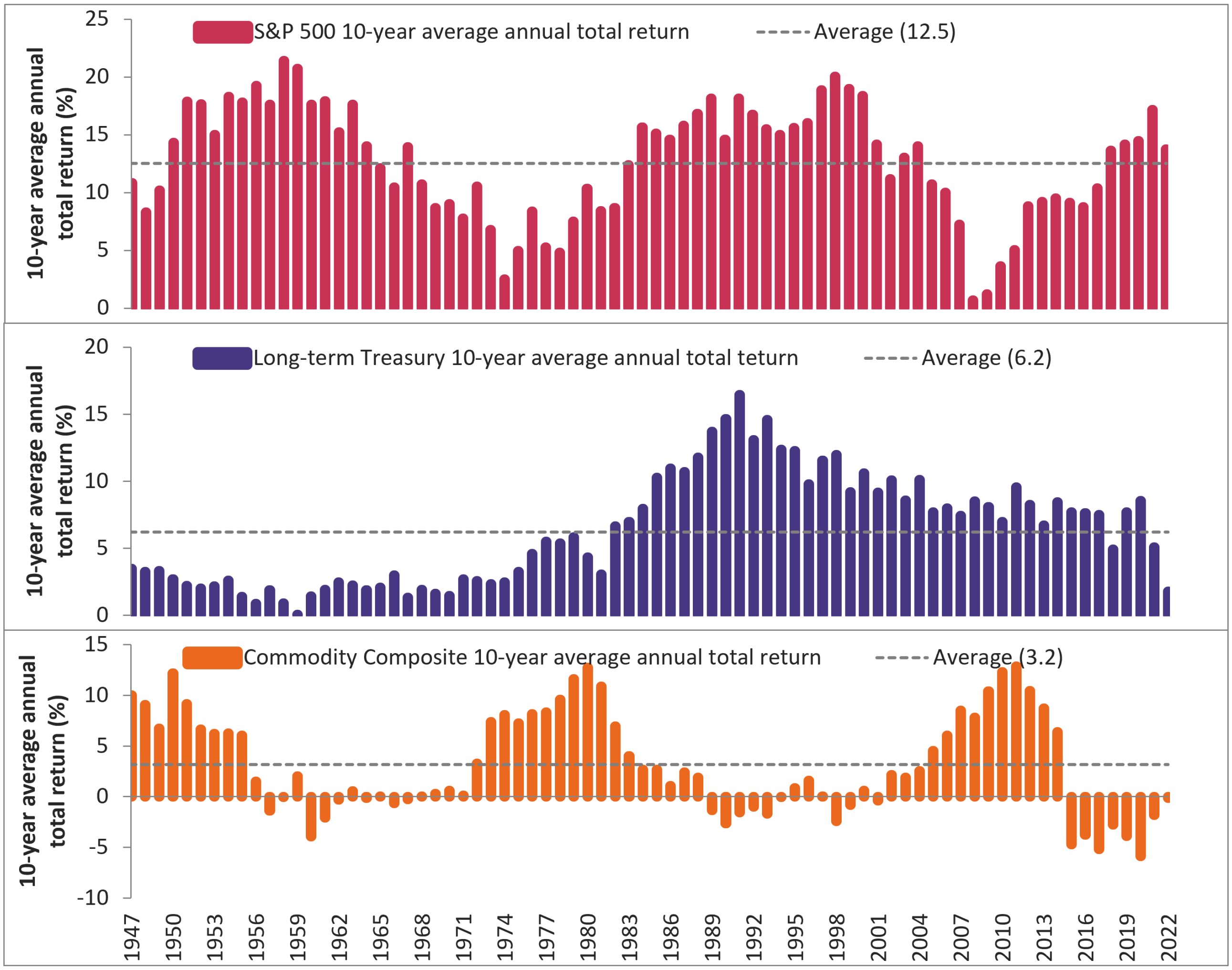
Chart 3: Oil, gold, copper, and corn (1914 – present)



