

Global Seasonal Analysis

Seasonal Trends In Global Financial Markets

March 2018

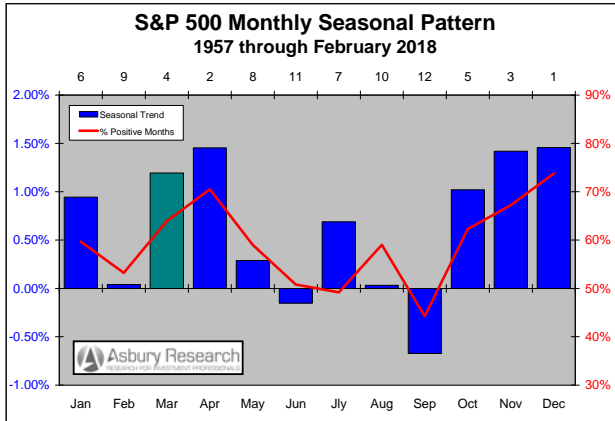
John J. Kosar. CMT
March 8th, 2018

Executive Summary

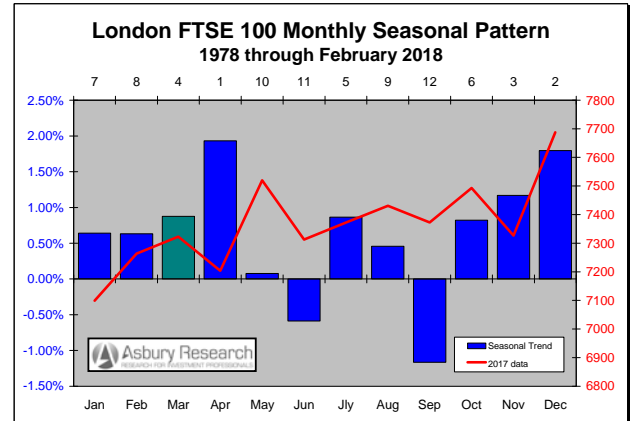
- **Global Equity Prices: NEAR TERM POSITIVE, INTERMEDIATE TERM NEGATIVE.** Common to the US, German and Japanese Indexes is two months of seasonal strength in March and April, after which the “sell in May and go away” phenomenon begins as equity prices historically weaken through September.
- **US Interest Rates: NEAR TERM POSITIVE, INTERMEDIATE TERM NEGATIVE.** Common to 10-, 5- and 2-Year Notes is a seasonal peak in yields between February (2-Year) and April (10- and 5-Year), after which the seasonal trend turns negative into August-September.
- **UK Interest Rates: NEAR TERM POSITIVE, INTERMEDIATE TERM NEGATIVE.** March, the 5th seasonally strongest month of the year for the yield of the 10-Year Euro (formerly German) Bund, represents a one-month seasonal improvement over February, the 3rd weakest month, and leads into the strongest month of the year in April.
- **Japanese Interest Rates: NEAR TERM NEGATIVE, INTERMEDIATE TERM POSITIVE.** March, the 7th seasonally strongest month of the year for the yield of the 10-Year Japanese Government Bond (JGB), represents one month of modest seasonal strength sandwiched between the two weakest months of the year, February and April, after which JGBs rebound in May and June.
- **The US Dollar: NEAR TERM POSITIVE, INTERMEDIATE TERM NEGATIVE.** Although the Dollar is one of the least seasonally-influenced assets we track, this particular time of the year does show a clear pattern of a March rebound from a weaker February versus both Europe and Japan, a sharp April decline, and then overall Dollar weakness into the 4th Quarter.
- **Gold: NEAR TERM NEGATIVE, INTERMEDIATE TERM POSITIVE.** March is the seasonally weakest month of the year for gold prices, based on data since 1977. It represents a sharp one-month seasonal decline from February, the 5th strongest month, and precedes a gradual seasonal recovery into August and September, the two strongest months.



