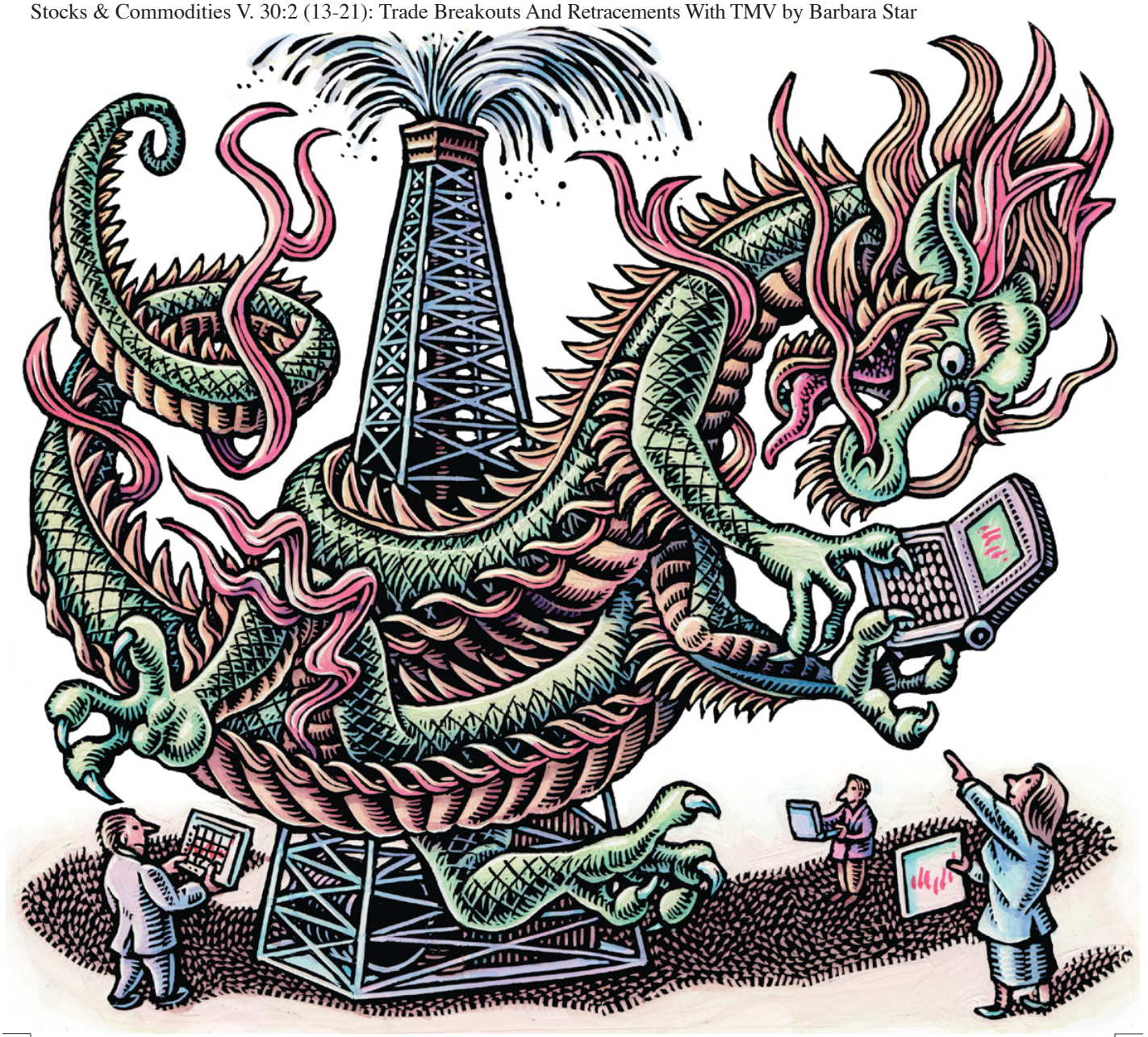
Stocks & Commodities V. 30:2 (13-21): Trade Breakouts And Retracements With TMV by Barbara Star



LISA HANEY

A Series Of Indicators Used As One

Trade Breakouts And Retracements With TMV

Making good trading decisions involves finding indicators that cut through the market noise. But how do you do it without collapsing under the weight of information?

by Barbara Star, PhD

Chart analysis is a multidimensional affair; no single indicator can tell the entire story. After spending years cluttering my screen with multiple indicators, I discovered that more is not necessarily better because they sometimes present conflicting information. Often, it takes longer to analyze the information needed to make decisions.

