



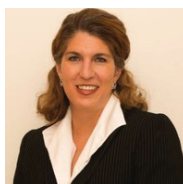
Investing in Commodities

Seasonal Factors Make Active Management Necessary

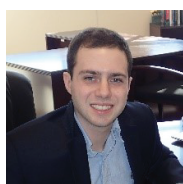
Introduction

Just as the global economy has cycles and economic changes that play an important role in commodity supply and demand, seasonal factors also impact prices. Seasonality involves fundamental reasons behind price movement in different markets.

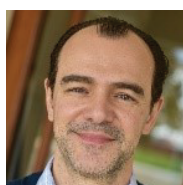
Authors



Kimberly Rios, CFA, CMT
Portfolio Manager, Catalyst Funds



Daniel Saffrin, CMT
Surveillance Analyst at Cboe



Rui Matos, CFA, CFP, FRM
Portfolio Analyst, Catalyst Funds

In this paper, we will demonstrate how the yearly calendar can be used as a guide for some commodity prices as supply and demand change throughout the year, not just in grains, but also in the energy and metals markets.

This paper provides trade examples using seasonal charts as guidance for positioning when taking seasonal factors into consideration. Long-only, indexing, and other passive commodity investing strategies may not address seasonal factors, treating investing in commodities as if they were equities, even though they are very different. When considering strategies, seasonal trading can help or hinder a portfolio depending on whether one chooses to either actively manage seasonal trades or ignore the fact that seasonal factors exist altogether.

Exploring Seasonal Factors

Patterns can be found in usage and production that frequently affect price the same way at similar times each year. Seasonal factors are not set in stone, and not all years will produce the same (or possibly any) seasonal trends. However, seasonal factors can be combined with other investment aspects, such as technical and fundamental analysis to act as a guide for trading commodity products. When combining multiple factors together, that can provide a bullish, bearish, or neutral bias, creating a more defined picture of the price movement. This can help in placing trades that provide preferred risk to reward trade-offs in the direction desired. Conversely, it is also important to consider that, if not intentionally addressed, seasonal factors could hurt performance. For example, if one consistently bought or rebalanced their corn position each June (when prices and volatility tend to be high), in the expectation of being profitable by year end, seasonal trends indicate that would be difficult to accomplish. In other words, if only buying in June, one would be typically be buying when prices are at their highest.

Seasonality Within Agriculture

Let's explore corn investing further, as grains have strong seasonal tendencies. There are different seasons within grain trading such as planting, growing, and harvest seasons. Planting and growing seasons tend to see the highest prices, due to the most uncertainty during those times. These seasons display higher volatility as people are unsure as to how robust the upcoming crop will be. Planting season starts early in the spring and continues through June, and the growing season lasts until the fall harvest. Weather generally plays a primary role in corn pricing. Weather drives uncertainty of supply because of the amount of rainfall, droughts, and freezes that can all hinder a crop before harvest season, which runs through November. Because of the uncertainty during planting and growing seasons, volatility also tends to be higher during this period allowing for the potential of wider price ranges. Then, during the winter months, price consolidation is typically seen.

Strategies can be created around seasonal factors. Commodities have different prices across contract months due to supply and demand, and the cost-of-carry to hold that commodity until its expiration. If one is anticipating higher prices in summer compared to the spring, a diagonal calendar spread could be traded.

Diagonal Calendar Spread Example

In early February, one could look at a May/July spread in corn in anticipation of prices and/or volatility increasing during planting season. Such a trade could be:

Corn May contract price = 387

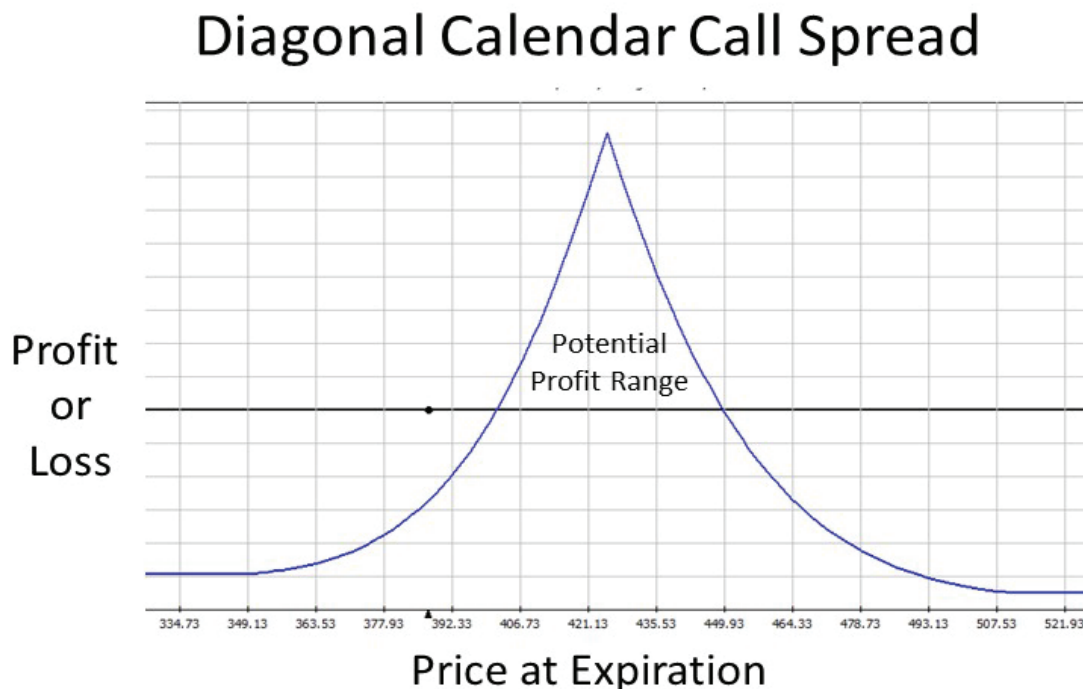
Corn July contract price = 392

Sell 1 May call contract at strike price 425 for 3 credit

Buy 1 July call contract at strike price 430 for 7 debit

Investment: -4 debit (Net of: outlay of 7 and proceeds of 3)

Therefore, one would pay a debit of 4 to enter the trade. The trade is two months wide (May-July) and strikes five apart ($430 - 425 = 5$). The graph below illustrates the potential profit zone, and the capped losses if price were to fall or rise greatly.



Strike prices, distance from the current price, future volatility, and determining whether to receive a credit or pay a debit all are factors to be evaluated when implementing a trade, as each factor changes the risk and reward amounts. One can adjust these factors around their profit and loss targets.

At the other end of the spectrum, volatility and prices tend to trend lower during the winter as volumes of the new crop have already been observed, and planting for the next year has not yet started. Since the growing season in the U.S. is on hold during the winter, and world stocks are known, there is less uncertainty to be had, which can result in fewer price fluctuations as well. During lower volatility periods, or if prices are range-bound, a butterfly or condor spread could be traded in an attempt to capture time decay with the lack of price movement.

Butterfly Spread Example

In early November, one could look at a December spread in corn in anticipating stagnant corn prices through the winter. Such a trade could be:

Corn December contract price = 385

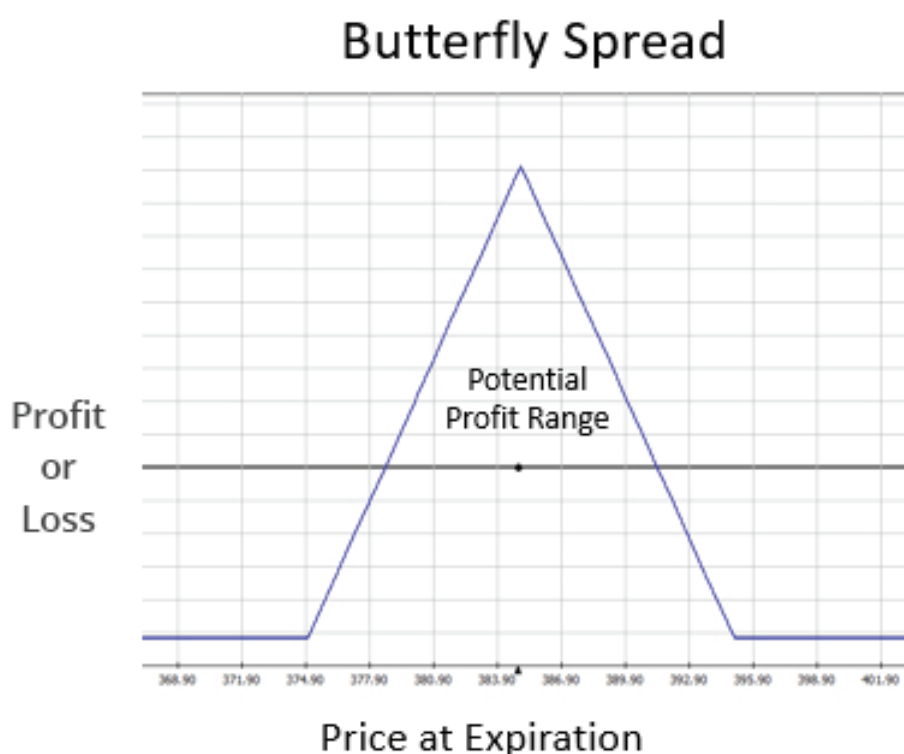
Buy 1 Dec put contract at strike price 395 for 12 debit

Sell 2 Dec put contracts at strike price 385 for 6 credit each: $2 \times 6 = 12$ credit

Buy 1 Dec put contract at strike price 375 for 2 debit

Investment: -2 Debit (Net of: outlay of $-12 + -2 = -14$ and proceeds of 12)

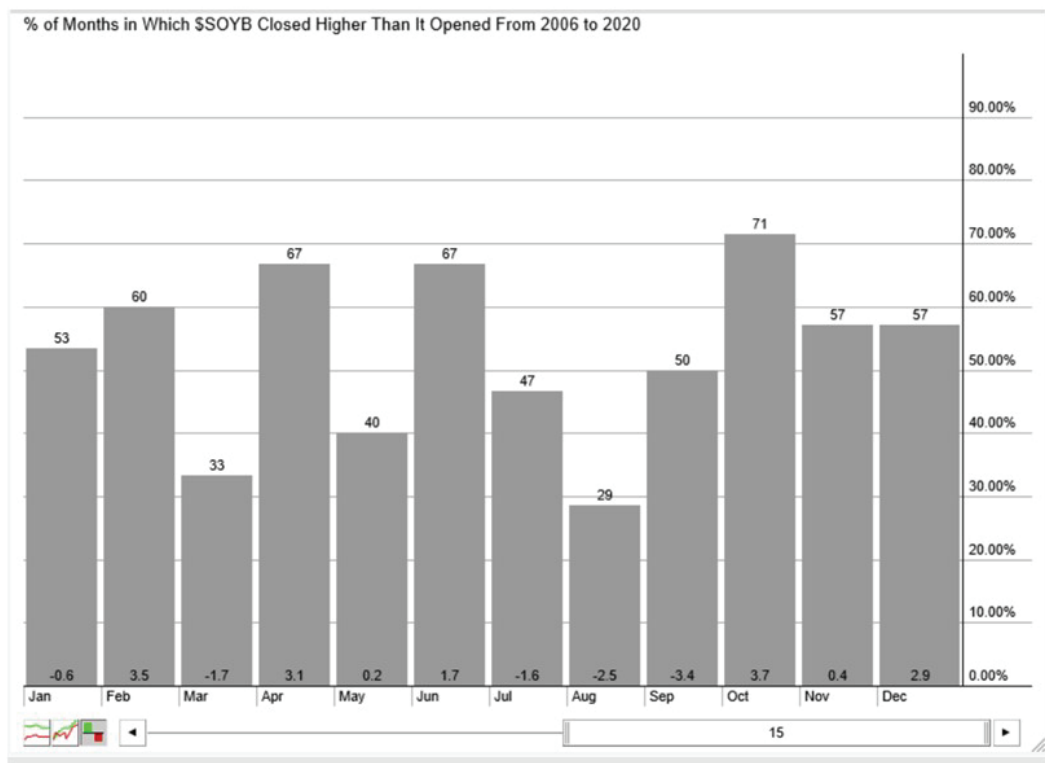
Therefore, paying a debit of -2 to enter the trade with the strike prices being 20 points wide ($395 - 375 = 20$). The graph below illustrates the potential profit zone, and the capped loss (maximum of -2; the amount of the debit paid) if the price were to fall below 375 or rise above 395.