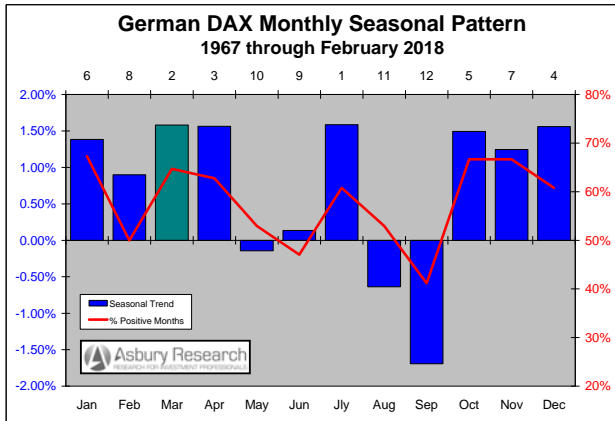
Global Equity Prices



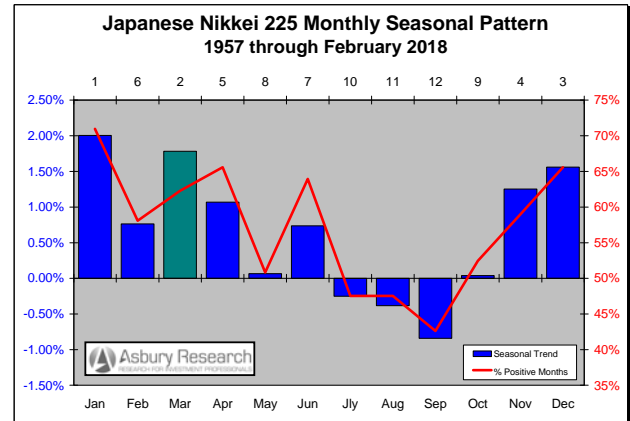
United States: S&P 500 Index



England: FTSE 100 Index



Germany: DAX Index



Japan: Nikkei 225 Index

Analysis & Commentary

The four charts above highlight the seasonal tendencies for the month of March in four major world stock indexes, plus their larger seasonal patterns into the fall. The red lines on the charts plot either 1) the percentage of positive monthly closes during the period displayed or 2) the actual monthly closing levels during 2017.

Common to the US, German and Japanese Indexes is two months of seasonal strength in March and April, after which the “sell in May

and go away” phenomenon begins as equity prices historically weaken through September.

S&P 500 Yearly Seasonal Pattern Since 1957

In the S&P 500 Index (SPX, chart at upper left), the green bar highlights March as being the 4th seasonally strongest month of the year based on data since 1957. It represents a strong one-month seasonal recovery from February, the 4th weakest month, and leads into more acute strength in April, the 2nd strongest month.

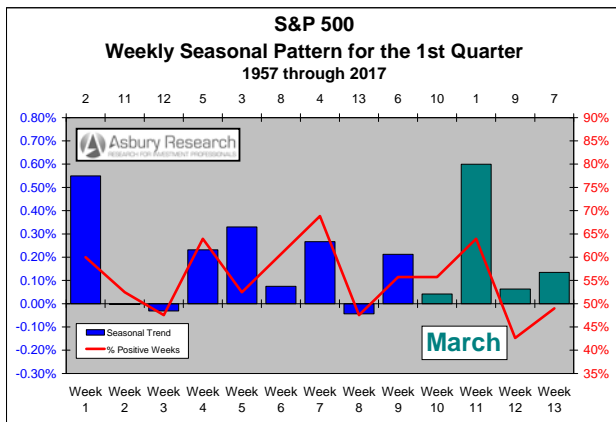
The height of the green bar on the chart indicates that, on average since 1957, the S&P



500 has closed 1.19% higher in March. The red line shows that, also on average since 1957, SPX has posted a positive March close 64% of the time.

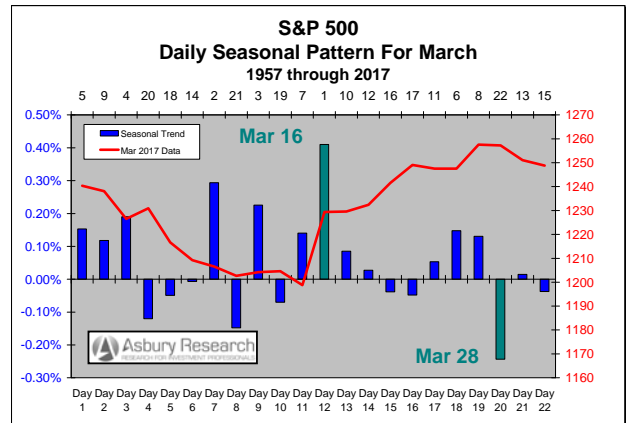
S&P 500 Quarterly Seasonal Pattern For Q1 Since 1957

The next chart breaks the seasonal pattern in the S&P 500 down further, into a quarterly time frame via 13 weekly increments, and highlights the month of March in green. The chart shows that the second week of March is the seasonally strongest of the entire 1st Quarter, and that the first and third weeks of March are the 4th and 5th weakest of the quarter.



S&P 500 Monthly Seasonal Pattern For March Since 1957

The next chart breaks the seasonal pattern down even further, into a monthly time frame via 22 daily increments that plot the average daily percent change in the S&P 500 during March since 1957. The red line plots the daily closing levels in SPX during March 2017.



The green bar shows that Day 12 or March 16th is the seasonally strongest of the month, and that Day 20 or March 28th is the weakest of the month.

