

Global Seasonal Analysis

Seasonal Trends In Global Financial Markets

November 2016

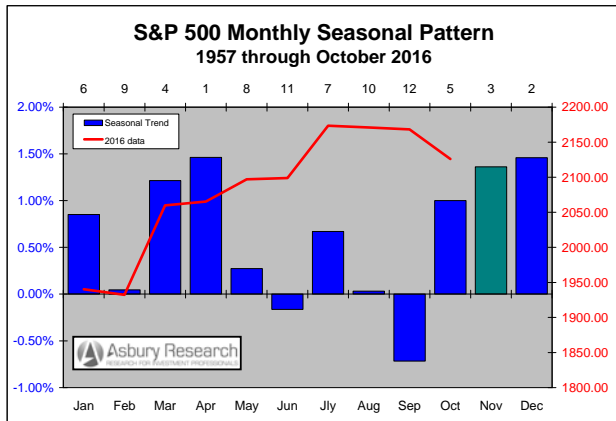
John J. Kosar, CMT
November 3rd, 2016

Executive Summary

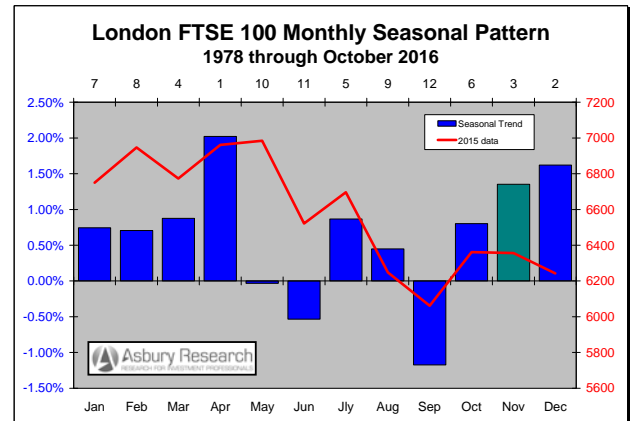
- **Global Equity Prices: NEAR TO INTERMEDIATE TERM POSITIVE.** Common to the S&P 500, FTSE 100, DAX and Nikkei 225 Indexes is the continuation of a gradually strengthening seasonal rebound from September, the weakest month of the year, that extends through December in the US, England and Germany and through January in Japan.
- **US Interest Rates: NEAR TO INTERMEDIATE TERM NEGATIVE.** November, the 2nd seasonally weakest month of the year in the yield of the benchmark US 10-Year Treasury Note based on data since 1957, represents the fourth of a six-month period of sustained seasonal weakness that runs through January and includes six of the seven weakest months of the year.
- **UK Interest Rates: NEAR TO INTERMEDIATE TERM POSITIVE.** November, the 4th weakest month of the year for the yield of the 10-Year Euro (formerly German) Bund based on data since 1967, represents a modest one-month rise in yield from October, the weakest month of the year, and leads into the 3rd strongest month of the year in December.
- **Japanese Interest Rates: NEAR TO INTERMEDIATE TERM NEGATIVE.** November, the 7th seasonally strongest month of the year for the yield of the 10-Year Japanese Government Bond (JGB) since 1977, represents the end of a four-month period of seasonal weakness that begins in August and leads into a one-month rebound in December, the 3rd strongest month, after which three more months of yield weakness emerge during the 1st Quarter
- **The US Dollar: NEAR TERM POSITIVE.** Although the Dollar is one of the least seasonally-influenced assets that we track, the data do show a common pattern of a modest November rebound versus both Europe and Japan that leads into December weakness, followed by a strong January rebound.
- **Crude Oil: NEAR TO INTERMEDIATE TERM NEGATIVE.** November is the seasonally weakest month of the year for West Texas Intermediate crude oil prices based on data since 1977. It represents the middle of a three month period of acute seasonal weakness that runs through December and includes the three weakest months of the year.



