Moving Averages Update: Market Up 7% in August

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of Advisor Perspectives

Valid until the market close on September 30, 2020.

The S&P 500 closed August with a monthly gain of 7.01% after a gain of 5.51% in July. At this point, before the close on the last day of the month, all three S&P 500 strategies are signaling "invested" — unchanged from last month's triple "invested" signal. All five Ivy Portfolio ETFs — Vanguard Total Stock Market ETF (VTI), Vanguard FTSE All-World ex-US ETF (VEU), and iShares Barclays 7-10 Year Treasury (IEF), Vanguard REIT Index ETF (VNQ), and Invesco DB Commodity Index Tracking (DBC) — are signaling "invested", an increase from last month's triple "invested" signal.

S&P 500 Moving Average Signals 8/31/2020 (valid until 9/30/20)		
Signal	Position	Variance*
10-SMA	**Invested**	13.0%
12-SMA	**Invested**	13.6%
10-EMA	**Invested**	12.2%
*Percent above/below the signal value		

The Ivy Portfolio Signals 8/31/2020 (valid until 9/30/20)		
Fund	Position	Variance*
VTI	**Invested**	12.6%
VEU	**Invested**	7.0%
IEF	**Invested**	1.3%
VNQ	**Invested**	0.6%
DBC	**Invested**	6.5%
*Percent above/below the 10-month SMA		

Ivy 12-Month SMA Signals 8/31/2020 (valid until 9/30/20)		
Fund	Position	Variance*
VTI	**Invested**	12.9%
VEU	**Invested**	6.0%
IEF	**Invested**	2.9%
VNQ	**Cash**	-1.4%
DBC	**Invested**	2.6%
*Percent above/below the 12-month SMA		

The Ivy Portfolio

The above table shows the current 10-month simple moving average (SMA) signal for each of the five ETFs featured in The Ivy Portfolio. We've also included a table of 12-month SMAs for the same ETFs for this popular alternative strategy.

For a fascinating analysis of the Ivy Portfolio strategy, see this article by Adam Butler, Mike Philbrick, and Rodrigo Gordillo:

- Faber's Ivy Portfolio: As Simple as Possible, But No Simpler

Backtesting Moving Averages

Over the past few years, we've used Excel to track the performance of various moving-average timing strategies. But now we use the backtesting tools available on the ETFReplay.com website. Anyone who is interested in market timing with ETFs should have a look at this website. Here are the two tools we most frequently use:

- Backtest an Individual ETF
- Backtest an ETF Portfolio
  (requires a paid subscription)
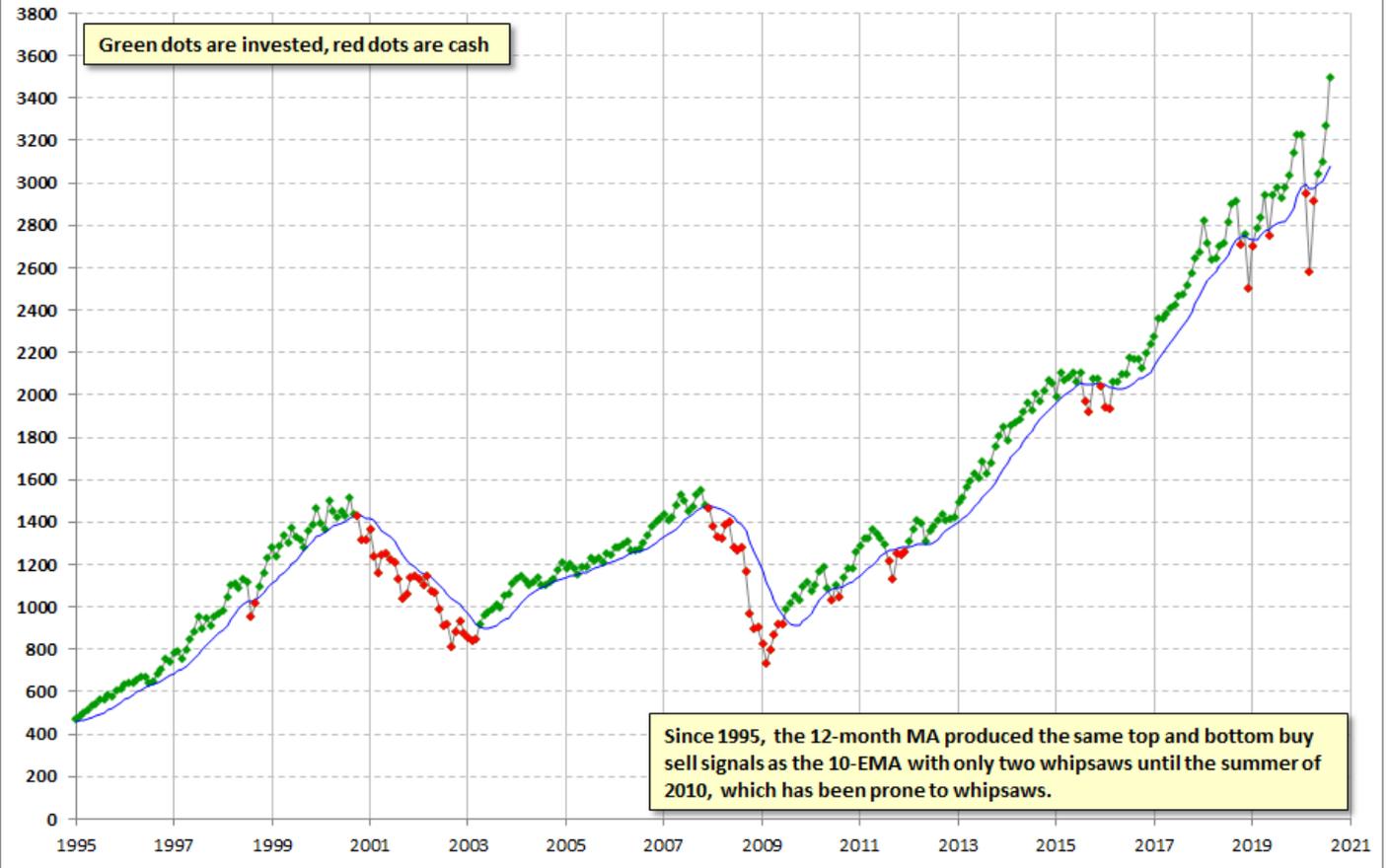
Background on Moving Averages