The goal is to integrate the knowledge that indicators provide in order to evaluate the situation that leads to making good trading decisions. That means each trader needs to find those indicators that cut through the market news (and noise) in a way that makes most sense to him or her without collapsing from information overload. Here's a method I have found useful.

The first step is to determine the categories from which to draw the indicators. For me, that includes trend, momentum, volatility, and volume (TMV). These present a multidimensional view of price behavior to supply a more complete picture.

The second step is to determine which indicators in those categories best fit our own personal trading styles. The TMV indicators I use are taken from technical tools found in most major charting packages: Keltner channels, the commodity

Copyright © Technical Analysis Inc.

FIGURE 1: TREND, MOMENTUM, VOLATILITY AND VOLUME. The template on this daily chart of BIDU exemplifies the trend, momentum, volatility, and volume (TMV) indicators chosen for this article. The CCI occupies the upper panel, Keltner channels are on the price bars, and a volume oscillator identifies volume spikes, which are presented as black bars in the narrow panel below price. A rising ADX in relation to a short-term moving average causes the price bars to turn green or red.

channel index (CCI), the average directional movement index (ADX), and a volume oscillator. When combined, they reduce the clutter and offer the most bang for the informational buck (Figure 1).

The third and final step is to apply the chosen TMV indicators to trading. Because my preference is to trade in the direction of a trend, my examples will show how the indicators can be applied to trading price breakouts and retracements using either intraday or end-of-day data.

VOLATILITY AND TREND

The Keltner channels overlaid on price serve to identify both trend and volatility. Originally known as the 10-day moving average trading rule, Keltner channels were developed more than 50 years ago by Chester Keltner. In his formulation, the middle channel line was based on a 10-day simple moving average of the typical price (high+low+close/3) rather than the closing price. Volatility was derived from the difference between the high to low range of each price bar. The volatility portion that forms the upper and lower channel lines was created by adding and subtracting the value of a simple 10-day moving average of the high to low daily range to the middle line. The only change I made to the original formula was to substitute "20" for the "10" originally used in calculating both the typical and simple moving averages. (See sidebar "MetaStock TMV Formulas.")

Keltner channels are very useful for quickly identifying breakouts and potential trending conditions when prices move above the upper channel line or below the lower channel line. They also indicate sideways action when prices remain confined within the upper and lower channel lines. In addition, they help detect support and resistance levels for retracements or pullbacks during price trends.

The channels fluctuate much less than Bollinger Bands, which are based on standard deviations from the middle band. However, like the Bollinger Bands, when price is in the upper Keltner channel, then price is above its 20-period moving average. When price is in the lower Keltner channel, it is below its moving average. Thus, it is always possible to tell where price is in relation to a 20-period moving average. That means this indicator identifies both volatility and price trend.

Note that some charting packages use a modification to the Keltner channels that was created by Linda Raschke.

METASTOCK TMV FORMULAS

All charts and indicators in this article were created in the MetaStock charting software:

Keltner Channel

```
x:=Input("Number of Periods", 2,500,13);
Mov((H+L+C)/3,x,S);
Mov((H+L+C)/3,x,S) + Mov((H-L),x,S);
Mov((H+L+C)/3,x,S) - Mov((H-L),x,S);
```

ADX Price Rising

```
ADX(10)>Ref(ADX(10),-1)AND When(C>Mov(C,8,S))
```

ADX Price Falling

```
ADX(10)>Ref(ADX(10),-1)AND When(C<Mov(C,8,S))
```

Volume Oscillator

```
OscV(1,20,S,%)>50
```

Expert Advisor

Highlights

```
Green ADX(10)>Ref(ADX(10),-1)AND
When(C>Mov(C,8,S))
Red ADX(10)>Ref(ADX(10),-1)AND When(C<Mov(C,8,S))
```

Copyright © Technical Analysis Inc.