Investment Implications & Strategy

These yearly, quarterly, and monthly charts collectively suggest a potential near term buying opportunity in the S&P 500 on weakness during the first and third weeks of the month, or on or around March 28th, with a strategy of closing out the position during April seasonal strength.



London FTSE 100 Yearly Seasonal Pattern Since 1978

In the London FTSE 100 Index (chart at upper right on Page 2), the green bar highlights March as the 4th seasonally strongest month of the year based on data since 1978. It represents a one-month seasonal improvement over February, the 8th strongest month, and leads into the strongest month of the year in April.

The height of the green bar on the chart indicates that, on average since 1978, **the FTSE has risen by 0.87% in March**. The red line plots FTSE's monthly closing levels during 2017.

German DAX Yearly Seasonal Pattern Since 1967

The green bar in the chart at lower left on Page 2 shows that March is the 2nd seasonally strongest month of the year in the DAX, based on data since 1967. It represents a strong one-month seasonal improvement over February, the 8th strongest month, and leads into the 3rd strongest month in April.

The height of the green bar indicates that, on average since 1967, the **DAX has closed 1.58% higher in March**. The red line shows that, also on average since 1967, **the DAX has posted a positive March close 65% of the time**.

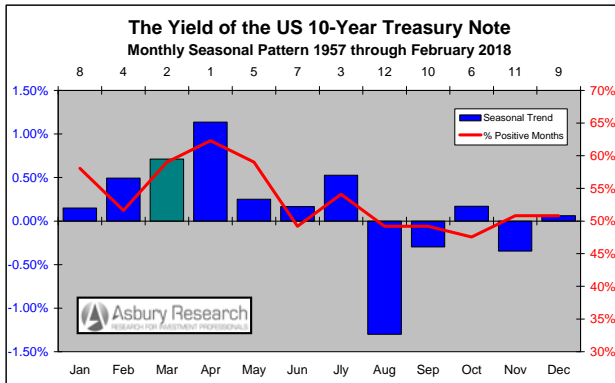
Japanese Nikkei 225 Yearly Seasonal Pattern Since 1957

The green bar on the chart at lower right on Page 2 highlights March as the 2nd seasonally strongest month of the year in the Japanese Nikkei 225 Index, based on data since 1957. It represents the end of a sustained period of seasonal strength that begins in November, and immediately precedes a gradual seasonal decline into the September seasonal lows.

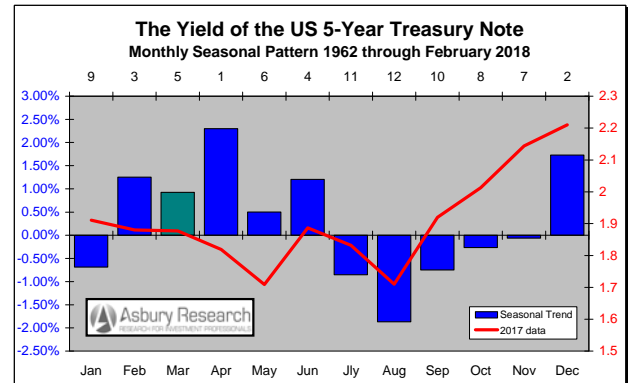
The height of the green bar indicates that, on average since 1957, the **Nikkei 225 has risen by 1.78% in March**. The red line shows that, also on average since 1957, **the Nikkei has posted a positive March close 62% of the time**.



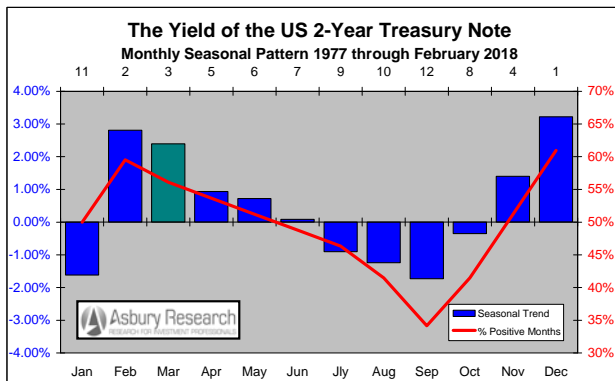
Global Interest Rates (United States)



United States: 10-Year Treasury Yield



United States: 5-Year Treasury Yield



United States: 2-Year Treasury Yield

Analysis & Commentary

The blue bars and colored highlights on the charts above display the seasonal tendencies for the month of March in the yield of the US 10-, 5-, and 2-Year Treasury Note, as well as their broader seasonal trends through the 3rd Quarter. The red lines plot either 1) the percentage of positive monthly closing yields during the period displayed or 2) the actual monthly closing yields during 2017.

Common to all three maturities is a seasonal peak in yields between February (2-Year Note) and April (10- and 5-Year Note), after which the

seasonal trend turns negative into August-September.