Sources: Bloomberg, Kitco, U.S. Department of Agriculture (USDA), U.S. Geological Survey (USGS), and Wells Fargo Investment Institute. Monthly data: January 31, 1915 – February 28, 2023. 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 copper prior to 1988 is represented by the annual average U.S. producer copper price as provided by USGS. Copper price 1988 on is the copper front month futures price. The price of corn prior to 1960 is represented by the average price of corn received by farmers as reported by the USDA. From 1960 on is the corn front month futures contract price. 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. **Past performance is no guarantee of future results.**

2012 was one of those moments when it was helpful to understand the differences between commodities and other assets, such as stocks. Stock markets have their bear markets too, but stocks have a history of picking themselves up relatively quickly. Commodity bears have typically done no such thing. Commodity prices can fall swiftly, but it often takes years before excess supplies, built up during the bull years, are worked off. The history of commodity super-cycle bears has been consistent in that once prices started to fall, a new bull market was often more than a decade away. If that is not enough to scare investors away during commodity bear super-cycles, maybe this one will — from March 2010 through March 2020, commodity prices lost investors, on average, 6% per year (Chart 4, bottom panel).

Chart 4: Commodities, stocks, and bonds: 10-year average annual total returns



Sources: Bloomberg, Prices by G.F. Warren and F.A. Pearson, Ned Davis Research[2], and Wells Fargo Investment Institute. Yearly data: 1945 – 2022. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than those quoted above. See page 13 for Commodity Composite definition. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

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Signs of a bull

Super-cycles tend to provide signs that they are shifting, and ultimately which cycle is active — bull or bear. We believe the signs are clearly flashing "bull market" in March 2023.

Table 3 is the checklist of signs that matter most to us. To be clear, not all signs are typically flashing "go" at the start of a bull. Some signs we look for early in a bull, while others are used later for confirmation. The last time we showcased this list, in a July 2021 publication, all early signs had tripped, but none of the later ones. Now in 2023, we believe nearly all signs point to a commodity bull.

Early signs are mostly shifting prices and technical indicators. Patterns in price movements can be particularly important in the beginning — things like washed-out prices, bottoming price action, and strong breadth can be critical to pinpointing a turn. The reason we watch these technical indicators first is because price has often lead fundamental supply-demand factors at major turns. Technical indicators can act like an early warning system of sorts. They can give us an early "heads up" that the underlying fundamentals are beginning to shift. Fundamentals — such as "restrained supply response" or "rising costs" — can take years to evolve into new secular trends, and if we relied on them exclusively, we could end up years behind in calling the bull. The bottom line is that the key early technical indicators are confirming to us that a new super-cycle likely began in 2020.

The late signs are generally about shifting fundamentals. Fundamentals — such as "restrained supply response" or "rising costs" — can take years to evolve into new secular trends, and if we relied on them exclusively, we could end up years behind in calling the bull market. The bottom line is that all key indicators, both early and late, are confirming that commodities are clearly in a bull super-cycle.

Table 3

Condition	Comment	Condition met	Early or later bull sign
Duration	Current bear matches shortest record (12 years).	Yes	Early
Washed-out prices	Poor absolute and relative performance versus other assets has been typical this cycle (-73% versus -60% average bear performance)[3].	Yes	Early
Washed-out sentiment	Underinvestment and fund outflows have been rampant.	Yes	Early
Strong breadth	Nearly all commodities have participated in the rally since the 2020 low.	Yes	Early
Key commodity leadership	Gold broke out to an all-time high in 2020, while other commodities like silver, corn, copper, and soybeans have broken out to cycle highs.	Yes	Early
Price firming	Will prices hold consistently above long-term averages?	Yes	Later
Rising production costs	Will production costs increase after years of efficiency gains?	Yes	Later
Slow persistent investment flows	After over a decade of outflows, will the money start trickling back?	Yes	Later
New demand	China, infrastructure spending, and the global green energy transition are candidates that may drive demand over the next bull super-cycle.	Yes	Later
Restrained supply response	Will demand be able to overwhelm the supply response to spark a new bull super-cycle?	Yes	Later

Source: Wells Fargo Investment Institute. March 13, 2023.