LINDA RASCHKE'S KELTNER MODIFICATION

Many charting software packages use a Keltner channel modification developed by Linda Raschke rather than the original formulation proposed by Chester Keltner. That version is based on an exponentially smoothed moving average (EMA) and a multiple of the average true range added to and subtracted from the EMA. In general, that formula would be:

Middle Line MOV(C,20,EMA)
Upper Line MOV(C,20,EMA) + 2.5(ATR(20))
Lower Line MOV(C,20,EMA) - 2.5(ATR(20))

I have also seen the formula stated as:

Middle Line MOV(C,20,EMA)
Upper Line MOV(C,20,EMA) + 2.5(ATR(10))
Lower Line MOV(C,20,EMA) - 2.5(ATR(10))

Be aware that using the Raschke modification will not produce the same image on the chart or yield the same results as the formula used in this article. As a rule, the outer bands tend to confine more price movement and show more expansion and contraction fluctuations than the original Keltner formula. However, for those readers who may wish to experiment with the Raschke version, I contacted Linda Raschke for additional information. My thanks to her for providing the following about her modification of the Keltner channels. She said:

> "Based on extensive modeling, I use a 20 EMA and 2.5 ATRs on both sides of the EMA. I have tested 25, 30, 35, 40 EMA as well as 2 ATRs and 3 ATRS — all combos tested with a positive expectation, so regardless of the exact parameters one chooses to use, using the Keltners to signal range expansion or increase in momentum proves it is a durable and robust indicator.
>
> "Now, a 20 lookback is not right or wrong or optimal per se — it depends on how you are trying to use the Keltners. For your readership, I would suggest the longer lookback for a more stable period. But sometimes when we are using them for a breakout trigger, a shorter lookback period works better. Shorter (intraday) time frames will penetrate the Keltner channels more than a daily chart. Tick charts behave differently than time-based bar charts as well."

That modification produces a very different image from the original Keltner formula being used in this article. Always check to see which version of Keltner channels is included in the charting software you use. For more information, see the sidebar "Linda Raschke's Keltner Modification."

TREND STRENGTH AND DIRECTION

To further assist with trend identification, I added an average directional movement (ADX) indicator to show trend strength. One component of the directional movement system developed by J. Welles Wilder, the ADX is nondirectional — that is, it rises when it detects strengthening price movement but does not tell the direction of that move. One way to deal with a nondirectional indicator is to pair it with something that is directional. Usually, that is done with the plus (+) and minus (-) directional movement indicators, but in this case, it has been coupled with price in relation to an eight-period simple moving average.

Rather than plot them as separate indicators, I colored the price bars green when a 10-period ADX is rising and price closes above its eight-period simple moving average. The price bars are red when the ADX is rising, but price is closing below an eight-period moving average.

Not only does doing so tell the trader about the intensity of price trend, but it also tells him or her where price is in relation to a short-term eight-period moving average. When the trend strength has begun to diminish, the price bars are no longer colored red or green, which often is an early clue that price may be entering a correction.

MOMENTUM AND TREND

The CCI created by Donald Lambert is a momentum indicator that identifies current price position in relation to the mean or average deviation (not the standard deviation) from a moving average. The indicator oscillates above and below a zero line that is based on a moving average, in this case a 13-period moving average. As seen in the upper panel of Figure 1, a histogram line style replaces the usual solid indicator line that rises and falls above and below the zero line.

The CCI serves to identify increases and decreases in momentum, price extremes above the +100 and below the -100 levels, price divergences, and price reversals. And because a move above or below the zero line on the indicator corresponds to price moving above or below its 13-period moving average, it also reveals price direction.

VOLUME OSCILLATION EXTREMES

The final component of the TMV is a volume oscillator created by subtracting a short-term average of volume from a long-term volume average. Volume is a measure of trading activity, but it isn't always easy to interpret the message it sends. So in this article I decided to focus on volume extremes, in particular those volume spikes that far exceed average daily volume because they often signal price gaps or impending reversals.

To obtain the extremes during a normal trading month, I subtracted a one-period simple moving average of volume from a 20-period simple moving average of volume to determine the percent change. That produces an indicator that oscillates above and below zero. Even though there are no upper or lower limits for this indicator, spikes generally tend to occur above +50. Those levels can be raised to +75 or higher for those stocks that usually trade on heavy volume. When they occur, the volume spikes appear as a black bar in the narrow panel beneath the price chart in Figure 1.

