Halloween With A Twist

A Seasonal Strategy With Leveraged ETFs

The Halloween indicator, also known as "Sell in May and go away," is a well-known seasonal strategy that investors apply to the financial markets. But it comes with its share of risk. Here is how you can use this seasonal strategy with a twist using leveraged exchange traded funds.

A well-known anomaly in stock market timing is the Halloween indicator. It is possible to produce a 20% annual return with a modest 12% drawdown using this indicator combined with a simple moving average and a commodity fund. The risk is also half that of a buy & hold strategy due to the brevity of the investment, which usually runs about six months.

HALLOWEEN INDICATOR

The Halloween indicator is a famous anomaly in stock market cycles. A problem with using anomalies in the real world is that they can quit working at any time. For the anomaly to be useful, it must persist and continue despite its well-publicized results.

The Halloween anomaly has been analyzed since 1964. Emerging markets and other shorter time series have been studied since 1969. One study testing the Halloween indicator in US equity markets over a 21-year period (April 1982 to April 2003) using futures data verified the presence of a significant effect. The findings led researchers to conclude that the indicator was an "exploitable anomaly" in the US during that time period. That these studies have been published and yet the anomaly persists is a good sign that it will continue.

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by Gerald Gardner

The exploitation of the Halloween indicator is a simple and effective strategy. The stocks are purchased on October 1 then retained until May 1 of the following year. Research has indicated that in buying the Standard & Poor's 500 and holding from 2001 to 2010, the portfolio would have gained about 7% over this period. A buy & hold strategy would have produced -1%.

COMMODITIES ADD VALUE

The aforementioned addition of the commodities fund to the system finishes the puzzle. Commodities are important because they show a low correlation to stock equities. This low correlation can be thought of as a hedge against inflation. This arises from the tendency of commodities to increase in value with inflation, unlike many other assets. The underlying cause of this stems from the basic laws of supply and demand.

As the demand for goods and services outstrips supply, price rises, which creates more value in the commodities used to produce these goods and services. This permits the use of futures markets as clearing houses for recent information on supply and demand as well as continuous auction markets.

Commodities in general bear a low, frequently negative, correlation coefficient to traditional assets like stocks and bonds. The correlation coefficient is a value ranging from -1 to 1 that evaluates the linear relationship of two variables. A correlation coefficient of 1 represents a perfect linear relationship, a circumstance that does not arise frequently in real life.

Conversely, a correlation coefficient of -1 represents a perfect inverse relationship between two variables, indicating that for one variable's maximum value, the other value is at its absolute minimum, and vice versa.