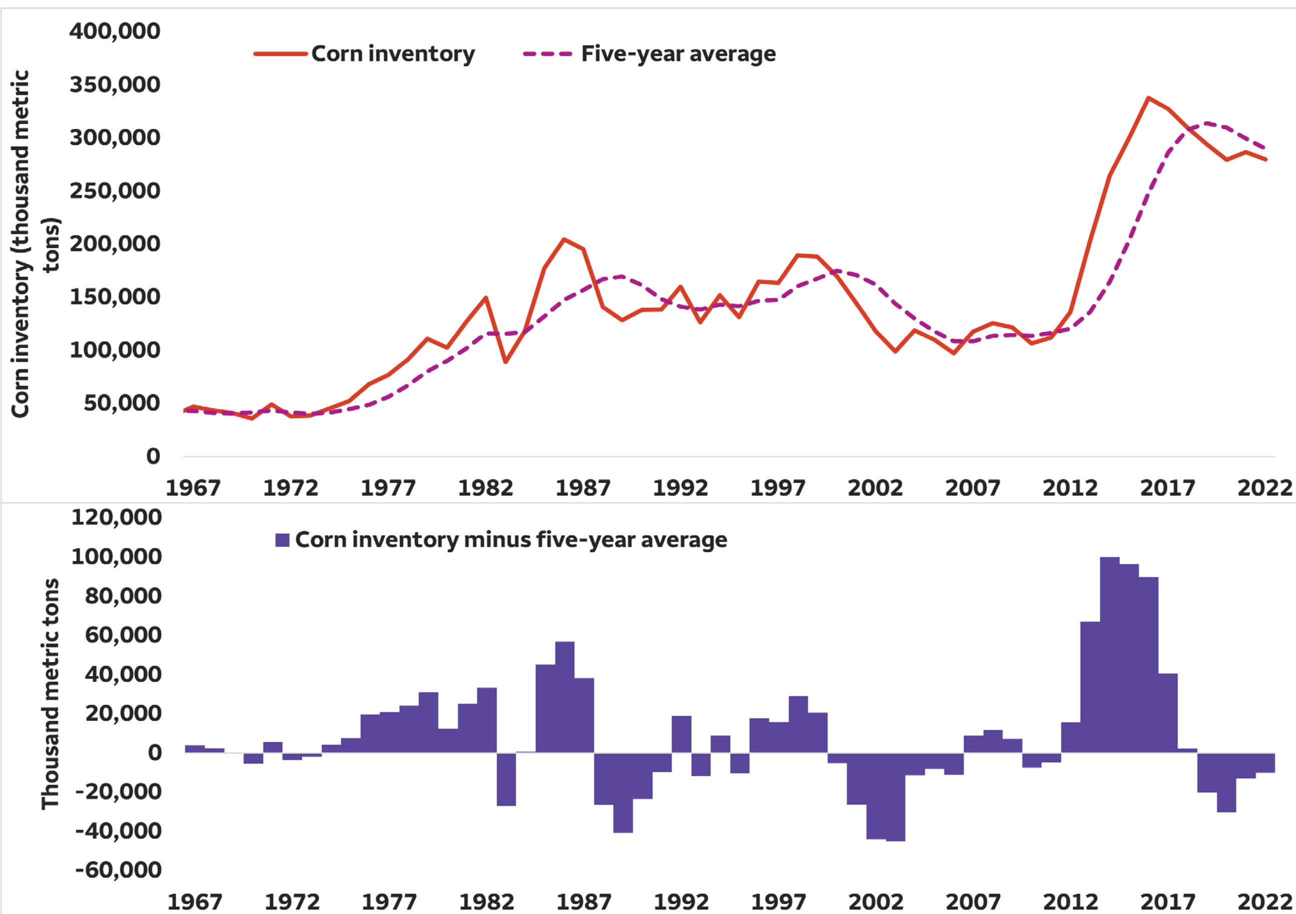
3. Returns measured by Commodity Composite during the preceding bear market super-cycles, as shown in Table 2.