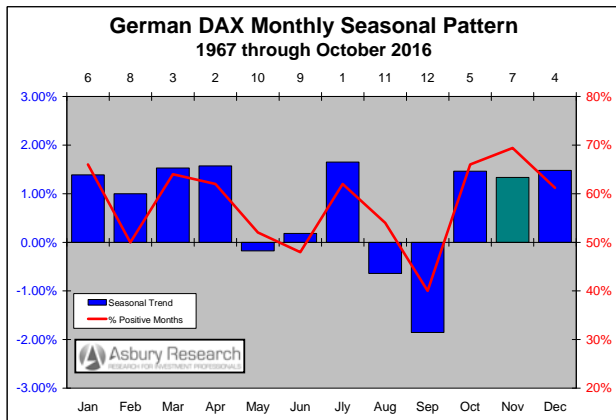
Global Equity Prices



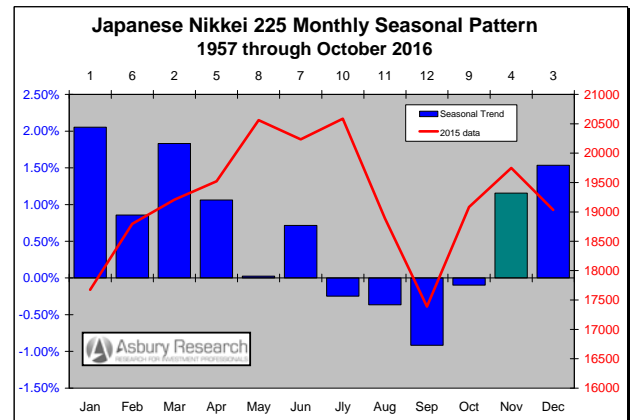
United States: S&P 500 Index



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 November in four major world stock indexes, plus their larger seasonal patterns into early next year. 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 2015 or 2016.

Common to all indexes is the continuation of a gradually strengthening seasonal rebound from September, the weakest month of the year, that

extends through December in the US, England and Germany and through January in Japan.

S&P 500 Monthly Seasonal Pattern Since 1957

In the S&P 500 Index (SPX, chart at upper left), the green bar highlights November as the 3rd seasonally strongest month of the year based on data since 1957. It represents a modest one-month seasonal improvement over October, the 5th strongest month, and leads into the 2nd strongest month of the year in December, right



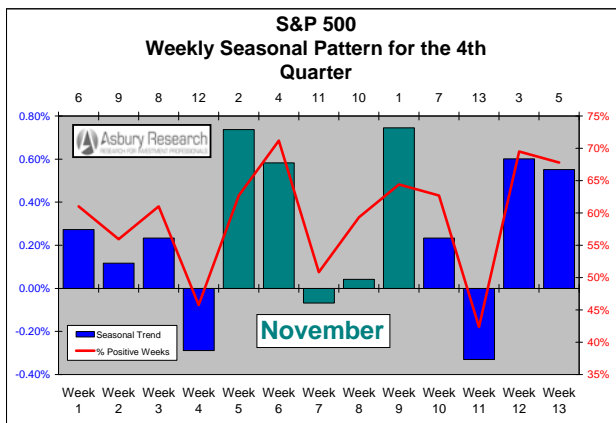
before a two-month decline emerges in January and February.

The height of the green bar on the chart indicates that, on average since 1957, the **S&P 500 has closed 1.36% higher in November**. The red line, which plots SPX's monthly closing levels thus far this year, shows that the market has not been tracking its 60-year seasonal pattern in 2016. We think this is due at least in part to the upcoming presidential election.

Anecdotally, our experience has been that when a market begins the year by deviating from its seasonal trend, it is more likely to continue deviating from it for the remainder of the year.

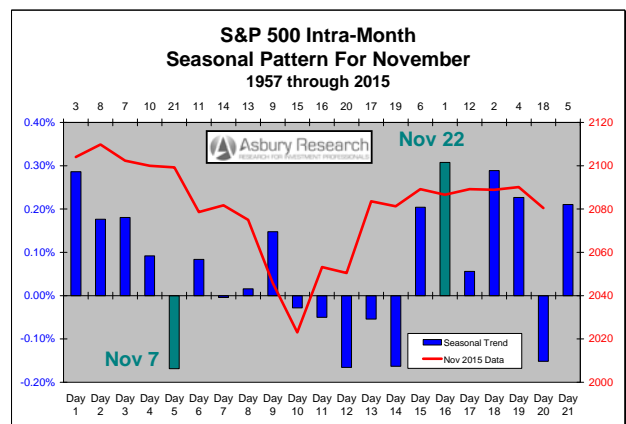
S&P 500 Weekly Seasonal Pattern For Q4 Since 1957

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 November in green. The chart shows that **the 1st, 2nd and final weeks of November include three of the four strongest of the entire 4th Quarter**, and that **the third and fourth weeks of the month are the 3rd and 4th weakest of the quarter**.



S&P 500 Daily Seasonal Pattern For November Since 1957

The next chart breaks the seasonal pattern down even further, into a monthly time frame via 21 daily increments that plot *the average daily percent change* in the S&P 500 during November since 1957. The chart shows that **Day 5 or November 7th is the weakest of the month**, and that **Day 16th or November 22nd is the strongest of the month**.



