

# Percent Above Moving Average



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## Introduction

The percentage of stocks trading above a specific moving average is a breadth indicator that measures internal strength or weakness in the underlying index. The 50-day moving average is used for the short-medium term timeframe, while the 150-day and 200-day moving averages are used for the medium-long term timeframe. Signals can be derived from overbought/oversold levels, crosses above/below 50% and bullish/bearish divergences. The indicator is available for the Dow, Nasdaq, Nasdaq 100, NYSE, S&P 100, S&P 500 and S&P/TSX Composite. Sharpcharts users can plot the percentage of stocks above their 50-day moving average, 150-day moving average or 200-day moving average. A full symbol list is provided at the end of this article.

## Calculation

$$\text{Percent above MA} = \frac{\text{(number of stocks above 50-day moving average)}}{\text{(total number of stocks in index)}}$$

Nasdaq 100 example:  $60/100 = .60$  or 60%

S&P 500 example:  $80/500 = .16$  or 16%

Dow Industrials example:  $7/30 = .2333$  or 23.33%

The calculation is straightforward. Simply divide the number of stocks above their XX-day moving average by the total number of stocks in the underlying index. The Nasdaq 100 example shows 60 stocks above their 50-day moving average and 100 stocks in the index. The percent above their 50-day moving average equals 60%. As the chart below shows, these indicators fluctuate between zero percent and one hundred percent with 50% as the center line.



## Interpretation

This indicator measures the degree of participation. Breadth is strong when the majority of stocks in an index are trading above a specific moving average. Conversely, breadth is weak when the minority of stocks are trading above a specific moving average. There are at least three ways to use these indicators. First, chartists can obtain a general bias with the overall levels. A bullish bias is present when the indicator is above 50%. This means more than half the stocks in the index are above a particular moving average. A bearish bias is present when below 50%. Second, chartists can look for overbought or oversold levels. These indicators are oscillators that fluctuate between zero and one hundred. With a defined range, chartists can look for overbought levels near the top of the range and oversold levels near the bottom of the range. Third, bullish and bearish divergences can foreshadow a trend change. A bullish divergence occurs when the underlying index moves to a new low and the indicator remains above its prior low. Relative strength in the indicator can sometimes foreshadow a bullish reversal in the index. Conversely, a bearish divergence forms when the underlying index records a higher high and the indicator remains below its prior high. This shows relative weakness in the indicator that can sometimes foreshadow a bearish reversal in the index.

## 50% Threshold

The 50% threshold works best with the percent of stocks above their longer moving averages, such as the 150-day and 200-day averages. The percent of stocks above their 50-day moving average is more volatile and crosses the 50% threshold more often. This volatility makes it more prone to whipsaws. The chart below shows the S&P 100 %Above 200-day MA (\$OEXA200R). The horizontal blue line marks the 50% threshold. Notice how

this level acted as support when the S&P 100 was trending higher in 2007 (green arrow). The indicator broke below 50% at the end of 2007 and the 50% level turned into resistance in 2008, which is when the S&P 100 was in a downtrend. The indicator moved back above the 50% threshold in June-July 2009.