Low prices cure low prices

While we could show charts for each item on the checklist, we would rather not turn this publication into a novel. There is one item on the checklist, though, that we believe is good to visualize. Without it, we could not make the call for a new super-cycle bull market. On the checklist, we call it "washed-out sentiment." We believe the "washed-out" process goes something like this — near the end of commodity bull super-cycle, prices go so high that oversupplies become rampant and need to be worked off. Investment dollars stop flowing into commodity production. After a period of years, supplies eventually decline. By this point, though, prices have stayed too low for too long, and investors have lost interest in investing. Now many years into this process, possibly a decade, and commodities become prone to supply shortages, with no quick way to bring production back. Of course, past performance is not an indicator of future results. However, as the other old commodity saying goes, "low commodity prices cure low commodity prices." Commodity bull super-cycles can be sparked this way, and we are seeing similar broad supply growth issues in 2021.

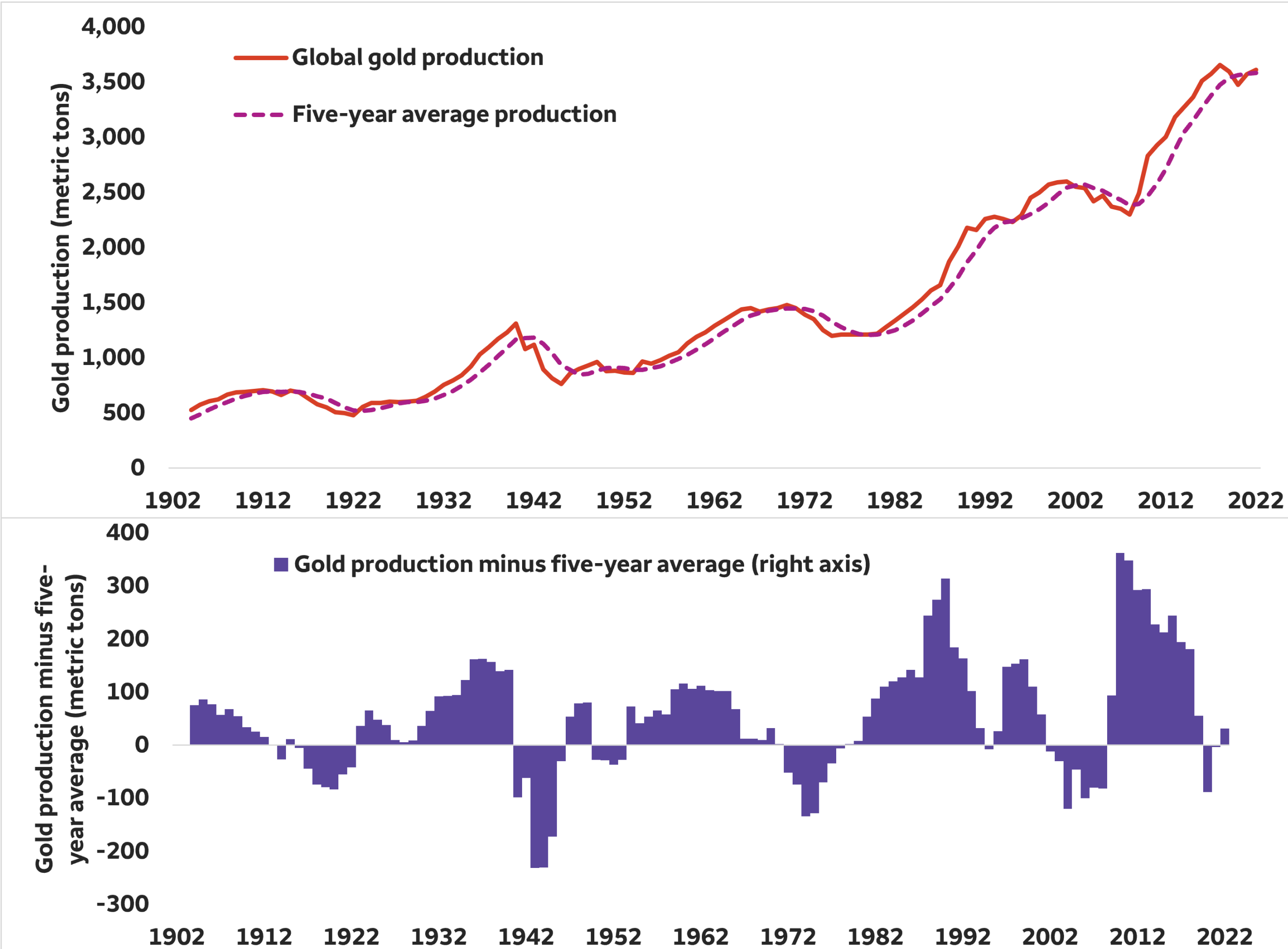
Charts 5 and 6 are the supply growth charts for corn and gold — two very different commodities. The bottom panel in each chart highlights the trend in supply growth for each commodity. Both commodities show supply growth rates that have turned negative in recent years. Both showed similar conditions at the start of the last bull super-cycle that began around 1999.