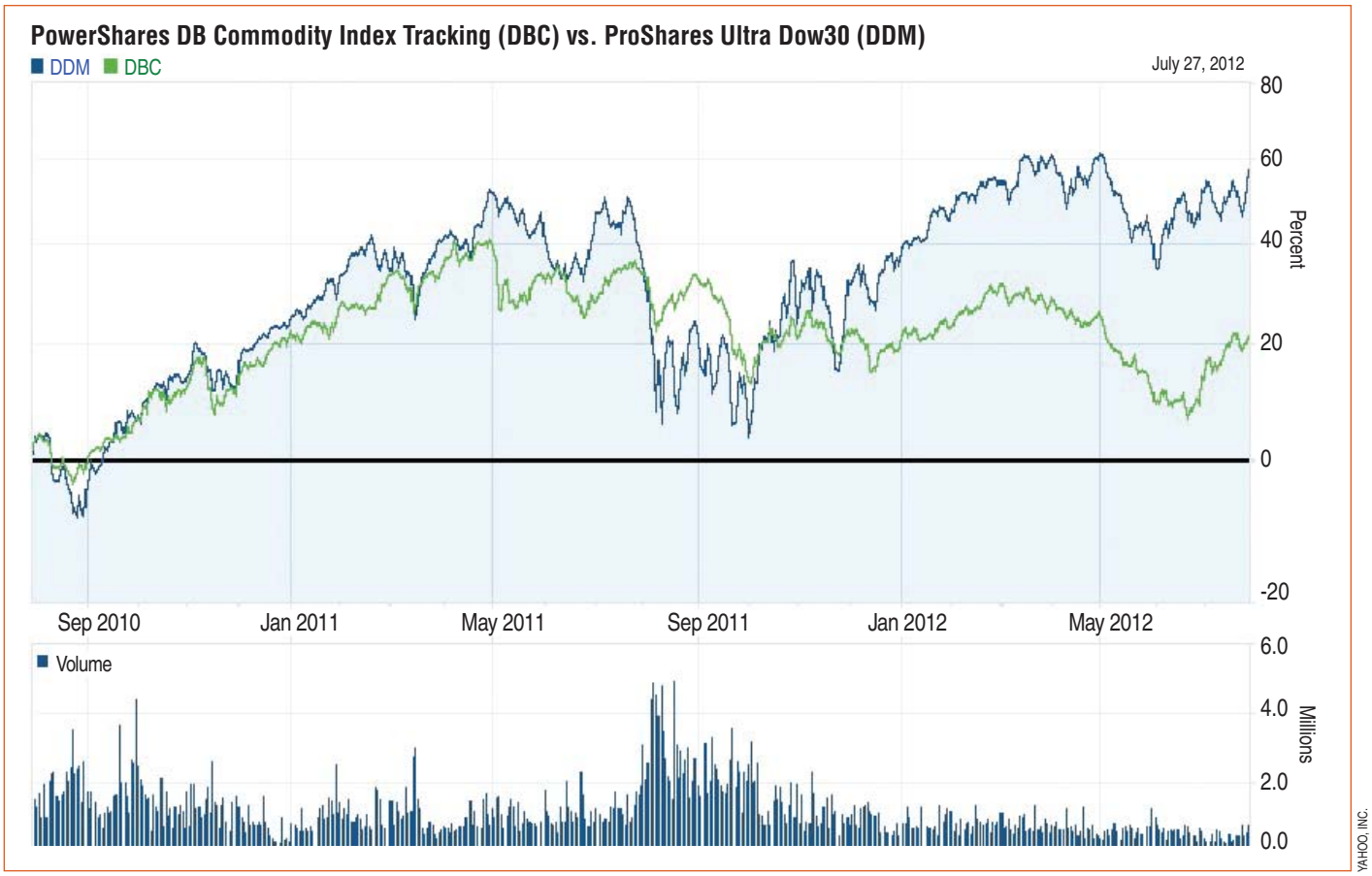


FIGURE 1: POWERSHARES DB COMMODITY INDEX TRACKING (DBC) VS. PROSHARES ULTRA DOW30 (DDM). The commodity fund DBC tracks a basket of commodities and the DDM fund provides twice the return of the Dow 30. Both funds are highly volatile and investing in each produces drawdowns of more than 50%. Yet allocating equal portions to each reduces volatility and provides superior returns when used with seasonal factors.

Essentially, a positive coefficient indicates that two variables will change in tandem, while a negative indicates that they behave oppositely. For a correlation coefficient of zero, you have a condition where neither variable has any influence on the other.

Despite the greater risk of commodities, they have generally offered great returns in the past. There exists no doubt that commodities possess a higher standard deviation than most other asset classes. Despite this, in a traditional portfolio with a wide diversity of assets, the negative correlation coefficient of commodities to most other assets allows for the reduction of risk within the portfolio as a whole.

The natural idea is to construct a stock and commodities portfolio that reduces overall risk and produces a high annual return.

SELECTING ETFS

The two exchange traded funds (ETFs) used in my system are PowerShares DB Commodity Index Tracking (DBC) and the ProShares Ultra Dow30 (DDM). The commodity fund DBC tracks a basket of commodities and the DDM fund provides twice the return of the Dow 30 index. Both funds are highly volatile, and investing in each produces drawdowns of more than 50%. Yet allocating equal portions to each reduces volatility and provides superior returns when used with seasonal factors. In Figure 1 you see a chart of the two funds plotted against one another for comparison.

A MODEL FOR TRADING

This model consists of two ideas: begin looking for ETFs on October 1, but don't buy until the price of the ETF surpasses

	All	Trades Long	Trades Short	Buy & Hold
Starting Capital	$50,000.00	$50,000.00	$50,000.00	$50,000.00
Ending Capital	$107,669.00	$107,669.00	$50,000.00	$48,847.00
Net Profit	$57,669.00	$57,669.00	$0.00	($1,153.00)
Net Profit %	115.34%	115.34%	0.00%	-2.31%
Exposure	41.35%	41.35%	0.00%	98.95%
Risk Adj Return	278.9	278.9	0	-2.33
All Trades	7	7	0	2
Avg Profit/Loss	$8,238.43	$8,238.43	$0.00	($576.50)
Avg Profit/Loss %	25.24%	25.24%	0.00%	-2.28%
Avg Bars Held	144.71	144.71	0	1,260.00
Winning Trades	6	6	0	1
Gross Profit	$61,468.47	$61,468.47	$0.00	$3,233.21
Avg Profit	$10,244.75	$10,244.75	$0.00	$3,233.21
Avg Profit %	32.03%	32.03%	0.00%	13.10%
Avg Bars Held	144.33	144.33	0	1,260.00
Max Consecutive	5	5	0	1
Losing Trades	1	1	0	1
Gross Loss	($3,799.47)	($3,799.47)	$0.00	($4,386.21)
Avg Loss	($3,799.47)	($3,799.47)	$0.00	($4,386.21)
Avg Loss %	-15.51%	-15.51%	0.00%	-17.66%
Avg Bars Held	147	147	0	1,260.00
Max Consecutive	1	1	0	1
Max Drawdown	-12.49%	-12.49%	0.00%	-62.28%
Recovery Factor	6.98	6.98	0	0.03
Profit Factor	16.18	16.18	0	0.74
Payoff Ratio	2.07	2.07	0	0.74
WL Score	244.08	244.08	0	-3.78

