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Technical Analysis on Bloomberg
Tracking Price with Trender

Trender, as the name hints, is an indicator that identifies the current trend. It does so by applying a trailing stop like line below price in an uptrend (green) and above price in a down trend (red).

To understand the Trender Indicator, we must first understand the concept of True Range (TR), Exponential Moving Averages (EMAvg), Midpoint calculation (MP), and Standard Deviation (SD). TR looks at the relationship between the current bars high and low, and compares it to yesterdays close to identify the largest range. For example, if today's high is $12 and the low is $10 dollars, the range is $2. If yesterdays close was $11, the true range is $2. If yesterdays close is $9 then the true range is $3. An EMAvg calculation is designed to never forget past values used in the average and weights the current value the most. This is the basis for the Moving Average Convergence Divergence indicator (MACD). In theory, it will generate earlier signals. The MP is the ((high + low) / 2) which produces a value that can be averaged just like daily closing prices. Standard Deviation, in simple terms, measures how dispersed your data points fall compared to an average.

The basis for the Trender indicator is as follows. First it calculates the EMAvg(MP) and the EMAvg(TR). It then adds (or subtracts) half of the EMAvg(TR) to the EMAvg(MP). We'll call this the Adjusted Midpoint (ADM). Next, Trender calculates X standard deviation of the EMAvg(TR) and adds to (or subtracts) that value from the ADM (if your sensitivity is 1). The "Sensitivity" option is designed to increase the number of standard deviations used to add to (subtract from) the ADM. Finally, Trender can be plotted on the chart. When the "Use Close" setting is set to True, price must close above/below the Trender line for a buy/sell signal to occur. When the "Use Close" setting is set to False, price must trade above/below the Trender line for a buy/sell signal. Note that the green Trender lines never go down and red Trender lines never go up. This behavior resembles a trailing stop so the gain in a directional move is not given back with a reversal in trend.

Try plotting three Trender indicators on one graph and varying the sensitivity to each to create a short, medium, and long term trend following system. In the above chart, price tested resistance at the lower red line during the entire downtrend until it broke it in late October. Price failed at the second and set new lows. The trend began to change when price found support at the green trender line in late December and then broke through the middle red Trender line. Price then found support at the middle green line, maintaining higher lows, and broke above $90 to begin a strong uptrend.
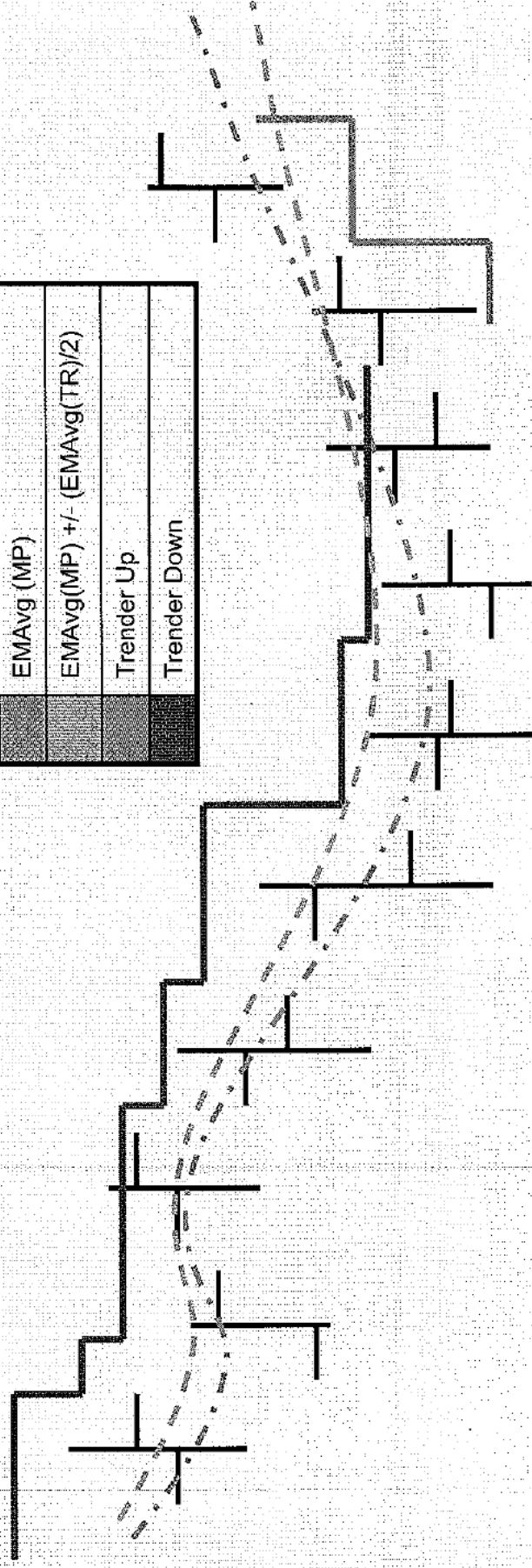
-    *Paul Ciana, CMT*

Bloomberg Trender

Trender Down is calculated by:

1. Calculating an EMAvg of the midpoint
2. Adding half of the EMAvg of True Range to the EMAvg of the Midpoint
3. Adding at least one standard deviation value of the EMAvg of True Range to 2.