Those were just two of many possible spread trades that can be used to target potential gains while limiting risk.

An actively traded strategy has the flexibility to determine when to invest, and when to stay on the sidelines.

Agricultural commodities in particular stand out as a group of products that exhibit possible opportunities for generating gains from seasonal trading. For example, the chart below demonstrates the strength and weakness of soybean prices during calendar months over the last 15 years.



Soybeans Seasonality - 15 years

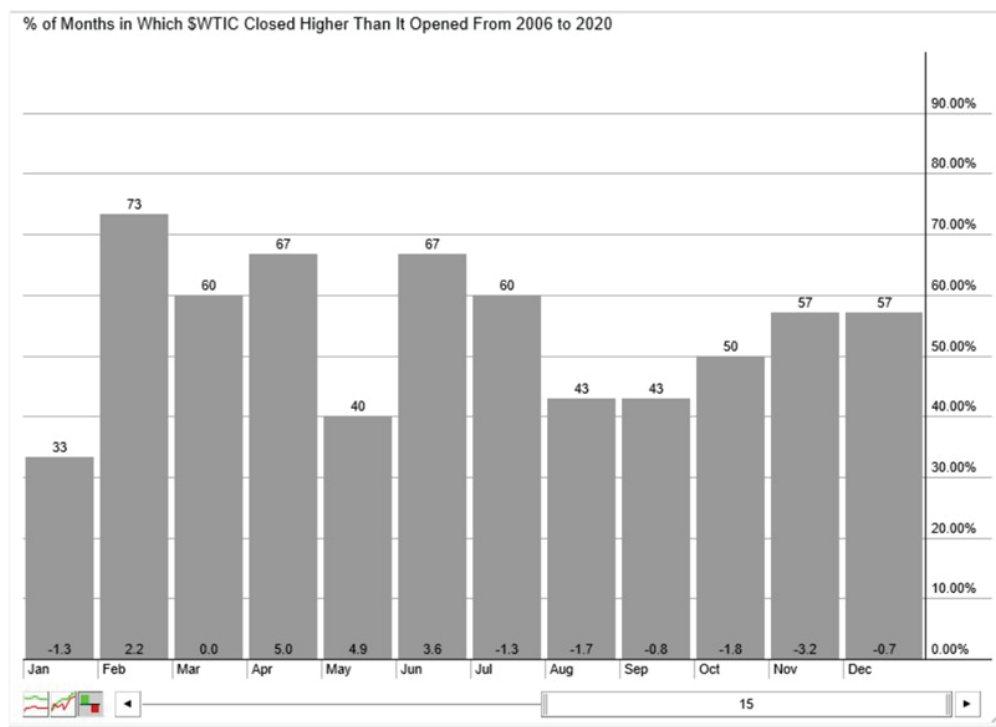
The graph identifies patterns that we just discussed in grains. For instance, June tends to present uncertainty as crops have recently been planted and severe weather due to droughts or excess rain, can impact soybean quality and yields. Total acreage of crops planted is also unknown in early June. Then, during June, USDA reports are released that provide planted numbers and provide guidance. Once the planted acreage numbers are known and new estimates are provided for U.S. and world ending soybean stocks, prices and volatility tend to decline during July and August. Prices can revive again around the fall harvest season in anticipation of final amounts and quality, and then prices typically become active again in the early spring.