Investment Implications & Strategy

These monthly, weekly and daily charts collectively suggest a potential near to intermediate term buying opportunity on weakness on or around November 7th, with a strategy of closing out the position during either late November or December strength.



London FTSE 100 Monthly Seasonal Pattern Since 1978

In the London FTSE 100 Index (chart at upper right on Page 2), the green bar highlights November as the 3rd seasonally strongest month of the year based on data since 1978. Just like in the S&P 500, November represents a one month seasonal improvement over October, the 6th strongest month, and leads into an even stronger December, which is the 2nd strongest month, after which the FTSE 100 weakens in January and February.

The height of the green bar indicates that, on average since 1978, **the FTSE has risen by 1.35% in November**. The red line, which plots the FTSE's monthly closing levels during 2015, shows that **the index pretty closely tracked its long term seasonal pattern last year**.

German DAX Monthly Seasonal Pattern Since 1967

The green bar in the chart at lower left on Page 2 shows that October is the 7th seasonally strongest month of the year in the DAX based on data since 1967. November is slightly weaker than October, the 5th strongest month, but leads into the 4th strongest month in December. Then, following a two-month seasonal setback in January and February that is similar to those in London and the US, the seasonal trend strengthens again in March and April.

The height of the green bar indicates that, on average since 1967, **the DAX has closed 1.33% higher in November**. The red line shows that, also on average since 1967, **the DAX has posted a positive November close 69% of the time**, which is the highest incidence of a positive close for any month during this period.

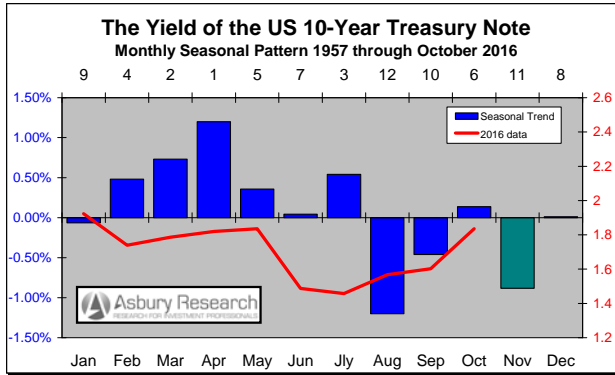
Japanese Nikkei 225 Monthly Seasonal Pattern Since 1957

The green bar on the chart at lower right on Page 2 highlights November as the 4th seasonally strongest month of the year in the Japanese Nikkei 225 Index based on data since 1957. It represents the beginning of a three month period of seasonal strength in the index that runs through January and includes three of the four strongest months of the year, and immediately follows the four weakest months of the year between July and October.

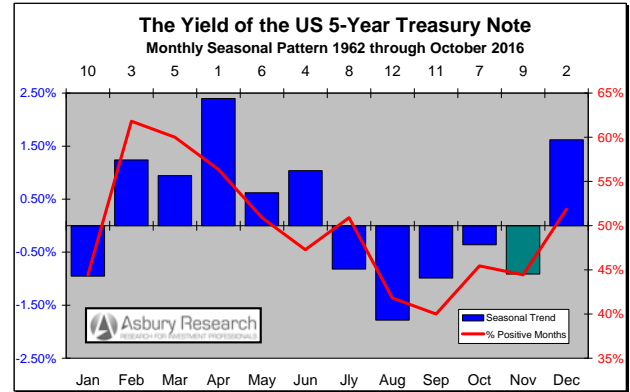
The height of the green bar on the chart indicates that, on average since 1957, **the Nikkei 225 has risen by 1.15% in November**. The red line shows that the Nikkei 225 pretty closely tracked its long term annual seasonal pattern in 2015.



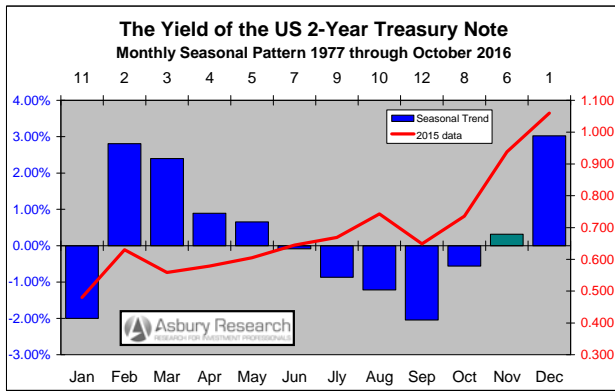
Global Interest Rates (United States)



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 November in **the yield** of the **US 10-, 5-, and 2-Year Treasury Note**, as well as their broader seasonal trends into early next year. The red lines plot either 1) the *percentage of positive monthly closing yields* during the period displayed or 2) the *actual monthly closing levels* during 2015 or 2016.