	EMAvg (MP)
	EMAvg(MP) +/- (EMAvg(TR)/2)
	Trender Up
	Trender Down

Note: You will only see the solid red OR green line when the indicator is applied

Trender and Fear & Greed

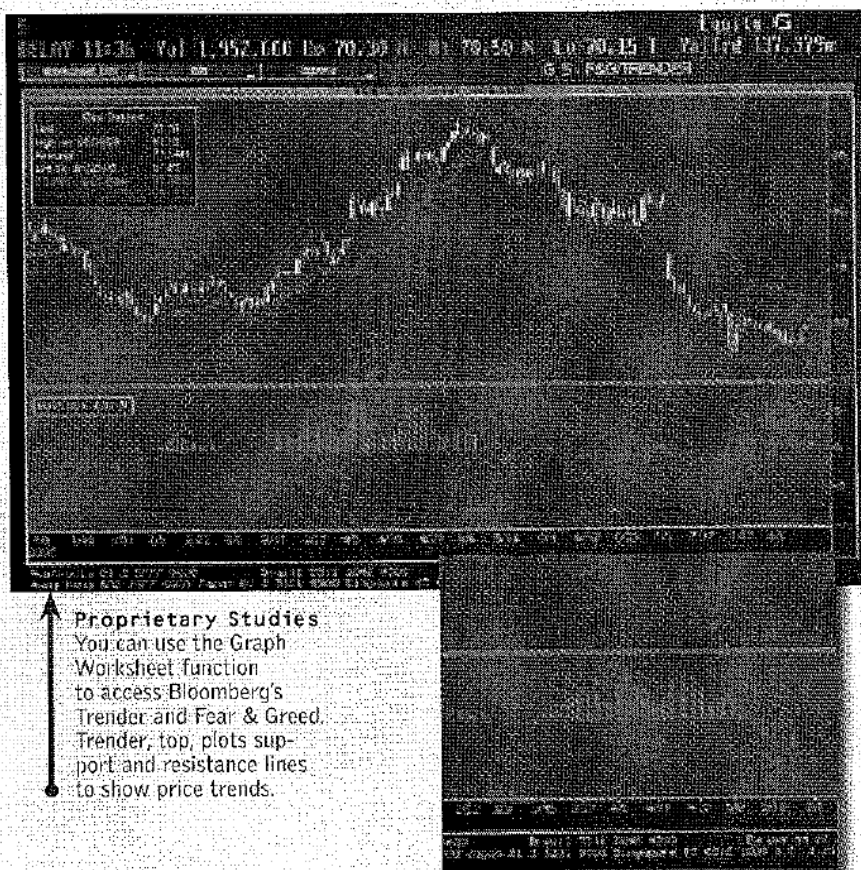*Two proprietary technical indicators can help you analyze price trends.*

By Eric D'Alessandro

TWO PROPRIETARY TECHNICAL studies, Trender and Fear & Greed, can help you find entry and exit levels, or ideal times to buy or sell, for a security.

Trender shows the direction of a security's price trend and is designed to minimize whipsaws, or false signals that often occur because of volatile price swings. It's constructed by measuring the variance around the "average true range," which is the exponential moving average of an indicator that takes into account the previous day's close when measuring high-to-low price ranges. An exponential moving average gives a greater weight to more-recent data points. Trender plots a green support line below the price bars on a chart to show an upward trend; it shows a red resistance line above to indicate a downtrend.

Fear & Greed, which is also based on average true range, is a histogram that measures the ratio of buying pressure to selling pressure. Green bars indicate that buying pressure predominates and bulls are in control of trading. Red bars signify that selling pressure exists and bears are in control.

You can access these studies via the Graph Worksheet (G) function. For example, to analyze the stock price of St. Paul, Minnesota–based 3M Co., which makes products from Post-it Notes to optical film used in flat-panel televisions, type MMM US <Equity> G <Go>. Click on Add Worksheet to create a new graph. To create a chart you can use to analyze one security, click on Single Security Historical. Enter a name, such as *F&G/TRENDER*, in the GRAPH TITLE field, and press <Go>. Tab in to the PERIOD field, enter *1* for a daily year-to-date chart and press <Go>. Next, click

on Candle Chart to choose the type of graph that shows the range between the opening and closing prices as a thick bar and intraday highs and lows beyond that range as thin lines, which look like wicks on candles.