FIGURE 2: PROFIT/LOSS STATISTICS FROM WEALTH-LAB. The combination of two noncorrelated funds, DBC and DDM, with a 50% allocation to each, produced an outstanding return of more than 20% per annum over a five-year period.

WEALTH-LAB CODE FOR HALLOWEEN INDICATOR WITH MOVING AVERAGE

```
var Bar: integer;
for Bar := 0 to BarCount - 1 do
begin
  if ( GetMonth( Bar ) = 10 ) then
    if SMA( Bar, #Close, 1) > SMA( Bar,
#Close, 50) then
    if MarketPosition = 0 then
      BuyAtMarket( Bar+1, '');

  if ( GetMonth( Bar ) = 5 ) then
    if MarketPosition > 0 then
      SellAtMarket( Bar+1, #All, '');
end;
```

its 50-day moving average. For any ETF bought, hold it until May 1 of the next calendar year. For example, if you buy DDM on October 14, 2011, hold it until May 1, 2012. During the nonseasonal period, money is placed in a money market yielding zero percent interest. This simple idea is demonstrated by the Wealth-Lab code seen in the sidebar "Wealth-Lab Code For Halloween Indicator With Moving Average."

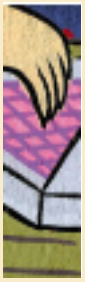
The results surprised me. I was expecting something like a 7% return or slightly better. However, the combination of two noncorrelated funds, DBC and DDM, with a 50% allocation to each, produced an outstanding return of more than 20% per annum over a five-year period.

Figure 2 shows the backtested results with a notable 12% drawdown. Even more outstanding is the lack of a losing investment period. You will see from the list of trades in Figure 3 that in 2007 there was one losing trade in DDM, but that was counteracted by the winning trade in DBC. The net outcome was a 17% profit for 2007. Also notable was the use of the 50-day moving average that avoided the bear market in the autumn of 2008 during the seasonally favorable time period.

The maximum adverse excursion or the maximum unfavorable trade is at worst 3%. From this statistic, the conclusion is that the funds take off and hardly have a drawdown of note. Figure 4 displays the equity curve.

Symbol	Position	Shares	Entry Date	Entry Price	Exit Date	Exit Price	Profit $	Profit %	Bars Held
DBC	Long	916	10/2/2007	$26.48	5/2/2008	$36.47	$9,136.68	37.67%	147
DDM	Long	265	10/2/2007	$92.46	5/2/2008	$78.20	$-3,799.47	-15.51%	147
DDM	Long	758	10/2/2009	$35.18	5/4/2010	$48.93	$10,404.84	39.02%	146
DBC	Long	1,244	10/9/2009	$22.73	5/4/2010	$24.28	$1,908.20	6.75%	141
DDM	Long	704	10/4/2010	$46.88	5/3/2011	$66.50	$13,794.69	41.80%	146
DBC	Long	1,372	10/4/2010	$24.14	5/3/2011	$31.62	$10,242.56	30.93%	146
DDM	Long	853	10/11/2011	$52.02	5/2/2012	$70.78	$15,981.50	36.02%	140

FIGURE 3: LIST OF ALL TRADES. In 2007 there was one losing trade in DDM, but that was counteracted by the winning trade in DBC. The net outcome was a 17% profit for 2007. Also notable was the use of the 50-day moving average that avoided the bear market in the autumn of 2008 during the seasonally favorable time period. The maximum adverse excursion or the maximum unfavorable trade is at worst 3%.



A nonleveraged portfolio pursuing this strategy is roughly equivalent to half of a leveraged portfolio using the same strategy.

How did this system compare to a buy & hold portfolio of the same composition? Looking at the statistics in Figure 2, the nonseasonal B&H portfolio lost money. Studying the raw time series data, you can see that the 2008 decline caused a great deal of damage.