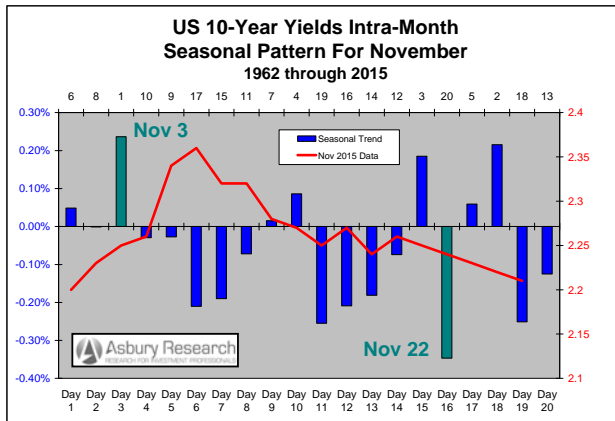
US 10-Year Yield **Monthly Seasonal Pattern** Since 1957

The green bar in the chart at upper left highlights November as the 11th seasonally strongest or 2nd weakest month of the year in the yield of the US 10-Year Treasury Note based on data since 1957. It represents a strong one month decline from October, the 6th strongest month, and is the fourth of a six-month period of sustained seasonal weakness that runs from August through January which includes six of the seven weakest months of the year.



The depth of the green bar indicates that, on average since 1957, **the yield of the 10-Year has declined by 0.88% in November**. The red line plots the 10-Year's monthly closing yields thus far in 2016.

US 10-Year Yield **Daily** Seasonal Pattern For November Since 1962



The 20 columns in the chart above 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 November since 1962. The green column shows that **these yields seasonally peak for the month on Day 3 or November 3rd, and bottom for the month on Day 16 or November 22nd.**

Investment Implications & Strategy

These monthly and daily charts collectively suggest a potential intermediate term selling opportunity in long dated Treasury *prices* on strength on or around November 22nd, as yields bottom for the month, with a strategy of covering the position during March and April as yields peak for the year.

US 5-Year Yield **Monthly** Seasonal Pattern Since 1962

The green bar on the chart at upper right on the previous page shows that November is the 9th seasonally strongest or 4th weakest month of the year in the yield of the 5-Year Treasury Note based on data since 1962. It represents the end of a five-month period of sustained weakness in these yields that begins in July, which includes five of the six weakest months of the year, and leads into the second strongest month of the year in December.

The depth of the green bar indicates that, on average since 1962, **5-Year Treasury yields have declined by 0.91% in November**. The red line shows that, also on average since 1962, **these yields have posted a negative October close 56% of the time**.

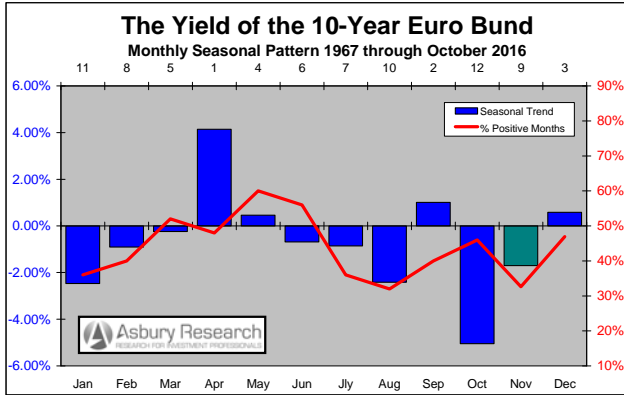
US 2-Year Yield **Monthly** Seasonal Pattern Since 1977

The green bar on the chart at lower left on the previous page shows that November is the 6th seasonally strongest month of the year in the yield of the 2-Year Note based on data since 1977. It precedes the strongest month of the year in December, which kicks off a five month period of overall seasonal strength that runs through May but is interrupted by one month of acute seasonal weakness in January.