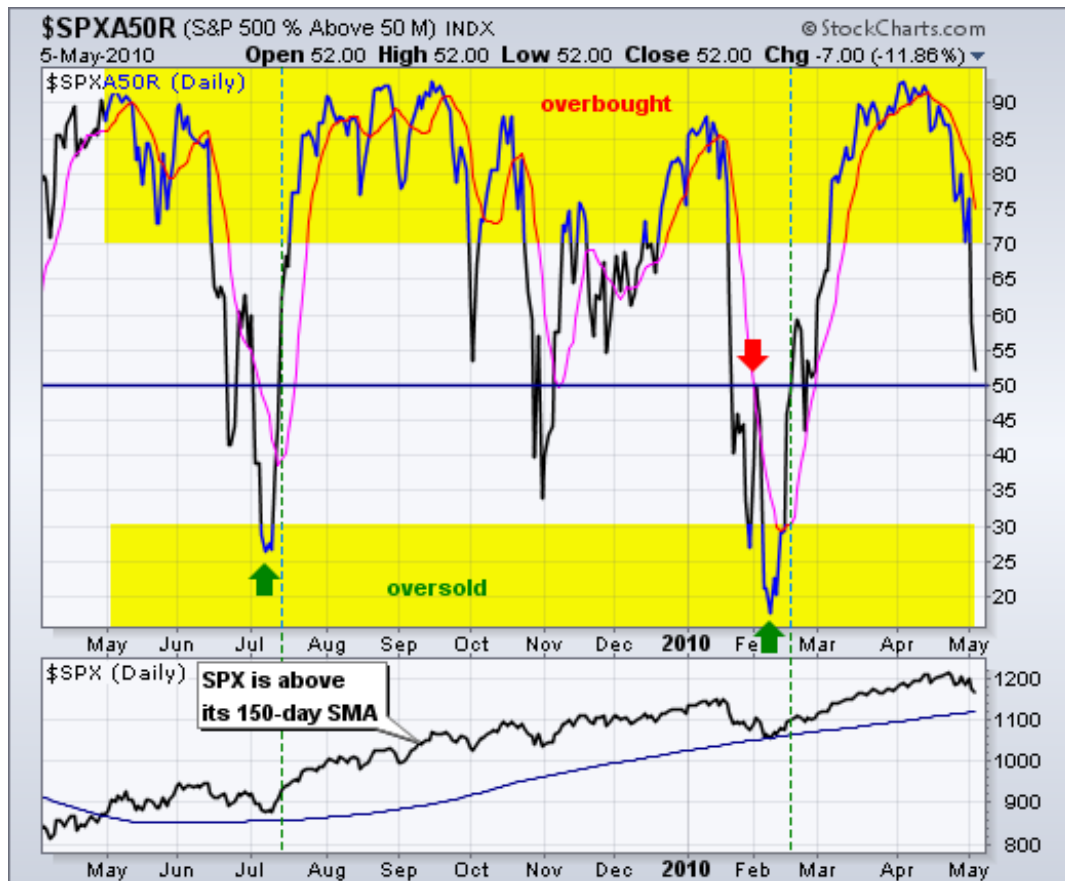
Even though the percent of stocks above their 200-day SMA is not as volatile as the percent of stocks above their 50-day SMA, the indicator is not immune to whipsaws. In the chart above, there were several crosses in August-September 2007, November-December 2007, May-June 2008 and June-July 2009. These crosses can be reduced by applying a moving average to smooth the indicator. The pink line shows the 20-day SMA of the indicator. Notice how this “smoothed” version crossed the 50% threshold fewer times.

## Overbought/Oversold

The percent of stocks above their 50-day SMA is best suited for overbought and oversold levels. Because of its volatility, this indicator will move to overbought and oversold levels more often than the indicators based on longer moving averages (150-day and 200-day). Just like momentum oscillators, this indicator can become overbought numerous times in a strong uptrend or oversold many times during a strong downtrend. Therefore, it is important to identify the direction of the bigger trend to establish a bias and trade in harmony with the big trend. Short-term oversold conditions are preferred when the long-term trend is up and short-term overbought conditions are preferred when the long-term trend is down. Basic trend analysis can be used to determine the trend of the underlying index.

The chart below shows the S&P 500 %Above 50-day MA (\$SPXA50R) with the S&P 500 in the bottom window. A 150-day moving average is used to determine the bigger trend for the S&P 500. Notice that the index crossed above the 150-day SMA in May and trended

higher the next 12-months. With an overall uptrend in progress, overbought conditions were ignored and oversold conditions were used as buying opportunities.



In general, readings above 70% are deemed overbought and readings below 30% are deemed oversold. These levels may vary for other indices. First, notice how the indicator became overbought numerous times from May 2009 until May 2010. Multiple overbought readings are a sign of strength, not weakness. Second, notice that the indicator became oversold only two times over a 12-month period. Moreover, these oversold readings did not last long. This is also a testament to underlying strength. Simply becoming oversold is not always a buy signal. Often it is prudent to wait for an upturn from oversold levels. In the example above, the green dotted lines show when the indicator crossed back above the 50% threshold. It is also possible that another signal triggered when the indicator dipped below 35% in November.

