Commodities; "Buy in January and Sell in May"

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Summary

Most seasonal analysis on both equities and commodities does not stand up to statistical scrutiny

However, adopting a trading strategy of buy in January and sell in May has had a better statistical outcome than single-month holding strategies

Furthermore, the strategy has delivered compelling returns relative to the benchmark and confirmed that it doesn't work for equities

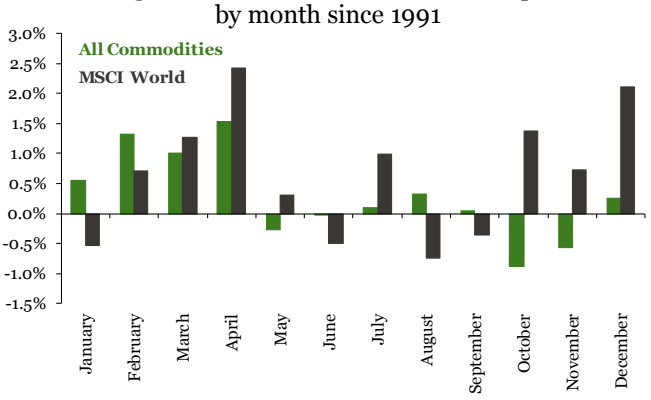
The all-commodity baskets, agricultural sector and industrial metals sector are where the greatest chances of success in the strategy lie

Commodities demonstrate similar seasonal changes to equities

The adage "Sell in May and come back on St. Ledgers Day" is based on a now well-known seasonal effect in the equities market. Do the same season effects exist in commodities? And crucially, are they meaningful?

Historically, there is evidence of seasonal trends in commodities as there are in equities. The chart below highlights the average month-on-month performance for both equities and commodities, demonstrating some similarities in seasonal behaviour.

Average total return in commodities & equities by month since 1991



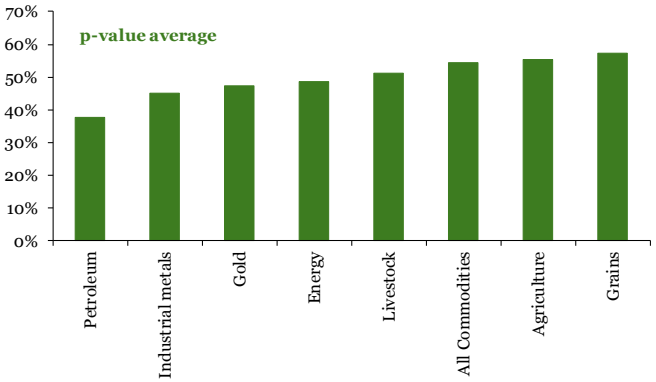
Source: Bloomberg, ETF Securities as of close 03 November 2016

What is noticeable from the analysis is that commodities tend to perform particularly well from January to April, and the weakest months tend to be October and November.

Do seasonal effects stand up to statistical scrutiny?

We have run our seasonal analysis through a regression tool to determine the statistical significance of the effect. We believe that p-values offer the best way to determine statistical significance. P-values evaluate how well the data supports the devil's advocate argument that a random figure would be equally valid - the higher the value, the greater the chance of this being the case and therefore less significant the results. Anything below 10% is deemed to be of statistical significance.

p-values accross the commodities complex



Source: Bloomberg, ETF Securities as of close 03 November 2016

The regression analysis highlights a p-value of 54% for commodities. We conclude that seasonal movements are therefore not statistically significant. Although the same can be said for world equities, which have a better but still high p-value of 37%.

Some interesting trends are emerging in significance though, the p-values form 1957-1991 were 62%, falling to 54% in the last 20 years and 52% in the last 10, suggesting that, whilst still weak, the statistical relevance of seasonal impacts is improving.

Why are there seasonal changes in commodities?

Commodities do tend to have seasonal tendencies linked to their variable supply and demand over the course of the year. Energy is a notable example, where peak demand for gas is during the winter, whilst in petroleum there is higher refining demand up until the late summer, then when the driving season ends, demand subsides. This explains why the p-values for industrial metals (which are very energy-intensive to extract)

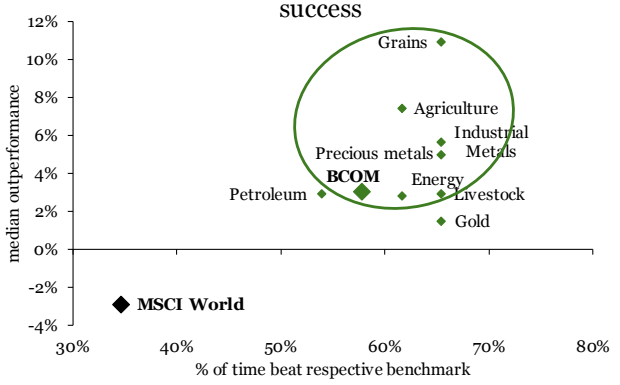
and petroleum are much lower than average at 38% and 45% respectively.