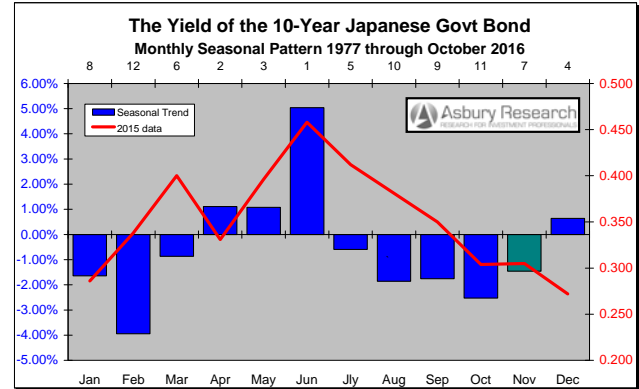
The height of the green bar indicates that, on average since 1977, **the yield of the 2-Year has risen by 0.32% in November**. The red line plots the monthly closing yield in the 2-Year Note during 2015.



Global Interest Rates, cont. (Europe & Japan)



Europe: 10-Year Euro Bund Yield



Japan: 10-Year Japanese Govt. Bond Yield

Euro Bund 10-Year Yield Monthly Seasonal Pattern Since 1967

The green bar on the chart above highlights November as the 9th seasonally strongest or 4th weakest 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 rise in yield from October, the weakest month of the year, and leads into the 3rd strongest month of the year in December.

The depth of the green bar indicates that, on average since 1967, **Bund yields have declined by 1.70% in November**. The red line shows that, also on average since 1967, **Bund yields have closed lower for November 67% of the time**, which is the second highest incidence (after August) of a negative close for any month during this period.

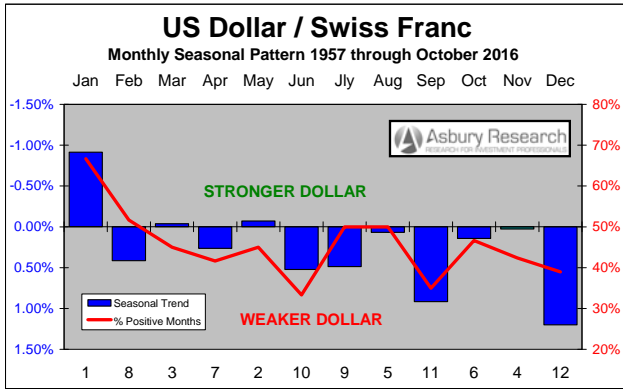
Japanese Government Bond 10-Year Yield Monthly Seasonal Pattern Since 1977

The green bar in the chart above highlights November as the 7th seasonally strongest month of the year for the yield of the 10-Year Japanese Government Bond (JGB) since 1977. It represents the last of a four-month period of seasonal weakness that begins in August and leads into a one-month rebound in December, the 3rd strongest month, after which three more months of weakness emerge during the 1st Quarter.

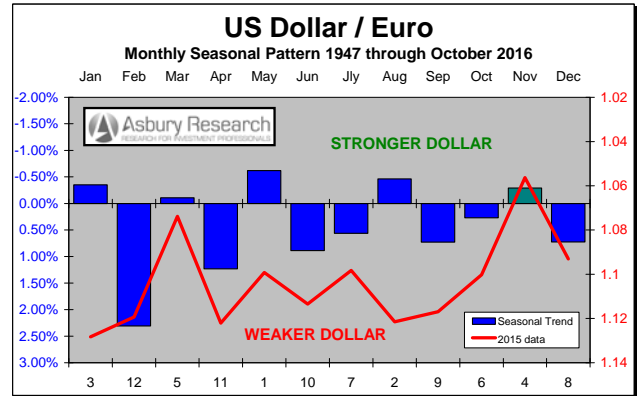
The depth of the green bar indicates that, on average since 1977, **10-year JGB yields have declined by 1.46% in November**. The red line shows that these yields generally tracked their long term annual seasonal pattern during 2015.



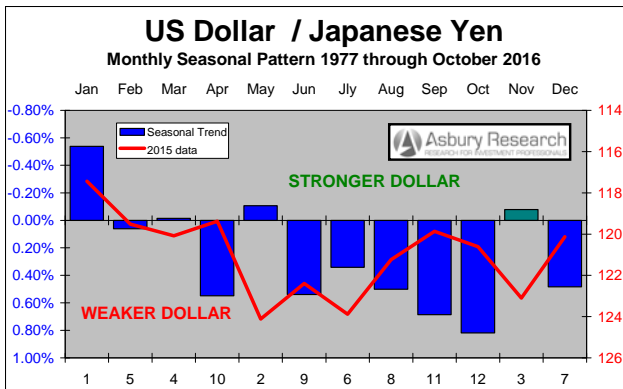
Global Foreign Exchange Rates



US Dollar / Swiss franc



US Dollar / Euro



US Dollar / Japanese yen

Analysis & Commentary

The charts above highlight the seasonal tendencies for the month of November in the US Dollar versus Europe and Japan, as well as the greenback’s larger seasonal trend into early next year. The red lines plot either 1) the *percentage of positive monthly closes* by the US currency during the period displayed or 2) the *actual monthly closing levels* during 2015.