Seasonality Within Energy

Seasonal factors are not limited to agricultural products. In the energy markets, supply and demand are the biggest factors for price movement, and weather is also one of the many factors affecting energy prices. Referencing a seasonal gasoline [article](#)¹ published by the NACS, during the months of March and April, refiners switch to "Summer-Blend" gasoline blends from the "Winter-Blend".

Summer-Blend fuel is more expensive, production takes longer, and it yields less gasoline per barrel of oil, in turn adding a premium to the cost of summer fuel. Crude oil prices also tend to move higher into the summer because of increased demand for gasoline due to the summer driving season. Gasoline demand typically increases beginning in February and peaks in August. Since gasoline is a product of crude oil, they both can experience price increases if and when this occurs. On the other hand, crude oil prices tend to be weaker during the fall due to lower demand from consumers, and because refineries undergo maintenance while transitioning into the cheaper, and easier to produce Winter-Blend. However, if winter is unusually cold, heating oil, another product of crude, can see increased demand, increasing the possibility of a price spike in the winter. The same case can be made for other energy products such as natural gas, used for heating and cooling.

Therefore, with fluctuating prices and volatility levels between months, calendar spreads in energy products could provide favorable trading opportunities. The chart below shows seasonality of crude oil prices during calendar months over the last 15 years.



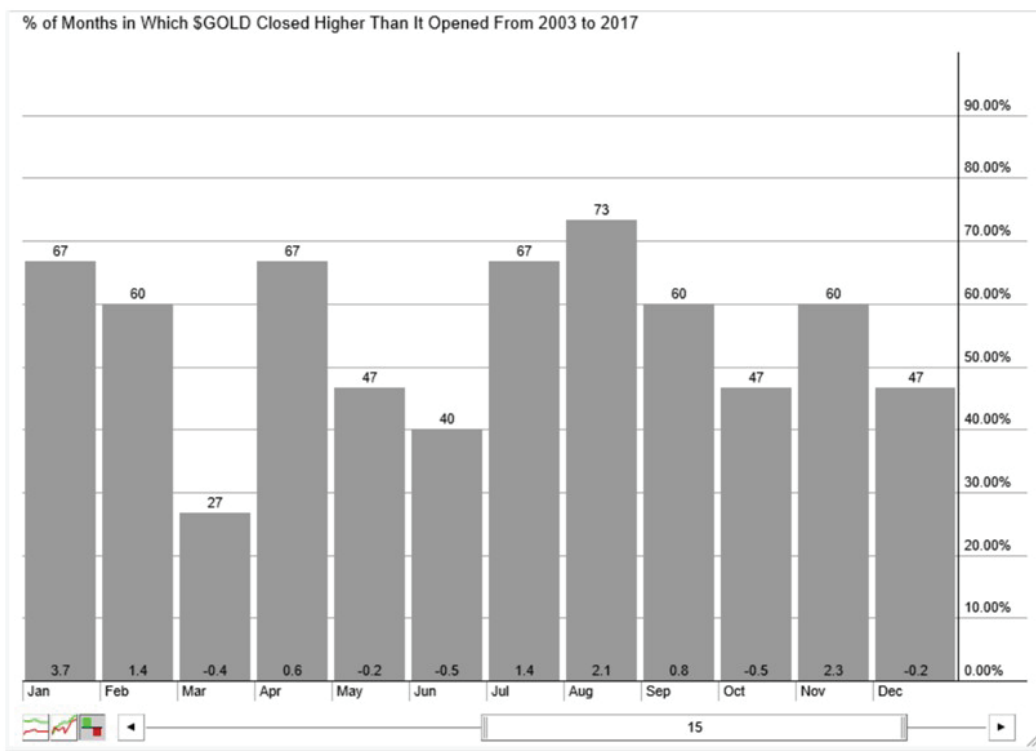
Crude Oil Seasonality – 15 years

1 NACS: Changing Seasons, Changing Gas Prices Feb 17, 2020

<https://www.convenience.org/Topics/Fuels/Changing-Seasons-Changing-Gas-Prices#.WzF2IGQrIII>

