

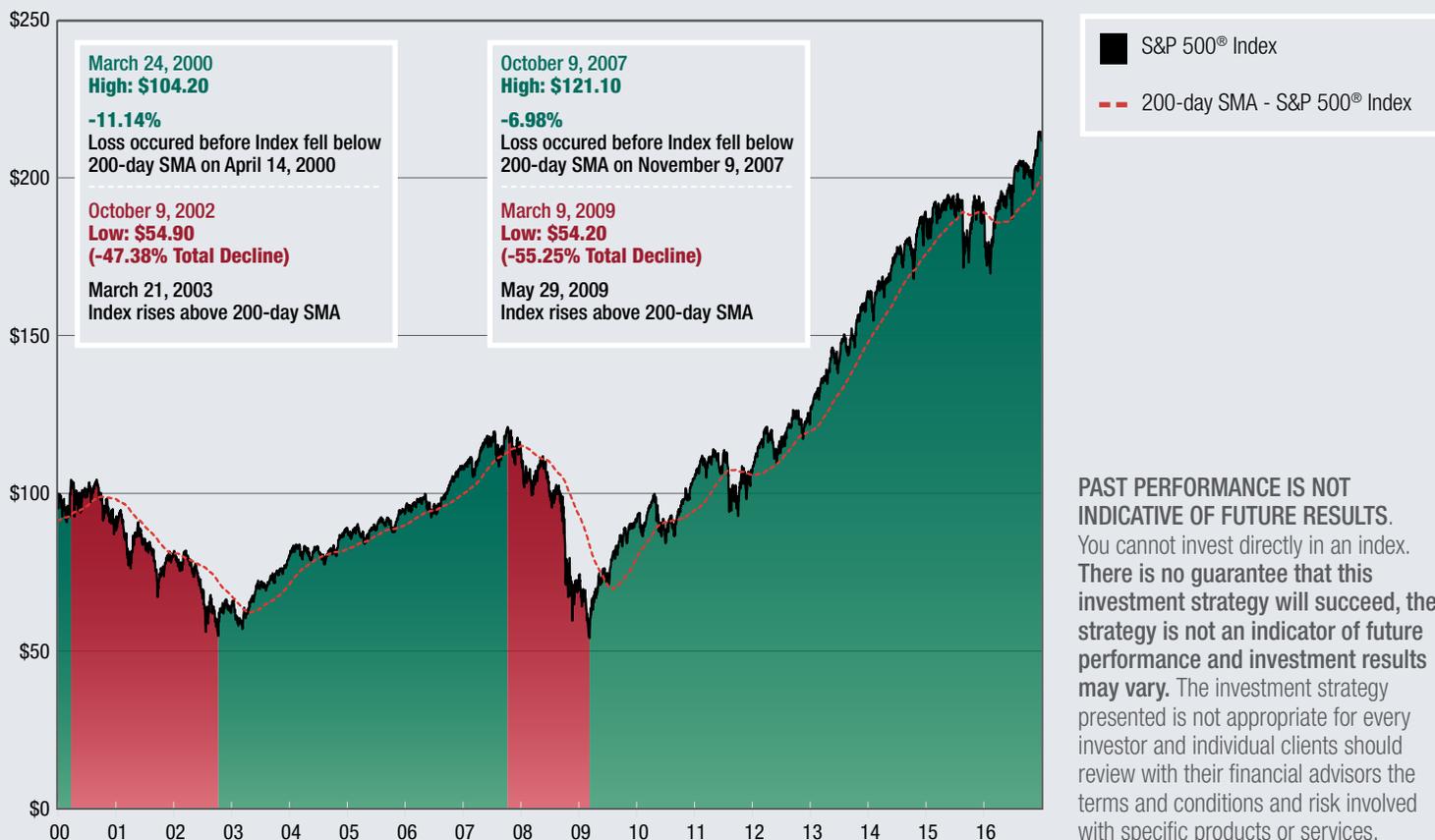
# Why the 200-day Simple Moving Average?

– Michael Mack, Portfolio Manager

Investors have long used moving averages to determine trends in the market. Generally, when an index or a security is above its moving average, it is in an uptrend and when it is below, it is in a downtrend. Investors aim to buy low and sell high by owning the investment in an uptrend and selling it when the trend starts to become negative. Rather than allowing emotions to dictate decisions, trend following allows investors to follow technical indicators.

## Hypothetical Growth of \$100

December 31, 1999 - December 30, 2016



The most commonly used simple moving averages (SMAs) are the 50-day SMA, 100-day SMA and 200-day SMA. Shorter-term moving averages are more responsive to market movement, but the drawback is greater potential for false signals. Longer-term moving averages may take longer to identify a trend, but the signal tends to be stronger. There are pros and cons to each, but in general the shorter the moving average, the higher number of switches in and out of the market. It is ideal to have as few switches as possible because it lowers the chances of false signals and reduces transaction costs.

When evaluating the S&P 500® from 1954 to now, the table below shows that the 200-day SMA is a good indicator for investors looking to participate in positive trends and avoid negative ones. If following a trend to move in and out of the market, investors want to use a signal with the highest return when the index is above the moving average and the lowest return when it is below. Investors would benefit from the return above but may miss some of the return that occurred below.

### S&P 500®

1/4/1954 - 10/31/2017

- **Higher returns above the SMA** show the signal is capturing the upside.
- **Lower returns below the SMA** show the signal didn't miss as much of the positive return and avoided more negative returns.
- **Switches** may cause transaction fees and tax consequences if not done in a tax efficient structure such as an exchange traded fund (ETF).

	250-day SMA	200-day SMA	150-day SMA	100-day SMA	50-day SMA	S&P® 500
Return when above SMA	9.35%	10.80%	10.50%	7.97%	7.79%	Buy and hold return 7.53%
Return missed when Index is below SMA	3.08%	0.31%	1.46%	6.70%	7.11%	
# of switches	312	376	494	680	986	

Source: Bloomberg. Switches occur 1 day after the index moves above (or below) its SMA.

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS. YOU CANNOT INVEST IN AN INDEX.

The Pacer Trendpilot® strategy uses the 200-day SMA with a 5 day confirmation to alternate exposure between equities, a 50/50 split and T-bills depending on market movement. We believe it is the ideal trend following signal compared to the other moving averages because historically:

- The market produces the highest return when above the 200-day SMA
- and the lowest returns when below.

## Pacer Trendpilot® ETFs:

A family of strategy driven ETFs that aims to participate in the market when it is trending up, maintain some exposure during short-term market declines and move to 3-month US T-Bills when it is trending down.



To learn more, visit [www.paceretfs.com](http://www.paceretfs.com) or call 877-337-0500.

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