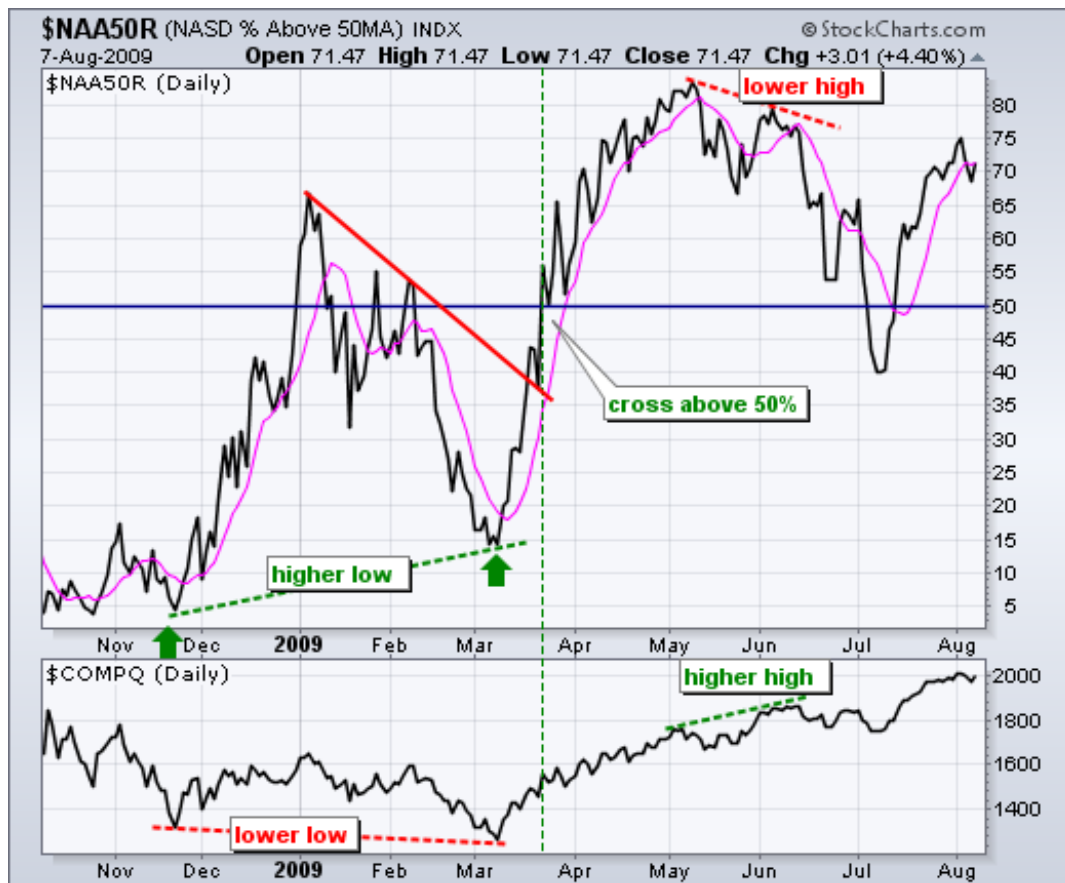
The next chart shows the S&P 100 %Above 50-day MA (\$OEXA50R) with the S&P 100 in the bottom window. This is a bear market example because OEX was trading below its 150-day SMA. With the bigger trend down, oversold conditions were ignored and overbought conditions were used as selling alerts. A sell signal consists of two parts. First, the indicator must become overbought. Second, the indicator must move below the 50% threshold. This ensures that the indicator has started weakening before making a move. Despite this filter, there will still be whipsaws and bad signals. There are three signals visible on the chart below. The red arrow shows the overbought condition and the red dotted line shows the subsequent move below 50%. The first signal did not work out well, but the other two proved quite timely.