Buying and selling based on a moving average of monthly closes can be an effective strategy for managing the risk of severe loss from major bear markets. In essence, when the monthly close of the index is above the moving average value, you hold the index. When the index closes below, you move to cash. The disadvantage is that it never gets you out at the top or back in at the bottom. Also, it can produce the occasional whipsaw (short-term buy or sell signal), which we've seen most recently in 2016.

Nevertheless, a chart of the S&P 500 monthly closes since 1995 shows that a 10- or 12-month simple moving average (SMA) strategy would have ensured participation in most of the upside price movement while dramatically reducing losses.
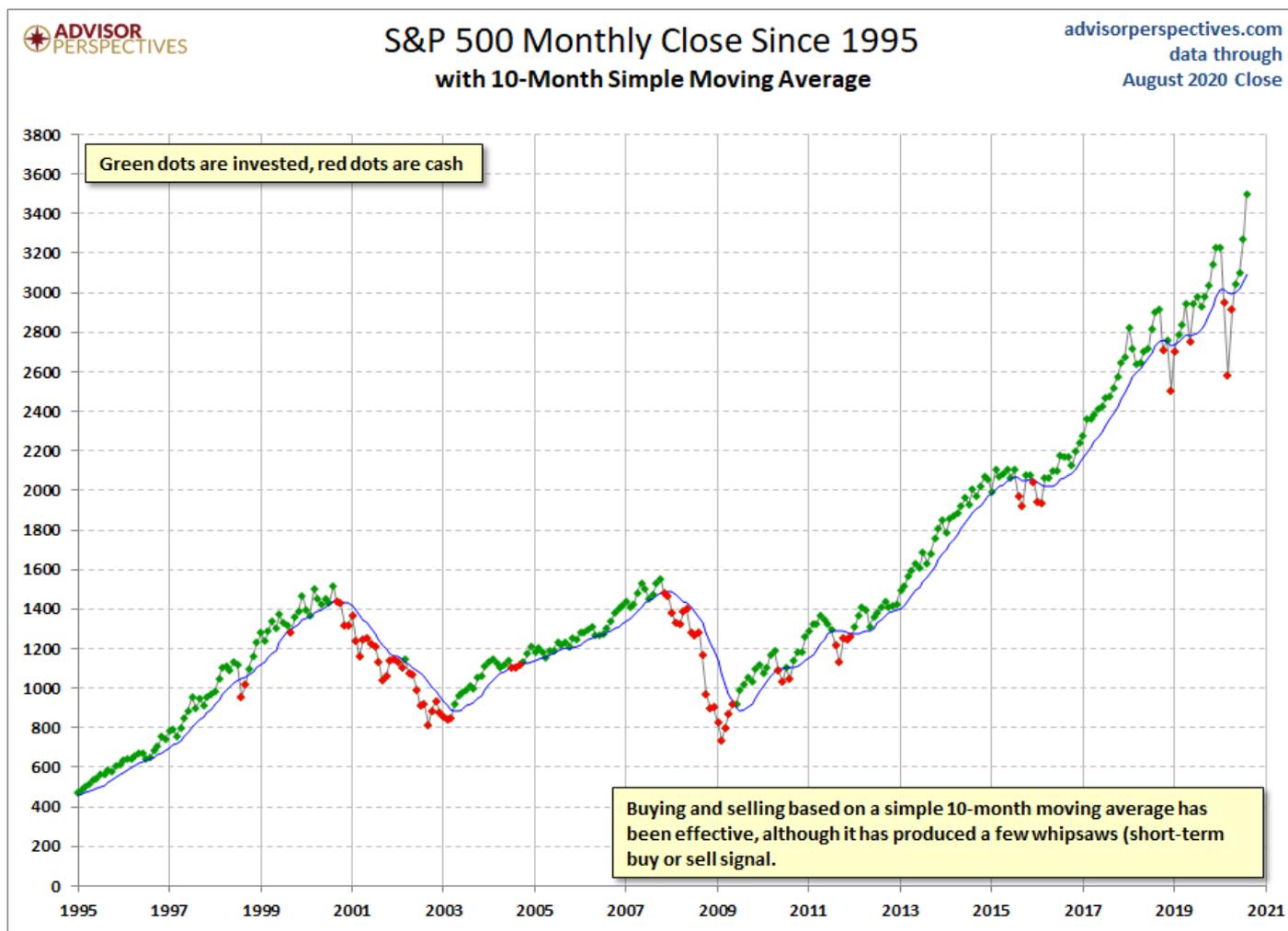