CLICK ON ADD Study. Press <Page Fwd> twice, and click on Bloomberg Proprietary Studies. Then click on Trender. Next, to also add Fear & Greed, click on Add Study and press <Page Fwd> twice again. Click on Bloomberg Proprietary Studies and then on Fear Greed. Press <Menu> to see the graph.

Proprietary Studies
You can use the Graph Worksheet function to access Bloomberg's Trender and Fear & Greed. Trender, top, plots support and resistance lines to show price trends.

Fear & Greed
The height of the bars shows the strength of buying or selling pressure. This study often displays a characteristic 'double peak' or 'double valley' before a major price reversal.

FOCUS Technical Analysis

Trender appears on the top part of the screen. A buy signal occurs when the security's price closes above the red resistance line, and a sell signal is generated when the price closes below the green support line. In examining the chart for 3M, you can see that the indicator serves as a trailing stop, which enables you to stay in a stock and accumulate profits while its price is generally rising and to sell, cutting losses, when the trend reverses. For example, on the chart on the previous page, look at the uptrend that began on March 14 and ran until May 17. The buy signal on March 14 was generated when 3M's shares closed at $73.53, which was above the red resistance line. Over the next two months, the price increased almost 20 percent, peaking at $88.13 on May 8. Note that Trender is designed so that the typical pullbacks that occur within an existing trend don't generate buy or sell signals. In this case, the sell signal on May 17 came only after the stock made a 4.2 percent pullback from its May 8 peak.

The Fear & Greed study appears on the bottom of the screen. The height of the indicator's bars shows the strength of the buying or selling pressure. Sentiment is reversing when the bars go from red to green or vice versa. You can use Fear & Greed to identify divergence, in which a price trend and a technical indicator move out of sync. On the 3M chart, you can see an example of a bullish divergence in late January and early February. The second

Fear & Greed red valley that hits a low on Feb. 7 is shallower than its predecessor valley on Jan. 30. The price corresponding to the Feb. 7 valley, $70.65, is lower than the Jan. 30 price, $72.65. This signals a bullish divergence to the upside, which was later confirmed with a buy signal from the Trender indicator on Feb. 13.

Fear & Greed often creates a characteristic "double peak" or "double valley" before a major price reversal. In examining the price uptrend that ran from March 14 through May 8, you can see that Fear & Greed exhibited this double peak on April 7 and April 24. After the second peak, the stock price continued to rise as buying pressure began to fade in the market. The next peak, on May 8, was lower than the one on April 24. That indicates a bearish diverging condition. 3M's stock price has dropped 22 percent since hitting this 52-week high of $88.35 on May 8, trading at $69 on Aug. 7.

YOU CAN USE Trender and Fear & Greed for any market and for long- or short-term analysis. Depending on your time

Access in Launchpad
To add the indicators to a Launchpad chart, click on the Studies tab. Click on Trender and Fear & Greed after opening the Bloomberg Technical Studies menu.

horizon, you can adjust the sensitivity factor used to generate the studies' buy and sell signals. To do so, click on the Edit button on the red tool bar and select Existing Study. Click on an indicator. For example, click on TRNDR to select Trender. Next, type 1 <Go> to change the study's properties. Tab in to the SENSITIVITY field, and select a value for sensitivity. The values range from 1 to 10. A value of 1 is the most sensitive, reflecting more short-term trend changes, while a higher value is less sensitive, better reflecting the long-term trend.

You can also access Trender and Fear & Greed in Launchpad. First, type BLP <Go> to start Launchpad. Click on the Launch button on the main tool bar and select Chart to open the Charts Manager component. Click on the Create New button, then on the circle next to Single Security Historical and finally on the Create button. Enter a title for the chart and then a security ticker and yellow market key. Select a chart type, time period and date range. To add the indicators, click on the Studies tab in the upper-left corner of the component and click on the plus sign next to Bloomberg Technical Studies to expand the menu. Next, click on Bloomberg Trender and on Bloomberg Fear/Greed Indicator to select them. Click on Update to view the graph.

To change the properties of a study in Launchpad, click on the Properties tab at the top of the chart. Click on the Studies tab in the upper-left corner of the component if it's not already open. Under the Technical Studies Selected heading, click on the indicator you want to edit and select Edit Study Properties from the menu that appears. Select the Sensitivity value you want to use and click on the Update button.

To ask questions about using Trender and Fear & Greed, press <Help> twice. To access a list of technical indicators, type G <Help> 9 <Go> 2 <Go>. Type GEG <Go> for sample graph worksheets. Type TDEF <Go> to set your defaults for graphs and technical analysis. ‡

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