US 10-Year Yield Yearly Seasonal Pattern Since 1957

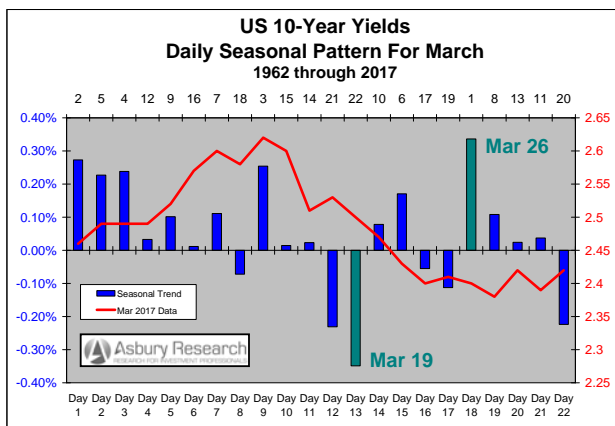
The green bar in the chart at upper left highlights March as the 2nd seasonally strongest month of the year in the yield of the US 10-Year Treasury Note, based on data since 1957. It represents the midpoint of a three-month period of seasonal strength that runs through April, the strongest month of the year, after which yields begin a gradual seasonal decline into August.



The height of the green bar indicates that, on average since 1957, the yield of the 10-Year has risen by 0.71% in March. The red line shows that, also on average since 1957, these yields have posted a positive March close 59% of the time which, along with May, is their 2nd highest incidence of a positive monthly close during this period.

US 10-Year Yield Monthly Seasonal Pattern For March Since 1962

The 22 columns in the chart below display the daily seasonal pattern, based on *the average daily percent change*, in the yield of the 10-Year Treasury Note during the month of March since 1962. The red line plots these yields' daily closing levels in March 2017.



The green column shows that these yields seasonally bottom for the month on Day 13 or March 19th, and peak for the month on Day 18 or March 26th.

Investment Implications & Strategy

These yearly and monthly charts collectively suggest a potential near term selling opportunity in long dated Treasury prices, on strength on or around March 19th as yields bottom for the month, with a strategy of covering the position during April acute yield strength.

US 5-Year Yield Yearly Seasonal Pattern Since 1962

The green bar on the chart at upper right on the previous page shows that March is the 5th seasonally strongest month of the year in the yield of the 5-Year Treasury Note, based on data since 1962. It represents a slight one-month seasonal setback from February, the 3rd strongest month, but leads into the strongest month of the year in April. These yields then begin a gradual seasonal decline into August.

The height of the green bar indicates that, on average since 1962, 5-Year Treasury yields have risen by 0.92% in March. The red line plots the 5-Year's month closing yield levels during 2017.

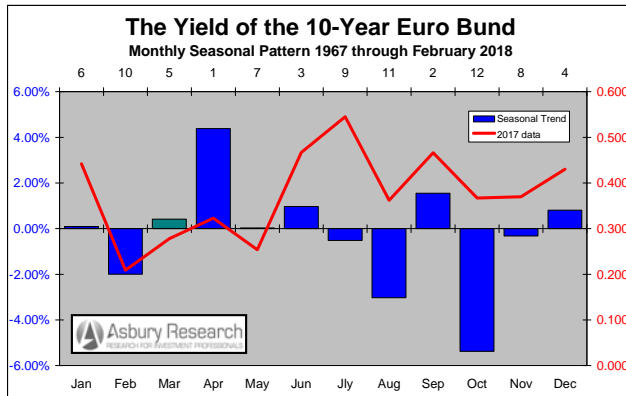
US 2-Year Yield Yearly Seasonal Pattern Since 1977

The green bar on the chart at lower left on the previous page shows that March is the 3rd seasonally strongest month of the year in the yield of the 2-Year Note, based on data since 1977. It follows the 2nd strongest month of the year, February, and immediately precedes a gradual seasonal decline into September, the weakest month of the year.

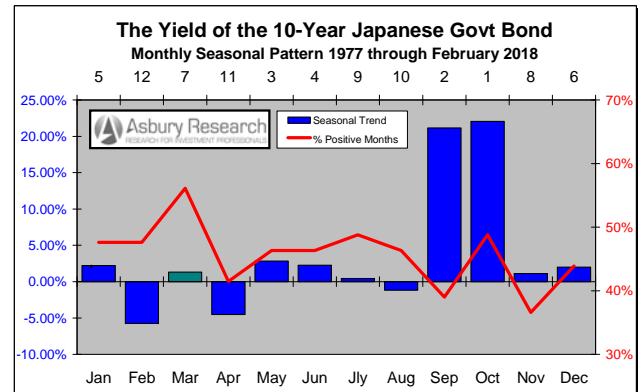
The height of the green bar indicates that, on average since 1977, the yield of the 2-Year has risen by 2.39% in March. The red line shows that, also on average since 1962, these yields have posted a positive March closing yield 56% of the time.