## Bullish/Bearish Divergences

Bullish and bearish divergences can produce great signals, but they are also prone to many false signals. The key, as always, is to separate robust signals from ineffective signals. Small divergences can be suspect. These typically form over a relatively short time period with little difference between the peaks or troughs. Small bearish divergences in a strong uptrend are unlikely to foreshadow significant weakness. This is especially true when the divergent peaks exceed 70%. Think about it. Breadth still favors the bulls if more than 70% of stocks are trading above a designated moving average. Similarly, small bullish divergences in strong downtrends are unlikely to foreshadow a major bullish reversal. This is especially true when the divergent troughs form below 30%. Breadth still favors the bears when less than 30% of stocks are trading above a specified moving average. Larger divergences have a greater chance of success. Larger refers to the elapsed time and the difference between the two peaks or troughs. A sharp divergence covering two months or longer is more likely to work than a shallow divergence covering 1-2 weeks.

The chart below shows the Nasdaq %Above 50-day MA (\$NAA50R) with the Nasdaq Composite in the lower window. A large bullish divergence formed from November 2009 until March 2010. Even though the troughs were below 30%, the divergence extended over three months and the second trough was well above the first trough (green arrows). The subsequent move above 50% confirmed the divergence and foreshadowed the rally from late May to early June. A small bearish divergence formed in May-June and the indicator moved below 50% in early July, but this signal did not foreshadow an extended decline. The Nasdaq uptrend was too strong and the indicator moved back above 50% in short time.



The next chart shows the S&P/TSX %Above 50-day MA (\$TSXA50R) with the TSX Composite (\$TSX). A small bearish divergence formed from the second week of May until the third week of June (4-5 weeks). Even though this was a relatively short divergence time-wise, the distance between the early May high and mid-June high created a rather steep divergence. The TSX Composite managed to exceed its May high, but the indicator did not make it back above 60% in mid-June. A sharply lower high formed to create the divergence, which was then confirmed with a break below 50%.