Chart 5: Corn inventory trend



Sources: Bloomberg, Unites States Department of Agriculture (USDA), and Wells Fargo Investment Institute. Yearly data: December 31, 1967 – December 31, 2022.

Chart 6: Gold production trend



Sources: Bloomberg, Metals Focus Ltd., Kitco, Unites States Geological Survey (USGS), and Wells Fargo Investment Institute. Yearly data: 1902 – 2022.

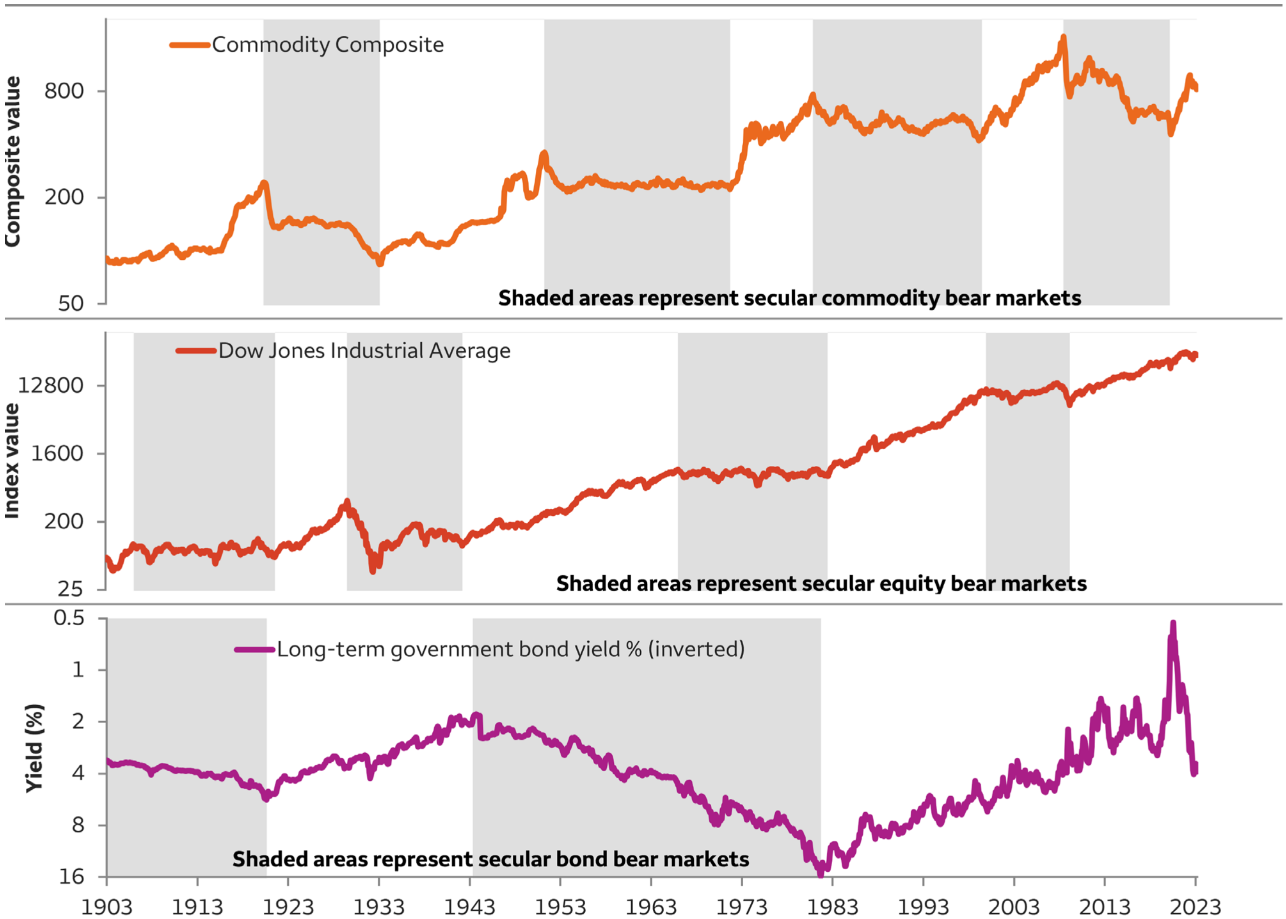
What this may mean for your portfolio

We believe that commodity bulls are the prime time for investors to consider portfolio diversification. 2022 was a good example, with the Bloomberg Commodity Index up by 15.8% as of December 30, 2022, while stocks and bonds were both down.

The ideal investment portfolio, in our view, is one that has a mixture of assets, preferably those that are not highly correlated. Most importantly, super-cycles have historically lasted a decade or longer. In other words, assets that do not necessarily move together over long periods of time. Diversification, historically speaking, has led to better portfolio returns over the long term with lower risk.[4]

Commodities can be portfolio diversifiers, as their prices typically move quite differently than stocks and bonds over the long run. Chart 7 highlights commodities (top panel), stocks (middle panel), and bonds (bottom panel) since the year 1903 Each of these asset groups has its own super-cycle, and their cycles are quite different from one another. The shaded areas represent bear super-cycles, and white areas represent bull super-cycles. Notice that the shaded and white areas give the chart a checkered look. This is one of the best ways to visualize just how different major asset classes have trended over the long run.

Chart 7: 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, and Wells Fargo Investment Institute. Monthly data: January 31, 1903 – February 28, 2023. Log scale. 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. Yields represent past performance and fluctuate with market conditions. Current yields may be higher or lower than quoted above. See page 13 for Commodity Composite definition. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

4. Diversification cannot eliminate the risk of fluctuating prices and uncertain returns and does not guarantee profit or protect against loss in declining markets and does not guarantee profit or protect against loss in declining markets.

Bull risk — This cycle could be different

Take today's economic backdrop as an example. We have seen nothing like it before. From 2020 through 2022, we witnessed record global liquidity. That, though, led to 40-year inflation highs in many countries, and global central banks draining liquidity quickly. In the U.S., the Federal Reserve has hiked interest rates a record number of times, and in record time. Commodities fared well, but stocks and bonds both showed losses in 2022 — something that has happened only four times over the past 100 years. While commodities have managed well through three years of extreme liquidity swings, there is no guarantee that it should continue.