Seasonality Within Metals

Seasonal factors can also be present in not-so-obvious markets. Take gold for example. Gold is less seasonal than oil and corn because gold is primarily sought as an investment. It is mainly used as a hedge against inflation, geopolitical risk, and other economic maladjustments. Nevertheless, gold also has a seasonal aspect to it. In 2014, Casey Research published an [article²](#) titled "Gold Seasonal: When Is the Best Month to Buy?" revealing strong months for gold, but also that over a 40-year period, March has been the worst-performing month for gold. As for best months or time periods, in 2018, Forbes Magazine published an [article³](#) explaining the reasoning behind gold seasonal purchases. It describes how during Indian Wedding Season, which runs from December to February, bullish price movement can be seen in the metal. Celebrating weddings with gold shopping becomes necessary as it is believed to bring good fortune. According to the World Gold Council, India accounts for 20% of global gold demand during these periods. Indian Wedding Season in turn has increased gold prices during this period 75% of the time from 2003-2017. Similarly, as the Chinese New Year and Lunar Festival approach, strong China demand emerges. One can see on the graph below how prices increased in the very beginning of the year, then declined as demand lessened into March.



Gold Seasonality - 2003 - 2017

² Casey Research: Gold is Seasonal: When Is the Best Month to Buy? Mar 10, 2014

<https://www.caseyresearch.com/daily-dispatch/gold-is-seasonal-when-is-the-best-month-to-buy/>

³ Forbes: Will The Indian Wedding Season Arrive In Time To Support Gold Bulls? Aug 21, 2018

<https://www.forbes.com/sites/gauravsharma/2018/08/21/will-the-indian-wedding-season-arrive-in-time-to-support-gold-bulls/#435c608b38b9>

Calendar Spread Example

Using a seasonal spread trade, in November, one could buy a February gold call option and sell a December gold call option above the current market price of gold if anticipating prices to rise. The concept is to have the February long call capture the strong seasonality that starts in December and lasts into February, while the December short option has time value that decays faster (i.e. a higher theta). The December short call would ideally expire worthless (in other words, the ending price of gold in December would be below the sold call's strike price), leaving the February long call to increase in value as the price of gold increases into February.

- ☑ Buy February gold call option
- ☑ Sell December gold call option
- ☑ Ideally, the December call option expires worthless, leaving the long February call option

As stated previously, seasonal calendar spread trading takes long and short positions of the options in different months. This can be done at the same strike price (calendar spread) or different strike prices (diagonal calendar spread) depending on the amount of risk and reward objectives. Calendar spread trading can be used to exploit seasonal factors that affect supply and demand of the underlying commodity if the seasonal factors occur.

Regarding the spread trades discussed above, the next level of consideration - which will not be discussed in detail in this paper - should be examined. That is, how do volatility and contango/backwardation changes affect the profit and loss ranges. For example, a vertical butterfly spread (all contracts within the same month) can define risk more clearly than a calendar spread (strikes between multiple months) when considering volatility and contango/backwardation changes.

Investopedia Definitions:

What Is Contango?

Contango is a situation where the futures price of a commodity is higher than the spot price. Contango usually occurs when an asset price is expected to rise over time. That results in an upward sloping forward curve.

What Is Backwardation?

A market is "in backwardation" when the futures price is below the spot price for a particular asset. In general, backwardation can be the result of current supply and demand factors. It may be signaling that investors are expecting asset prices to fall over time. A market in backwardation has a forward curve that is downward sloping.

Seasonal Trading, The Undervalued Edge

In summary, it can be advantageous for an investment in commodities to use seasonal trading as a part of its overall strategy because some of the relationships are profound, having historical patterns of repetition, making it prudent to identify patterns seeking trading edges. Ignoring seasonal factors could provide headwinds to a general strategy providing exposure to commodities. In our opinion, passive investing within the commodity space, using set periods of rebalancing and ignoring seasonal trends, not only is a missed opportunity, but can potentially hinder performance. Rather, active management that seeks factors such as seasonality can provide trading opportunities to be in the markets when most suitable, and allow bullish or bearish positioning based on seasonal tendencies.

Disclosures:

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Contact Info



kimberly.rios@catalystmf.com



ruí.matos@catalystmf.com