Global Interest Rates, cont. (Europe & Japan)



Europe: 10-Year Euro Bund Yield



Japan: 10-Year Japanese Govt. Bond Yield

Euro Bund 10-Year Yield **Yearly** Seasonal Pattern Since 1967

The green bar on the chart above highlights March as the 5th seasonally strongest month of the year for the yield of the 10-Year Euro (formerly German) Bund based on data since 1967. It represents a one-month seasonal improvement over February, the 3rd weakest month, and leads into what is, by far, the strongest month of the year in April. These yields then begin a strong, gradual decline into the October seasonal lows.

The height of the green bar indicates that, on average since 1967, **Bund yields have risen by 0.41% in March**. The red line plots these yields' monthly closing levels in 2017.

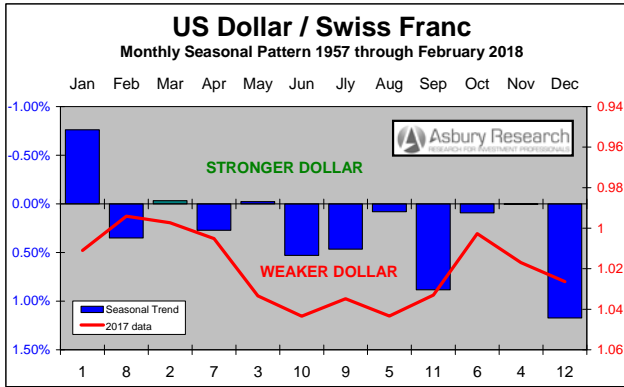
Japanese Government Bond 10-Year Yield **Yearly** Seasonal Pattern Since 1977

The green bar in the chart above highlights March as the 7th seasonally strongest month of the year for the yield of the 10-Year Japanese Government Bond (JGB), based on data since 1977. It represents one month of modest seasonal strength sandwiched between the two weakest months of the year, February and April, after which JGBs rebound into May and June, the 3rd and 4th strongest months.

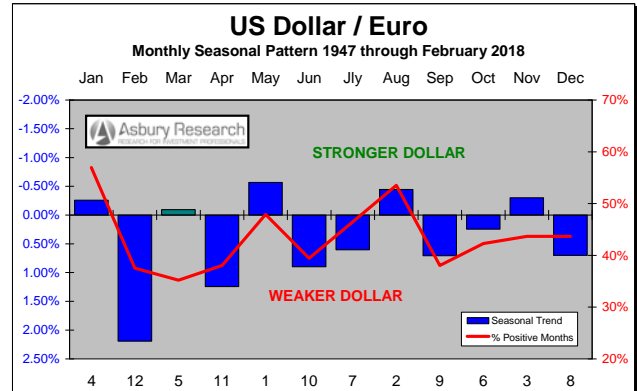
The height of the green bar indicates that, on average since 1977, **10-year JGB yields have risen by 1.33% in March**. The red line shows that, also on average since 1977, these yields have posted a **positive March closing yield 56% of the time**, the highest incidence of a positive close for any month during this period.



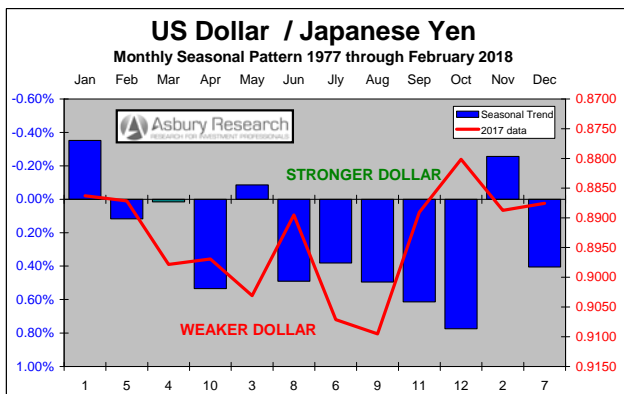
Global Foreign Exchange Rates



US Dollar / Swiss franc



US Dollar / Euro



US Dollar / Japanese yen

Analysis & Commentary

The charts above highlight the seasonal tendencies for the month of March in the US Dollar versus Europe and Japan, as well as the greenback’s overall seasonal trend into the fall. The red lines plot either 1) the percentage of positive monthly closes by the US currency during the period displayed or 2) its actual monthly closing levels during 2017.

Although the Dollar is one of the least seasonally-influenced assets we track, this particular time of the year does show a clear pattern of a March rebound from a weaker February versus both Europe and Japan, a

sharp April decline, and then overall Dollar weakness into the 4th Quarter.