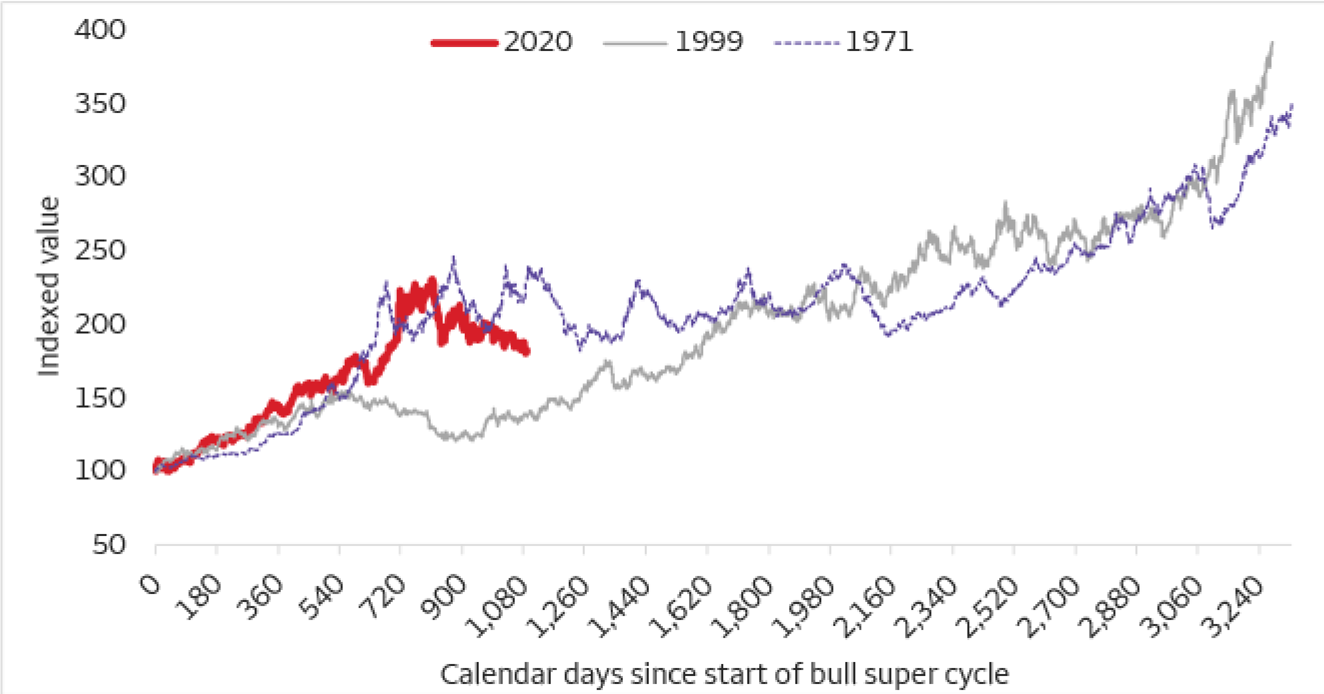
Another trend that could make this cycle different is the speed of technological advances. In past centuries, commodity supplies took years, sometimes a decade or more, to respond to accelerating demand. Extra demand was typically met with extra labor, then technological advancements, and finally, if prices went too high, substitutes were found. This process has been compressed greatly in recent years. There is a counter argument to this, of course, in that the easy-to-extract commodities have been found, and for each subsequent cycle, increased technological advances and higher prices are required to meet demand. Only time can tell us which argument will be right.

All of that said, our best guess is that this new bull super-cycle will likely follow a path similar to past bull markets. There are good reasons why super-cycles evolve over 10+ year periods, and not shorter ones. So, we will conclude with what a future commodity super-cycle bull could potentially look like. Chart 8 maps the past two commodity bull super-cycles, which began in 1971 (blue dashed line) and 1999 (solid grey line). The thick solid red line is the new bull super-cycle that we believe began in 2020.