Here is the 12-month variant:

S&P 500 Monthly Close Since 1995
with 12-Month Simple Moving Average

Green dots are invested, red dots are cash

Since 1995, the 12-month MA produced the same top and bottom buy sell signals as the 10-EMA with only two whipsaws until the summer of 2010, which has been prone to whipsaws.

The 10-month exponential moving average (EMA) is a slight variant on the simple moving average. This version mathematically increases the weighting of newer data in the 10-month sequence. Since 1995 it has produced fewer whipsaws than the equivalent simple moving average, although it was a month slower to signal a sell after these two market tops.

S&P 500 Monthly Close Since 1995
with 10-Month Exponential Moving Average

Green dots are invested, red dots are cash

An exponential moving average (EMA) mathematically increases the weighting of newer data in the sequence. Since 1995 it has produced fewer whipsaws. However it was a month slower to signal a sell after these two market tops. Whipsaw were more frequent in mid 2010.
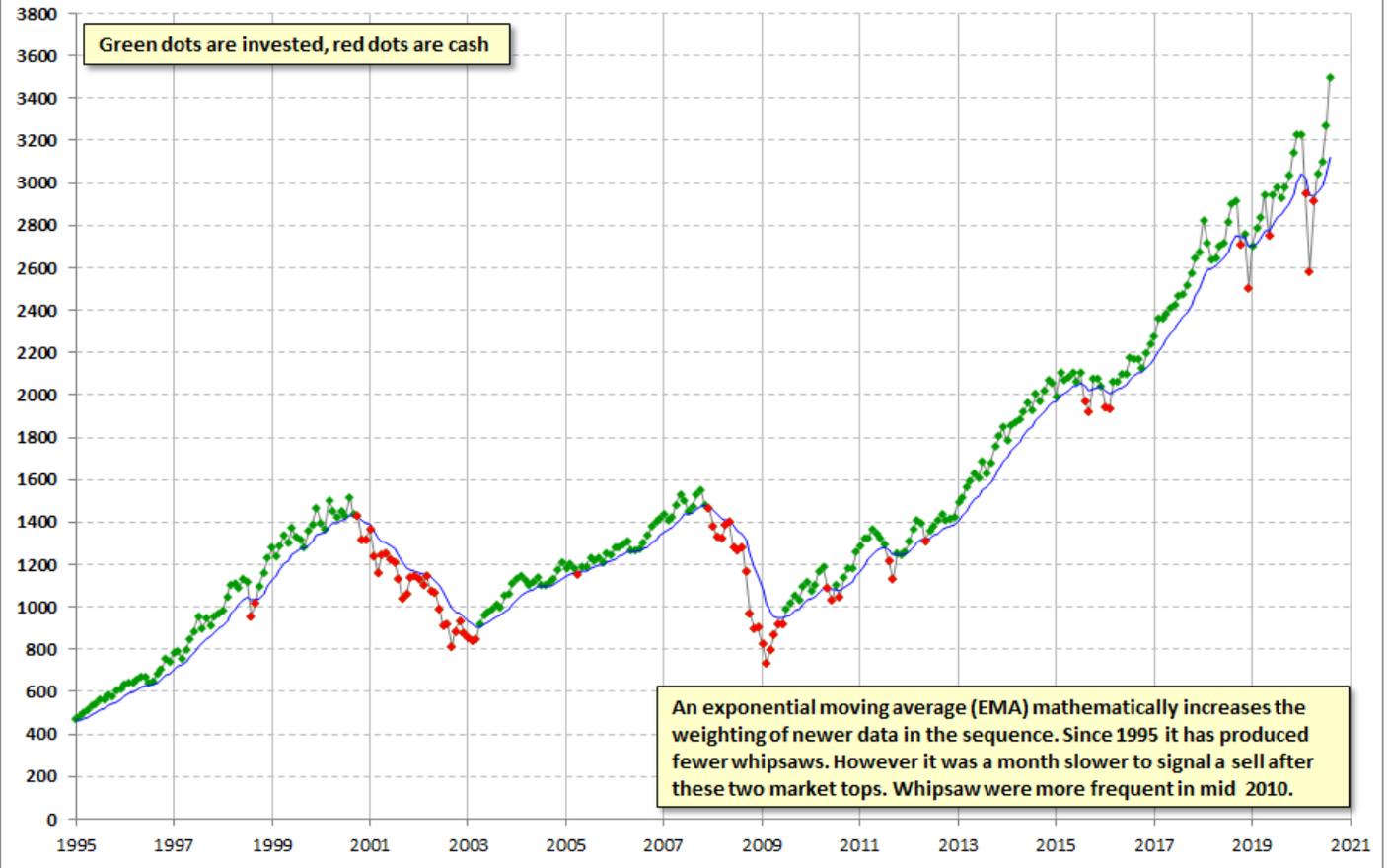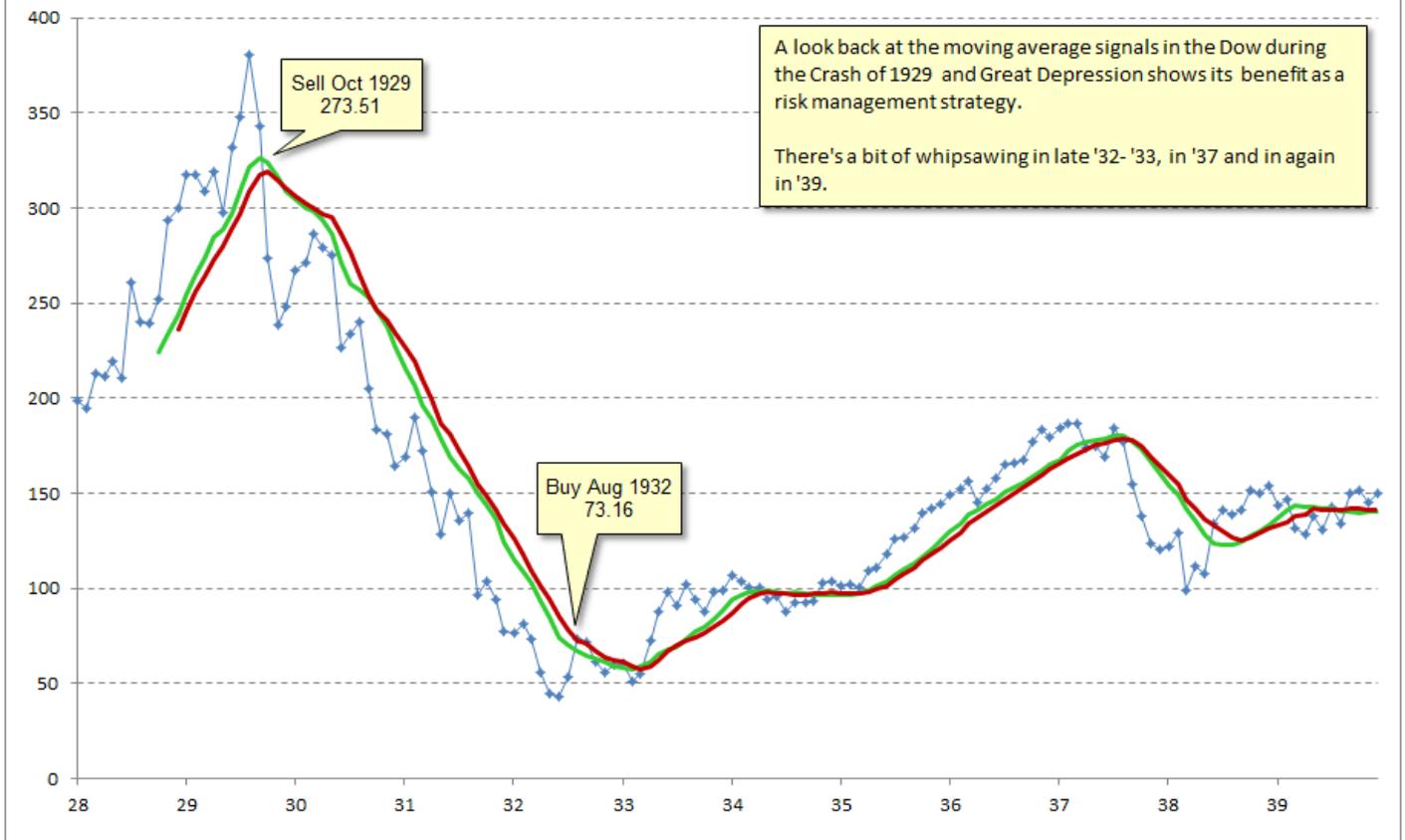
A look back at the 10- and 12-month moving averages in the Dow during the Crash of 1929 and Great Depression shows the effectiveness of these strategies during those dangerous times.