USDCHF Yearly Seasonal Pattern Since 1957

The short green bar in the chart at upper left highlights March as the 2nd seasonally strongest month of the year for the US Dollar versus the Swiss franc based on data since 1957. It represents a strong one-month seasonal rebound from February, the 5th weakest month of the year, but leads into more gradual, overall weakness through year end.

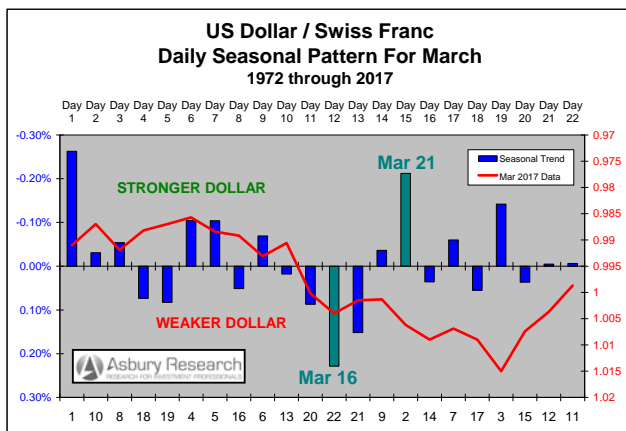
The height of the green bar shows that, on average since 1957, the **US Dollar has**



outperformed the franc by just 0.03% in March. The red line, which plots the monthly closing levels in USDCHF in 2017, shows that last year the greenback generally tracked its long term trend versus the franc.

USDCHF Monthly Seasonal Pattern For March Since 1972

The 22 columns in the next chart display the daily seasonal pattern in Dollar/Swiss, based on its average daily percent change during the month of March, since 1972. The red line plots the daily closing levels in USDCHF during March 2017.



The green bars show that the Dollar seasonally bottoms for the month versus the franc on Day 12 or March 16th, and peaks for the month on Day 15 or March 21st.

Investment Implications & Strategy

These yearly and monthly data collectively suggest a potential near term selling opportunity in USDCHF, on strength on or around March 21st, with a strategy of closing out the position during April seasonal weakness.

USDEUR Yearly Seasonal Pattern Since 1947

The short green bar on the chart at upper right on the previous page highlights March as the 5th seasonally strongest month of the year for the US Dollar versus the euro (formerly German Mark), based on data since 1947. It represents a modest one-month seasonal rebound sandwiched in between the 1st and 2nd weakest months of the year, February and April.

The height of the green bar shows that, on average since 1947, the **US Dollar has outperformed the euro by 0.09% in March**. The red line shows that, also on average since 1947, **the dollar has actually underperformed the euro 65% of the time in March**, its highest incidence of a negative monthly close, even though USDEUR has, on average, closed slightly higher for the month.

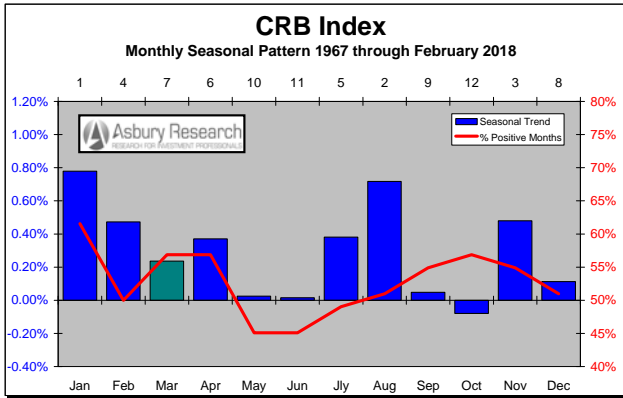
USDJPY Yearly Seasonal Pattern Since 1977

The short green bar in the chart at lower left on the previous page identifies March as the 4th seasonally strongest month of the year in the US Dollar versus the Japanese yen, based on data since 1977. It leads into a seasonally weak April, the 3rd weakest month and, following a rebound in May, remains weak through October.

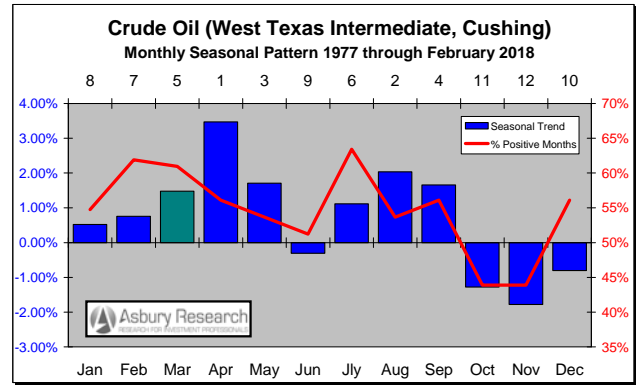
The depth of the short green bar shows that, on average since 1977, the **US Dollar has underperformed the yen by just 0.02% in March**. The red line plots the daily closing levels in USDJPY during 2017 and shows that last year the US currency closely tracked its long term seasonal trend versus the yen.