The Dollar is one of the least seasonally-influenced assets that we track. Nevertheless, the charts above do show a common pattern of a modest November rebound in the greenback

that leads into December weakness, followed by a strong January rebound versus both Europe and Japan.

USDCHF Monthly Seasonal Pattern Since 1957

The barely visible green bar on the chart at upper left highlights November as the 4th seasonally strongest month of the year for the US Dollar versus the Swiss franc based on data since 1957. It represents a modest one-month rebound from October, the 6th strongest month, that leads into the seasonally weakest month of

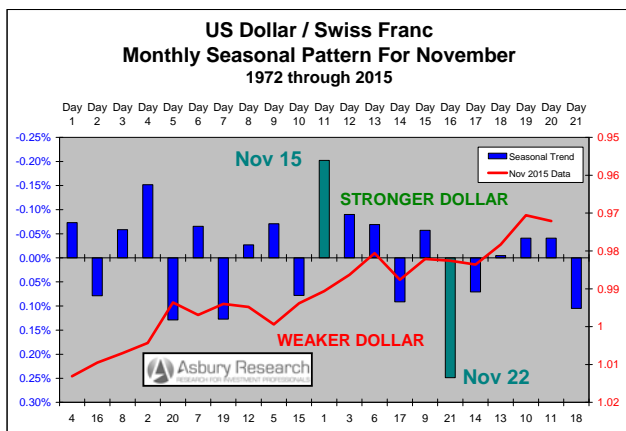


the year in December, which is followed by the strongest month in January.

The depth of the green bar shows that, on average since 1957, the **US Dollar has underperformed the franc by just 0.03% in November**. The red line shows that, also on average since 1957, **USDCHF has posted a negative November close 58% of the time**.

USDCHF Daily Seasonal Pattern For November Since 1972

The 21 columns in the next chart display the daily seasonal pattern in Dollar/Swiss, based on its average daily percent change during the month of November since 1972. The red line plots the daily closing quotes in USDCHF during November 2015.



The green bar shows that the **Dollar seasonally peaks for the month on Day 11 or November 15th and bottoms for the month on Day 16 or November 22nd**.

Investment Implications & Strategy

These monthly and daily data suggest a potential near term selling opportunity in USDCHF on strength on or around November 15th with a strategy of covering the position during acute December seasonal weakness.

USDEUR Monthly Seasonal Pattern Since 1947

The green bar on the chart at upper right on the previous page highlights November as the 4th seasonally strongest month of the year for the US Dollar versus the euro (formerly German Mark) based on data since 1947. Like USCHF, it represents a modest one-month seasonal rebound over October that leads into weakness in December, the 5th weakest month of the year.

The height of the green bar shows that, on average since 1947, the **US Dollar has outperformed the euro by 0.29% in November**. The red line plots USDEUR's monthly closing levels during 2015.

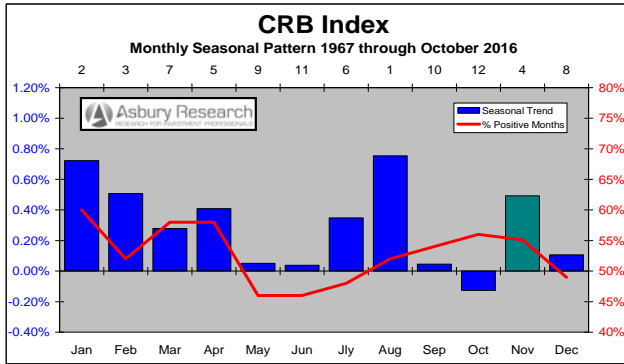
USDJPY Monthly Seasonal Pattern Since 1977

The green bar in the chart at lower left on the previous page identifies November as the 3rd seasonally strongest month of the year for the US Dollar versus the Japanese yen based on data since 1977. It represents a strong one-month rebound from October, the Dollar's weakest month of the year versus Japan, but is followed by more weakness in December, the seventh strongest month, right before more Dollar strength emerges during the 1st Quarter,