Dow Monthly Close 1928 to 1940
with 10-Month and 12-Month
Moving Averages

dshort.com

Sell Oct 1929
273.51

Buy Aug 1932
73.16

A look back at the moving average signals in the Dow during the Crash of 1929 and Great Depression shows its benefit as a risk management strategy.

There's a bit of whipsawing in late '32-'33, in '37 and in again in '39.

The Psychology of Momentum Signals

Timing works because of a basic human trait. People imitate successful behavior. When they hear of others making money in the market, they buy in. Eventually, the trend reverses. It may be merely the normal expansions and contractions of the business cycle. Sometimes the cause is more dramatic — an asset bubble, a major war, a pandemic, or an unexpected financial shock. When the trend reverses, successful investors sell early. The imitation of success gradually turns the previous buying momentum into selling momentum.

Implementing the Strategy

Our illustrations from the S&P 500 are just that — illustrations. We use the S&P because of the extensive historical data that's readily available. However, followers of a moving average strategy should make buy/sell decisions on the signals for each specific investment, not a broad index. Even if you're investing in a fund that tracks the S&P 500 (e.g., Vanguard's VFINX or the SPY ETF) the moving average signals for the funds will occasionally differ from the underlying index because of dividend reinvestment. The S&P 500 numbers in our illustrations exclude dividends.

The strategy is most effective in a tax-advantaged account with a low-cost brokerage service. You want the gains for yourself, not your broker or your Uncle Sam.

Note: *For anyone who would like to see the 10- and 12-month simple moving averages in the S&P 500 and the equity-versus-cash positions since 1950, email us for an Excel file (xlsx format) of the data. Our source for the monthly closes (Column B) is* Yahoo! Finance. *Columns D and F shows the positions signaled by the month-end close for the two SMA strategies.*

Recommended Reading

In the past, we've recommended Mebane Faber's thoughtful article A Quantitative Approach to Tactical Asset Allocation The article has now been updated and expanded as **Part Three: Active Management** in his book The Ivy Portfolio, coauthored with Eric Richardson. This is a "must read" for anyone contemplating the use of a timing signal for investment decisions.

The book analyzes the application of moving averages the S&P 500 and four additional asset classes: the Morgan Stanley Capital International EAFE Index (MSCI EAFE), Goldman Sachs Commodity Index (GSCI), National Association of Real Estate Investment Trusts Index (NAREIT), and United States government 10-year Treasury bonds.

As a regular feature of this website, we update the signals at the end of each month.

For additional insights from Mebane Faber, please visit his website, Mebane Faber Research.

Footnote on calculating monthly moving averages: *If you're making your own calculations of moving averages for dividend-paying stocks or ETFs, you will occasionally get different results if you don't adjust for dividends. For example, in 2012 VNQ remained invested at the end of November based on adjusted monthly closes, but there was a sell signal if you ignored dividend adjustments. Because the data for earlier months will change when dividends are paid, you must update the data for all the months in the calculation if a dividend was paid since the previous monthly close. This will be the case for any dividend-paying stocks or funds.*