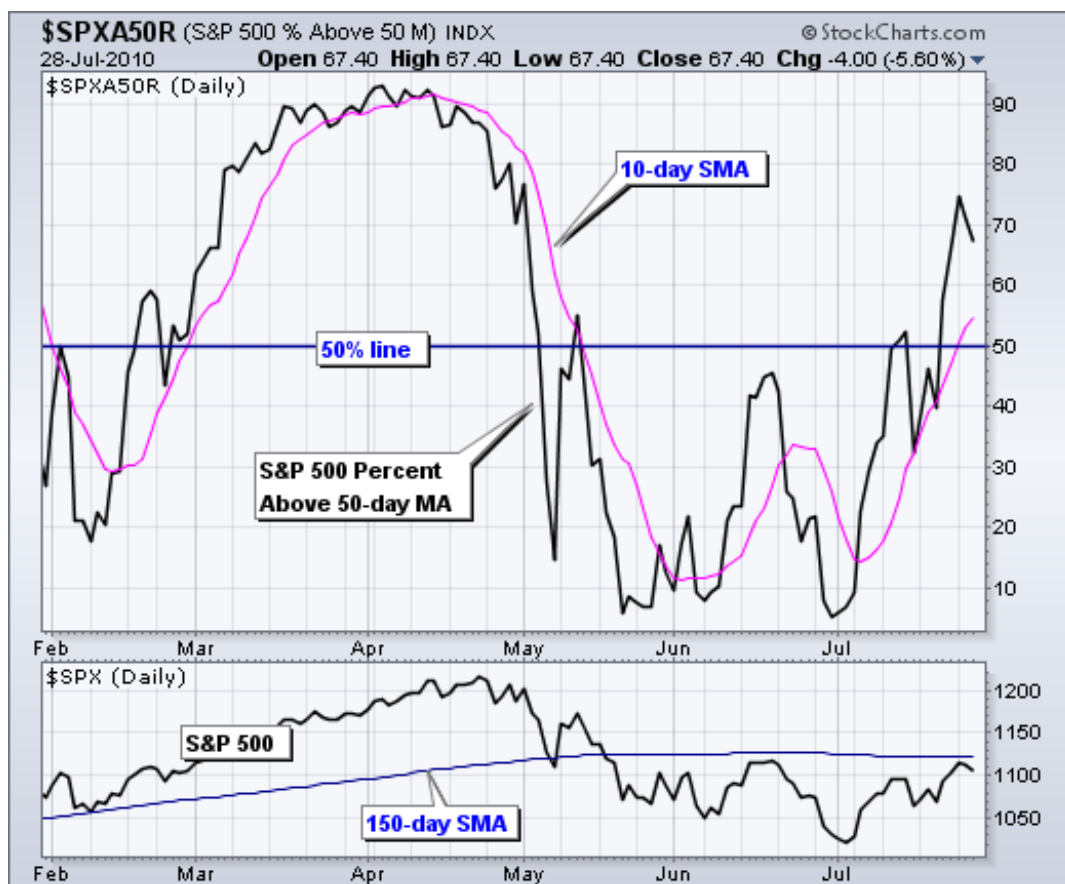


## Conclusions

The percentage of stocks above a specific moving average is a breadth indicator that measures the degree of participation. Participation would be deemed relatively weak if the S&P 500 moved above its 50-day moving average and only 40% of stocks were above their 50-day moving average. Conversely, participation would be deemed strong if the S&P 500 moved above its 50-day moving average and 60% or more of its components were also above their 50-day moving average. In addition to absolute levels, chartists can analyze the directional movement of the indicator. Breadth is weakening when the indicator falls and strengthening when the indicator rises. A rising market and falling indicator would raise suspicions on underlying weakness. Similarly, a falling market and rising indicator would suggest underlying strength that could foreshadow a bullish reversal. As with all indicators, it is important to confirm or refute findings with other indicators and analysis.

## SharpCharts

SharpCharts users can plot these indicators in the main chart window or as an indicator that sits above or below the main window. The example below shows the S&P 500 %Stocks Above 50-day MA (\$SPXA50R) in the main chart window with the S&P 500 in the indicator window below. A 10-day SMA (pink) and a 50% line (blue) were added to the main window. The image below the chart shows how to add these as “overlays”. The S&P 500 was added as an indicator by selecting “price” and then entering \$SPX for “parameters”. Click on advanced options to add a moving average as an “overlay”. [Click here](#) to see a live example.



**Chart Attributes**

Periods: **Daily** | Range: **Predefined Range** | Years: **0** | Months: **6** | Days: **0** | Extra Bars:

Type: **Line (solid)** | Size: **520** | Color Scheme: **Murphy** | Grid: **Normal**

Volume: **Off** | ☐ Full Quote | ☐ Price Labels | ☐ Log Scale | ☐ Color Prices | ☐ Color Volume | ☐ Show Leger

**Update**

**Overlays**

Parameters	Reorder	Style	Color	Opacity
Simple Mov. Avg 10	▲ ▼	Solid thin	pink	- Auto -
Horizontal Line 50	▲ ▼	Solid	blue	- Auto -
- None -	▲ ▼			

**Update** **Clear All** [About Overlays - Glossary](#)

**Indicators**

Parameters	Position
Price \$SPX	Below
- None -	Below

**Update** **Clear All** [About Indicators - Glossary](#)

**Advanced Options**

Style	Color	Height	Opacity	Overlay	Parameters
Solid	black	- Auto -	- Auto -	Simple Mov. Avg	150

## Symbols

SharpCharts users can plot the percentage or number of stocks above a specific moving average for the Dow Industrials, Nasdaq, Nasdaq 100, NYSE, S&P 100, S&P 500 and S&P/TSX Composite. Specific moving averages include the 50-day, 150-day, and 200-day averages. The first table shows the available symbols for the PERCENT of stocks above a specific moving average. Notice that these symbols all have an "R" at the end. The second



table shows the available symbols for the NUMBER of stocks above a specific moving average. This is an absolute number. For example, the Dow may have 20 stocks above their 50-day moving average or the Nasdaq may have 1230 stocks above their 50-day moving average. The indicator plots based on PERCENT and NUMBER look the same. However, absolute numbers, such as 20 and 1230, cannot be compared. Percentages, on the other hand, allow users to compare levels across an array of indices. [Click here](#) for an up-to-date list of symbols.