The one critical point to take from this chart is that past bull super-cycles have not been straight shots to the moon. History tells us to expect dips, lulls, and pauses in commodity prices. Part of what makes bull super-cycles last so long is that each dip, lull, and pause makes investors question the bull, which keeps excess supply firmly in the ground. Gold is a prime example. Its average price from March 2010 to March 2020 was $1,347 per ounce. Since March 2020, gold's average price has been 20% higher, at $1790. Yet, as Chart 6 highlights, gold's supply growth remains negative, confirming the discipline of gold producers.

The bottom line is that we believe all signs point to a new commodity bull super-cycle starting in March 2020. The shortest commodity bull on record is nine years, so the current bull remains quite young still. Investors looking to diversify their portfolios should consider commodities, where appropriate.

Chart 8: Modern commodity bull super-cycles



Sources: Bloomberg and Wells Fargo Investment Institute. Performance measured from October 4, 1971 – November 20, 1980; July 13, 1999 – July 2, 2008; and March 18, 2020 – March 13, 2023. Commodity performance measured by our Commodity Composite. See page 13 for Commodity Composite definition. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

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John LaForge is the head of real asset strategy for Wells Fargo Investment Institute (WFII), a wholly owned subsidiary of Wells Fargo Bank N.A., which is focused on delivering the highest-quality investment expertise and advice to help investors manage risk and succeed financially. WFII serves Wealth and Investment Management, a division of Wells Fargo & Company comprised of Wells Fargo Private Bank, and Wells Fargo Advisors businesses.

John is part of the leadership team that develops recommendations and market commentary for real assets, including commodities, real estate investment trusts, and master limited partnerships. He provides commentary and strategy across the commodity spectrum, covering the most widely followed energy, metals, agricultural, and soft groups. John has been featured in various media outlets, including The Wall Street John earned a Bachelor of Science in finance and a Master of Business Administration from the University of Tampa. He is based in Sarasota, Florida.

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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. **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. Although **Treasuries** are considered free from credit risk they are subject to other types of risks. These risks include interest rate risk, which may cause the underlying value of the bond to fluctuate.

Investing in **commodities** is not appropriate for all investors. Exposure to the commodities markets may subject an investment to greater share price volatility than an investment in traditional equity or debt securities. The prices of various commodities may fluctuate based on numerous factors including changes in supply and demand relationships, weather and acts of nature, agricultural conditions, international trade conditions, fiscal monetary and exchange control programs, domestic and foreign political and economic events and policies, and changes in interest rates or sectors affecting a particular industry or commodity. Products that invest in commodities may employ more complex strategies which may expose investors to additional risks, including futures roll yield risk. Investing in **gold or other precious metals** involves special risk considerations such as severe price fluctuations and adverse economic and regulatory developments affecting the sector or industry.

Definitions

Bloomberg Commodity Index is comprised of 22 exchange-traded futures on physical commodities and represents 20 commodities weighted to account for economic significance and market liquidity.

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, the Reuters Continuous Commodity Index, and the Bloomberg Commodity Index Total Return. 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 **Bloomberg Commodity Total Return Index** reflects the returns that are potentially available through an unleveraged investment in the futures contracts on 19 physical commodities comprising the Index plus the rate of interest that could be earned on cash collateral invested in specified Treasury Bills. The Index is a rolling index rebalancing annually. 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: 1956-1999, Bloomberg Commodity Index Total Return: 1999- current.

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

NDR Commodity Composite measures a basket of commodity prices as well as inflation. It blends the prices obtain by George F. Warren & Frank A. Pearson, the purchasing manager index (PPI) and the Reuter's Continuous Commodity Index. George F. Warren & Frank A. Pearson, former academics at Cornell, collected and published commodity price data over a period of time, from 1749 through 1932. The PPI measures the average changes in prices received by domestic producers for their output. The Thompson Reuters Equal Weighted 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.

NDR Energy Commodity Composite is an equal-weighted basket of the energy commodities in the Reuters Continuous Commodity Index.

NDR Food Commodity Composite is an equal-weighted basket of the food commodities in the Reuter's Continuous Commodity Index.

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

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