Agriculture also is greatly impacted by seasonal variations in the weather and the crop cycle. Agricultural commodities tend to perform the best around periods of rainfall, as the volume of rainfall can be used gauge the quality and volume, this is particularly prevalent in the crop cycle.

The strategy in a portfolio

Ultimately seasonal analysis on both equities and commodities does not stand up to statistical scrutiny when looked at on a single month basis. But we know seasonal effects in commodities are well established over the full year. We developed a simple trading strategy where an all-commodities basket is purchased at the beginning of January and sold the end of April and then holds cash for the remainder of the year. It delivers annualised returns since 1991 of 6.8% compared to 6.6% for equities.

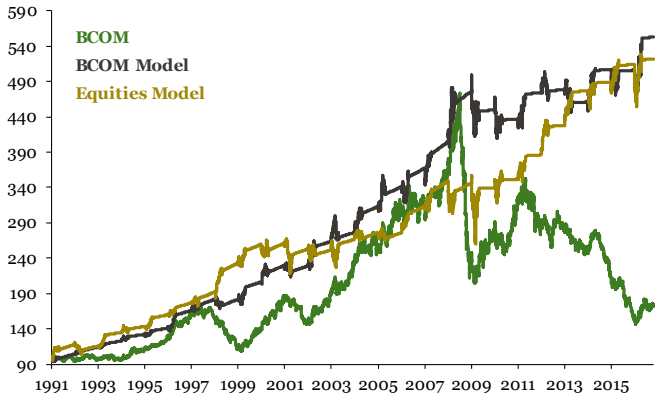
Strategy outperformance versus frequency of success



Based on Bloomberg Commodity and MSCI Total Return performance since 1991
Source: Bloomberg, ETF Securities as of close 04 November 2016

The strategy applied to commodities has beaten its respective benchmark far more often than a similar strategy applied to world equities, with the trade delivering positive returns 60% of the time relative to equities at 35%. This confirms that the classic seasonal strategy for equities relative to its benchmark does not work whilst it is potentially meaningful for commodities.

Performance of seasonality portfolios



Source: Bloomberg, ETF Securities as of close 4 November 2016

Our portfolio analysis of this strategy has also delivered compelling returns relative to the BCOM index benchmark after having adjusted for volatility. The strategy significantly reduces volatility whilst enhancing returns with a Sharpe ratio of 0.32.

	BCOM	BCOM Seasonal strategy	MSCI World seasonal strategy
Volatility	14.8%	8.5%	8.1%
Annual returns	2.1%	6.8%	6.6%
Max drawdown	-69.0%	-18.2%	-27.2%
Max recovery (years)	6.0	2.2	2.1
Beta	-	0.33	0.08
Sharpe ratio	-0.13	0.32	0.31
Information ratio	-	0.39	-0.03

*Based on monthly data in USD from Jan 1991 to Oct 2016. Volatility and returns are annualised. Max drawdown defines as the maximum loss from a peak to a trough based on a portfolio past performance. Max recovery is the length of time in number of years to recover from the trough to previous peak. Risk free rate equals to 3.4% (a simulated combination of the IMF UK Deposit Rate and the Libor 1Yr cash yield). Source: ETF Securities, Bloomberg

Breaking down the commodity complex to sub-indices highlights a wide disparity in the seasonal strategy performance. Gold seems impervious to seasonal effects, with the seasonal strategy not delivering significant outperformance. Also, petroleum doesn't perform well in the strategy as it is so volatile.

Applying the strategy to commodities with more pronounced seasonal effects, such as agriculture, and particularly grains, had delivered the most compelling positive returns.

Summary

The monthly analysis lacks statistical significance, but when months are combined to a full year there has been a surprising consistency in the results, particularly when compared to equities. Whilst the portfolio analysis is "in-sample" there are well established seasonal movements in commodities that are difficult to break suggesting that in future years we are likely to see similar patterns.