The S&P 500 lost a little more than 50% and the commodities fund lost more than 60%. Worse yet, the commodity fund has not returned close to the old highs while the S&P 500 is close to the old high prior to the 2008 crash.

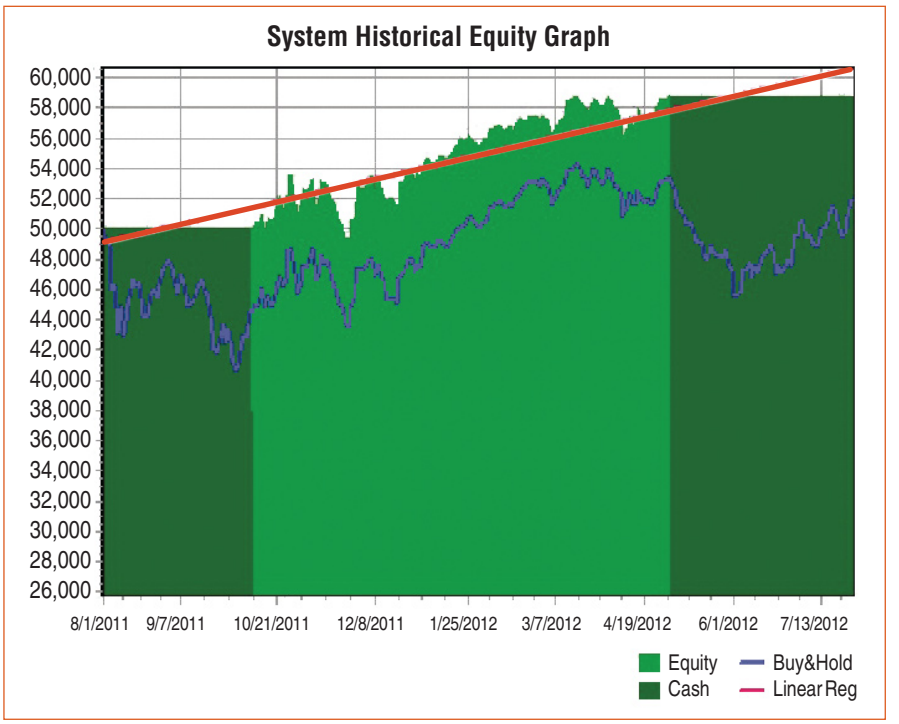


FIGURE 4: EQUITY CURVE SHOWING PERFORMANCE OF STRATEGY

WILL THE PATTERN CONTINUE?

The seasonal period adds a significant return to the equity and commodities portfolio. One area of worry is the continuance of this pattern with similar results to the last 50 years. Research suggests that it will, but we can never be 100% sure, which may combine with the use of leverage to magnify losses in the future.

Some traders may be happier with a nonleveraged portfolio and the reduction in success that should follow. In general, a nonleveraged portfolio pursuing this strategy is roughly equivalent to half of a leveraged portfolio using the same strategy.

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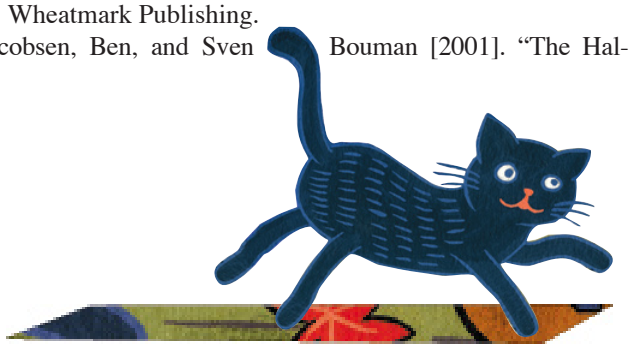
SUGGESTED READING

Bekkers, Niels, Ronald Q. Doeswijk, and Trevin W. Lam [2009]. "Strategic Asset Allocation: Determining The Optimal Portfolio With Ten Asset Classes," http://ssrn.com/abstract=1368689

Harding, Sy [2007]. *Beat The Market The Easy Way! Surprising Seasonal Strategies Double The Market's Performance,* Wheatmark Publishing.

Jacobsen, Ben, and Sven Bouman [2001]. "The Halloween Indicator, 'Sell In May And Go Away': Another Puzzle," http://ssrn.com/abstract=76248 or http://dx.doi.org/10.2139/ssrn.76248

‡Yahoo, Inc.



See Traders' Tips section beginning on page 62 for commentary and implemention of Gerald Gardner's technique in various technical analysis programs. Accompanying program code can be found in the Traders' Tips area of Traders.com.