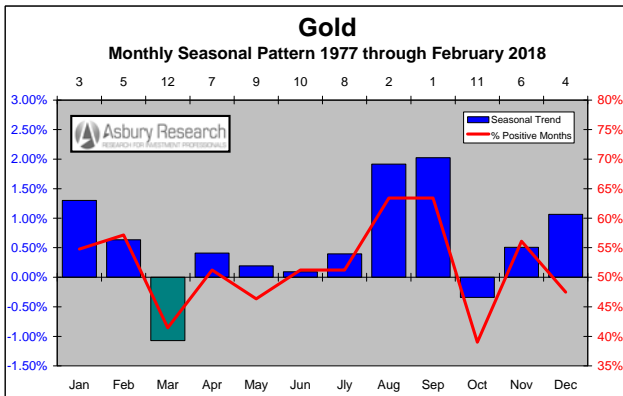
Commodity Prices



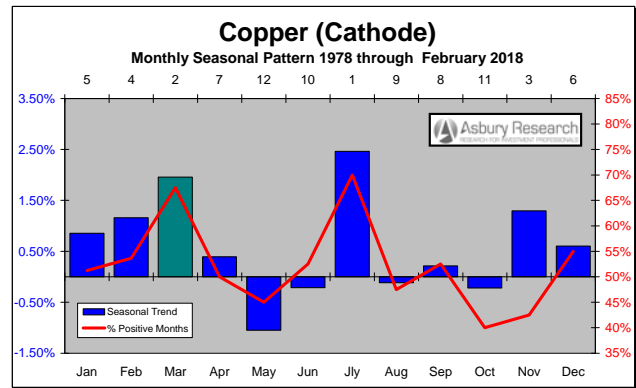
CRB Index



Crude Oil (West Texas Intermediate)



Gold



Copper

Analysis & Commentary

The charts above highlight the seasonal tendencies for the month of March in three key commodity prices and one broad commodity index, plus their larger seasonal patterns into the second half of the year. The red lines plot either 1) the percentage of positive monthly closes during the period displayed, or 2) the actual monthly closing prices during 2017.

CRB Index Yearly Seasonal Pattern Since 1967

The Thomson Reuters/Jefferies CRB Commodity Index is a weighted average of 19 commodities including aluminum, cocoa, coffee, copper, corn, cotton, crude oil, gold, heating oil, lean hogs, live cattle, natural gas, nickel, orange juice, silver, soybeans, sugar, unleaded gas, and wheat. The CRB has historically been seen by investors as a bellwether of market-based inflation.

The green bar in the chart at upper left on the previous page shows that March is the 7th



seasonally strongest month of the year in the CRB based on data since 1967. It represents a modest one-month seasonal setback from February, the 4th strongest month, and marks the beginning of a deeper decline into May and June, which are the 3rd and 2nd weakest months of the year.

The height of the green bar indicates that, on average since 1967, the **CRB has risen by 0.24 in March**. The red line shows that, also on average since 1967, **the CRB has posted a positive March close 57% of the time** which, along with April and October, are the highest incidences of a positive monthly close during this period.

Crude Oil Yearly Seasonal Pattern Since 1977

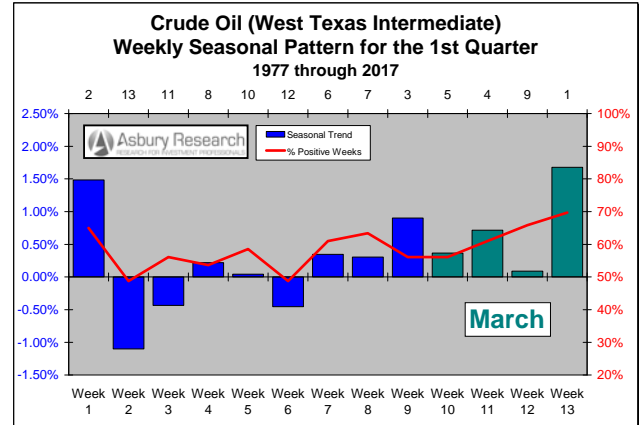
The green bar on the chart at upper right on the previous page highlights March as the 5th seasonally strongest month of the year in West Texas Intermediate crude oil prices, based on data since 1977. It represents the latter part of a three-month gradual rise into April and May, which are the 1st and 3rd strongest months of the year.