#### **Percent of Stocks above XX-day Moving Average**

\$DOWA50R	Dow Jones Industrials Percent of Stocks Above 50 DMA (EOD)
\$DOWA150R	Dow Jones Industrials Percent of Stocks Above 150 DMA (EOD)
\$DOWA200R	Dow Jones Industrials Percent of Stocks Above 200 DMA (EOD)
\$NAA50R	Nasdaq Percent of Stocks Above 50 Day Moving Average (EOD)
\$NAA150R	Nasdaq Percent of Stocks Above 150 Day Moving Average (EOD)
\$NAA200R	Nasdaq Percent of Stocks Above 200 Day Moving Average (EOD)
\$NDXA50R	Nasdaq 100 Percent of Stocks Above 50 Day Moving Average (EOD)
\$NDXA150R	Nasdaq 100 Percent of Stocks Above 150 Day Moving Average (EOD)
\$NDXA200R	Nasdaq 100 Percent of Stocks Above 200 Day Moving Average (EOD)
\$NYA50R	NYSE Percent of Stocks Above 50 Day Moving Average (EOD)
\$NYA150R	NYSE Percent of Stocks Above 150 Day Moving Average (EOD)
\$NYA200R	NYSE Percent of Stocks Above 200 Day Moving Average (EOD)
\$OEXA50R	S&P 100 Percent of Stocks Above 50 Day Moving Average (EOD)
\$OEXA150R	S&P 100 Percent of Stocks Above 150 Day Moving Average (EOD)
\$OEXA200R	S&P 100 Percent of Stocks Above 200 Day Moving Average (EOD)
\$SPXA50R	S&P 500 Percent of Stocks Above 50 Day Moving Average (EOD)
\$SPXA150R	S&P 500 Percent of Stocks Above 150 Day Moving Average (EOD)
\$SPXA200R	S&P 500 Percent of Stocks Above 200 Day Moving Average (EOD)
\$TSXA50R	S&P/TSX Composite Percent of Stocks Above 50 Day Moving Average (EOD)
\$TSXA150R	S&P/TSX Composite Percent of Stocks Above 150 Day Moving Average (EOD)
\$TSXA200R	S&P/TSX Composite Percent of Stocks Above 200 Day Moving Average (EOD)

#### **Number of Stocks above XX-day Moving Average**

\$DOWA50	Dow Jones Industrials Stocks Above 50 DMA (EOD)
\$DOWA150	Dow Jones Industrials Stocks Above 150 DMA (EOD)
\$DOWA200	Dow Jones Industrials Stocks Above 200 DMA (EOD)
\$NAA50	Nasdaq Stocks Above 50 Day Moving Average (EOD)
\$NAA150	Nasdaq Stocks Above 150 Day Moving Average (EOD)
\$NAA200	Nasdaq Stocks Above 200 Day Moving Average (EOD)
\$NDXA50	Nasdaq 100 Stocks Above 50 Day Moving Average (EOD)
\$NDXA150	Nasdaq 100 Stocks Above 150 Day Moving Average (EOD)
\$NDXA200	Nasdaq 100 Stocks Above 200 Day Moving Average (EOD)
\$NYA50	NYSE Stocks Above 50 Day Moving Average (EOD)
\$NYA150	NYSE Stocks Above 150 Day Moving Average (EOD)
\$NYA200	NYSE Stocks Above 200 Day Moving Average (EOD)
\$OEXA50	S&P 100 Stocks Above 50 Day Moving Average (EOD)
\$OEXA150	S&P 100 Stocks Above 150 Day Moving Average (EOD)
\$OEXA200	S&P 100 Stocks Above 200 Day Moving Average (EOD)
\$SPXA50	S&P 500 Stocks Above 50 Day Moving Average (EOD)
\$SPXA150	S&P 500 Stocks Above 150 Day Moving Average (EOD)
\$SPXA200	S&P 500 Stocks Above 200 Day Moving Average (EOD)
\$TSXA50	S&P/TSX Composite Stocks Above 50 Day Moving Average (EOD)
\$TSXA150	S&P/TSX Composite Stocks Above 150 Day Moving Average (EOD)
\$TSXA200	S&P/TSX Composite Stocks Above 200 Day Moving Average (EOD)