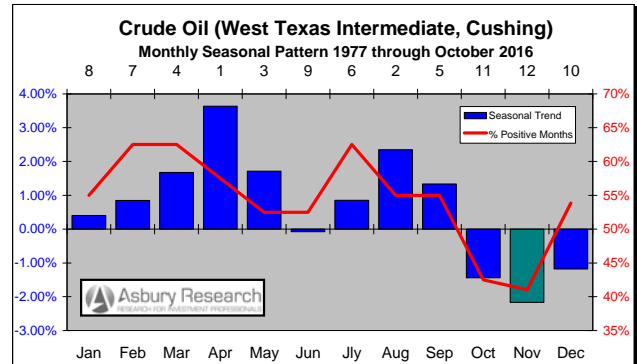
The height of the green bar shows that, **on average since 1977, the US Dollar has outperformed the yen by just 0.08 in November**. The red line plots the actual monthly closing levels in USDJPY during 2015.



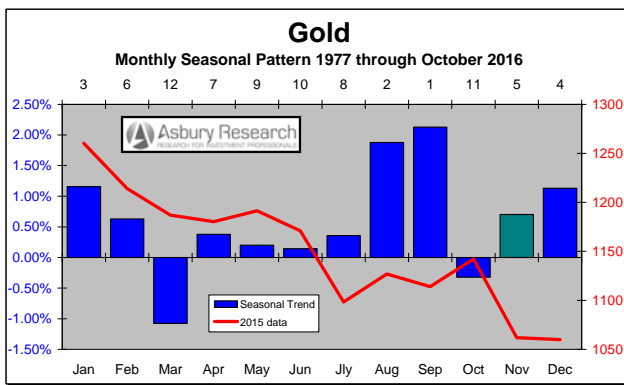
Commodity Prices



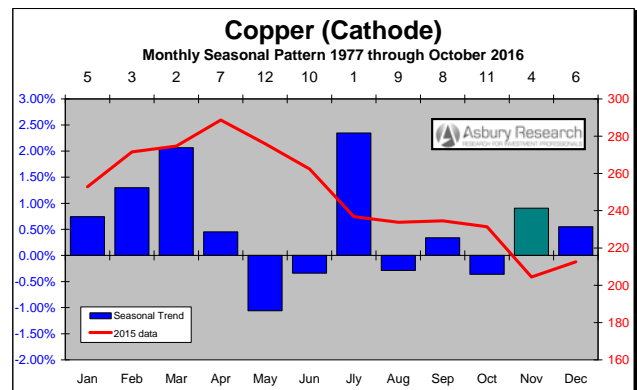
CRB Index



Crude Oil (West Texas Intermediate)



Gold



Copper

Analysis & Commentary

The charts above highlight the seasonal tendencies for the month of November in three key commodity prices and one broad index, plus their larger seasonal patterns into early next 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 2015.

CRB Index Monthly 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 viewed by investors as a bellwether of market-based inflation.

The green bar in the chart at upper left shows that November is the 4th seasonally strongest month of the year in the CRB Index based on



data since 1967. It represents a sharp one-month seasonal rebound from October, which is the weakest month of the year, and marks the beginning of a four-month period of overall seasonal strength that runs through February and includes three of the CRB's four strongest months.

The height of the green bar on the chart indicates that, on average since 1967, the **CRB has risen by 0.49% in November**. The red line shows that, also on average since 1967, the **CRB has posted a positive November close 55% of the time**.

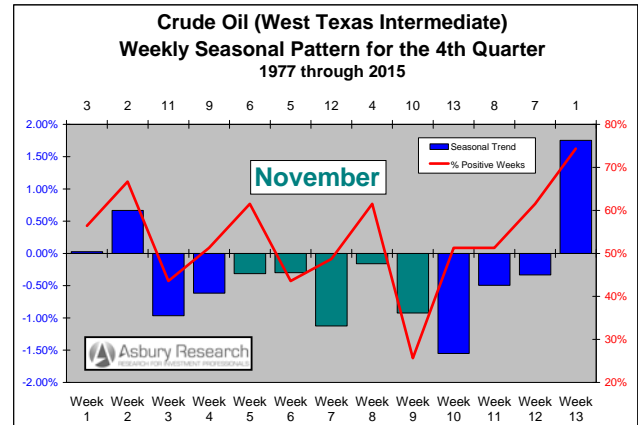
Crude Oil Monthly Seasonal Pattern Since 1977

The green bar on the chart at upper right on the previous page highlights November as the seasonally weakest month of the year for West Texas Intermediate crude oil prices based on data since 1977. It represents the middle of a three month period of acute seasonal weakness that runs through December and includes the three weakest months of the year.