The height of the green bar indicates that, on average since 1977, **crude oil prices have risen by 1.48 in March**. The red line shows that, also on average since 1977, **crude oil prices have posted a positive March close 61% of the time**.

Crude Oil Quarterly Seasonal Pattern For Q1 Since 1977

The next chart (next column) breaks the seasonal pattern in crude oil prices down further, into a quarterly time frame via 13 weekly increments with March highlighted in green.

The chart shows that the final week of March, the week of March 26th, is the seasonally strongest of the entire 1st Quarter, and that the third week of March, the week of March 19th, is the 5th weakest of the quarter.



Investment Implications & Strategy

Combined, these yearly and quarterly data suggest a potential near term buying opportunity on weakness during the week of March 19th, with a strategy of closing out the position amid acute April strength.

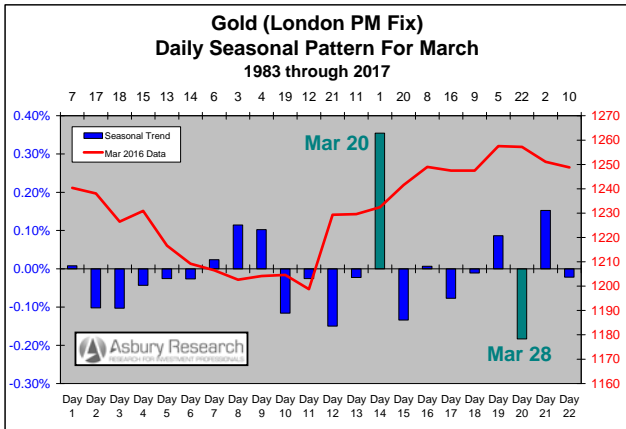
Gold Yearly Seasonal Pattern Since 1977

The green bar on the chart at lower left on the previous page shows that March is the seasonally weakest month of the year for gold prices, based on data since 1977. It represents a sharp one-month seasonal decline from February, the 5th strongest month, and precedes a gradual seasonal recovery into August and September, which are the two strongest month of the year.

Gold Monthly Seasonal Pattern For March Since 1982

The 22 columns on the next chart (next page) display the daily seasonal pattern in gold prices, based on the *average daily percent change* during the month of March, since 1983. The red line plots the daily closing prices during March 2017.

The green highlights show that **gold prices historically peak for the month on Day 14 or March 20th, and bottom for the month on Day 20 or March 28th**.



the second highest incidence of a positive monthly close (after July) during this period.

Copper Quarterly Seasonal Pattern For Q1 Since 1978

The next chart breaks the seasonal pattern in copper prices down further, into a quarterly time frame via 13 weekly increments with the month of March highlighted in green. The chart shows that the first week of March is the seasonally weakest of the entire 1st Quarter, and that the third week of March, the week of March 19th, is the 3rd strongest of the quarter.

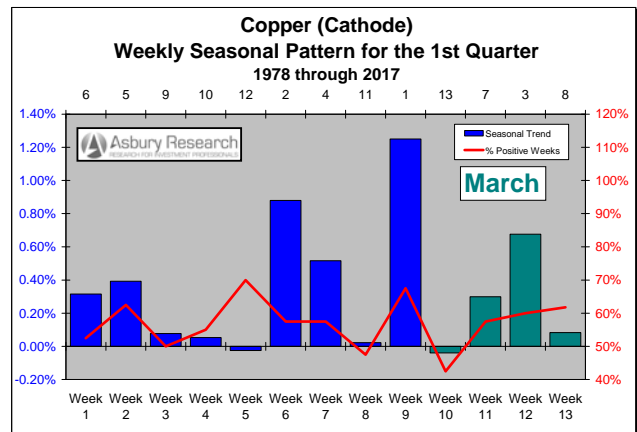
Investment Implications & Strategy

Combined, these yearly and monthly data suggest a potential near to intermediate term buying opportunity, on weakness on or around March 28th, with a strategy of closing out the position either during a modest April rally or amid more acute August/September strength.

Copper Yearly Seasonal Pattern Since 1978

The green bar on the chart at lower right on Page 10 highlights March as the 2nd seasonally strongest month of the year in copper cathode (mined copper ore) prices based on data since 1978. It represents a slight one-month seasonal improvement over February, the 4th strongest month, but precedes a quick decline into May and June, which are the 1st and 3rd weakest months.

The height of the green bar indicates that, on average since 1977, **copper prices have risen by 1.96% in March**. The red line shows that, also on average since 1978, copper prices have posted a positive March close 68% of the time,



Investment Implications & Strategy

Combined, these yearly and quarterly data suggest a potential intermediate term selling opportunity on strength during the week of March 19th, with a strategy of covering the position during acute seasonal weakness in May.

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