The depth of the green bar indicates that, on average since 1977, **crude oil prices have declined by 2.17% in November**. The red line shows that, also on average since 1977, **crude oil prices have posted a negative October close 59% of the time**, their highest incidence of a negative close for any month during this period.

Crude Oil Weekly Seasonal Pattern For Q4 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 November highlighted in green. The chart shows that **the third and the final weeks of November and first week of December are the 2nd, 4th and 1st weakest months of the entire 4th Quarter**.



Investment Implications & Strategy

Combined, these monthly and weekly data suggest a potential intermediate term buying opportunity on weakness between mid November and early December, with a strategy of closing out the position during seasonal strength that runs between March and May.

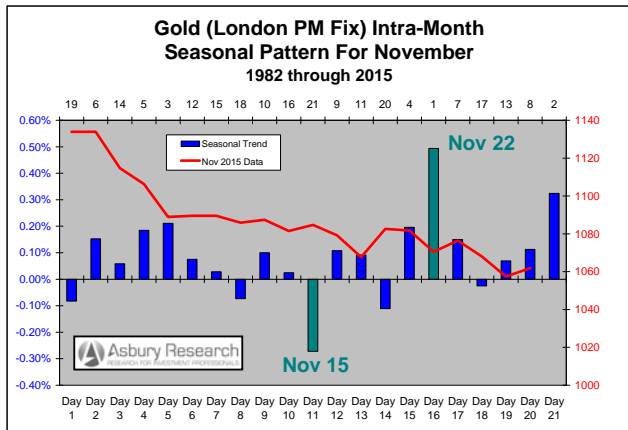
Gold Monthly Seasonal Pattern Since 1977

The green bar on the chart at lower left on the previous page shows that November is the 5th seasonally strongest month of the year for gold prices based on data since 1977. It represents a strong one-month recovery from October, the 2nd weakest month, and leads into more seasonal strength in December and January, which are the 4th and 3rd strongest months.

The height of the green bar indicates that, on average since 1977, **gold prices have risen by 0.70% in November**. The red line plots gold prices' monthly closing levels during 2015.



Gold Daily Seasonal Pattern For November Since 1982



The 21 columns on the chart above display the daily seasonal pattern in gold prices, based on the *average daily percent change* during the month of November since 1983. The red line plots the daily closing prices during November 2015. The green columns show that **gold prices historically bottom for the month on Day 11 or November 15th, and peak for the month on Day 16 or November 22nd.**

Investment Implications & Strategy

Combined, these monthly and daily data suggest a potential near to intermediate term buying opportunity on weakness on or around November 15th, with a strategy of closing out the position during January seasonal strength.

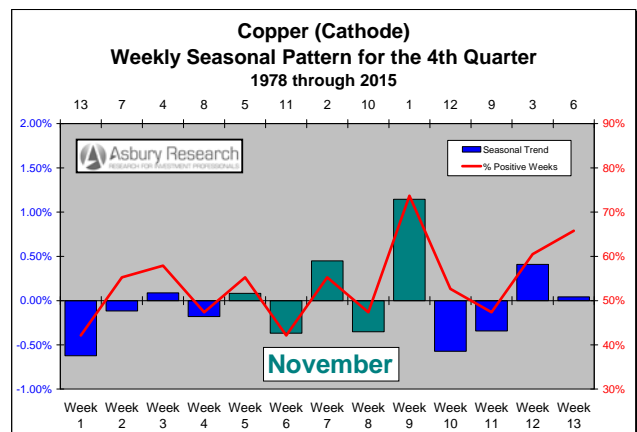
Copper Monthly Seasonal Pattern Since 1977

The green bar on the chart at lower right on Page 10 highlights November as the 4th seasonally strongest month of the year for copper cathode (mined copper ore) prices based on data since 1977. It represents a strong one-month rebound from October, the 2nd weakest month, and kicks off a gradually increasing period of seasonal strength that culminates in March, which is the 2nd strongest month of the year.

The height of the green bar indicates that, on average since 1977, **copper prices have risen by 0.91% in November.** The red line plots copper prices' monthly closing levels during 2015.

Copper Weekly Seasonal Pattern For Q4 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 November highlighted in green. The chart shows that **the second and fourth weeks of November are the 3rd and 4th weakest of the entire 4th Quarter, and that the middle and final weeks of October are the 2nd and 1st strongest of the quarter.**



Investment Implications & Strategy

Combined, these monthly and quarterly data suggest a potential intermediate term buying opportunity on weakness during the weeks of November 7th and 21st, with a strategy of closing out the position during February-March seasonal strength.

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