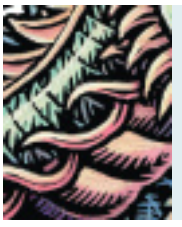


Chart analysis is a multidimensional affair; no single indicator can tell the entire story.

Copyright © Technical Analysis Inc.

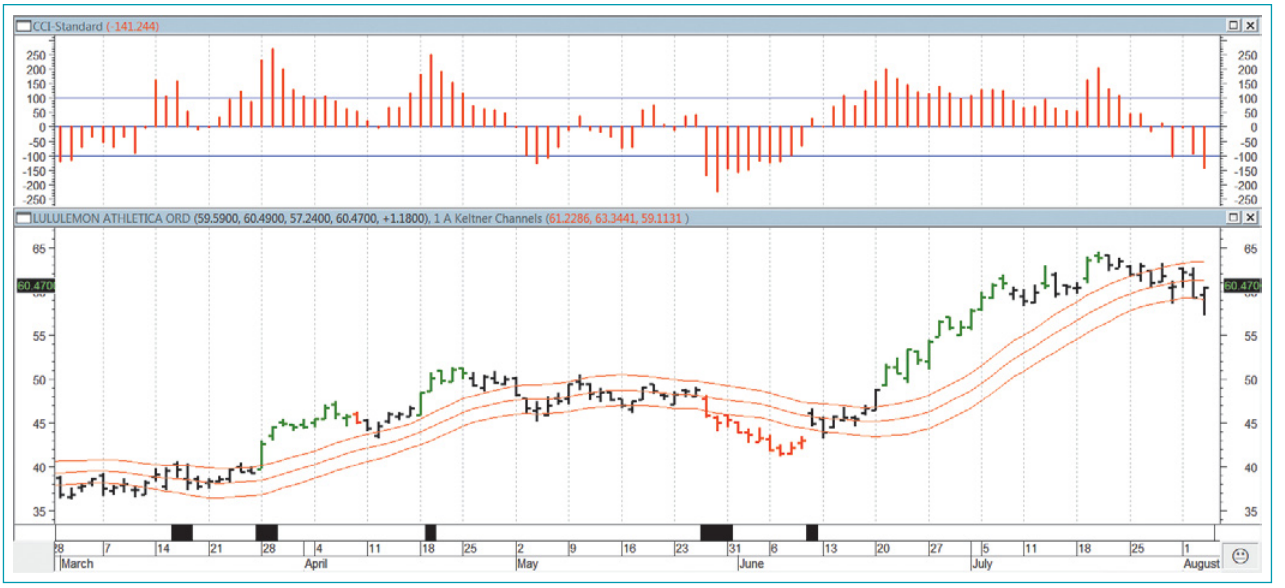


FIGURE 2: IN TUNE WITH THE TREND. The TMV kept traders of LULU on the right side of the trend by waiting for agreement between the position of the CCI in relation to its zero line and price breakouts above or below the Keltner channel.

TRADING WITH THE TMV

The main trading strategy is to look for agreement between the CCI in relation to its zero line and the placement of price in relation to the Keltner channel. During rising conditions, price is above the upper Keltner channel line and the CCI is above its zero line. Pullbacks in a rising trend may take the CCI below the zero line, but price should find support somewhere between the Keltner channel upper and lower lines. During price declines, price falls beneath the lower Keltner channel line and the CCI remains below its zero line. Corrective rallies in a downtrend may cause the CCI to rise above the zero line, but price does not break above the upper Keltner line.

As seen in the BIDU chart in Figure 1, a price break above the upper Keltner line indicated a possible rising trend, which was reinforced when the CCI remained above its zero line. This took place in February 2011 and again in April. Volume spikes marked both breakouts, and price bars turned green during the strengthening trend.

When price fell in March 2011, the CCI dropped below its zero line, but the lower Keltner channel line served as support to contain what turned out to be a pullback in an uptrend. Later in March, the CCI rose above its zero line, but price had not yet broken above the upper channel line. Agreement occurred 10 days later when price broke above the upper Keltner line.

A volume spike in late April accompanied another price decline into the Keltner channel. This time, price did not find support at the lower Keltner line. Instead, it fell below the lower Keltner line in early May, which signified a potential downtrend. As that downtrend became stronger, the bars turned red. Increased volume accompanied rally attempts, but price never pierced the upper Keltner line, even when the CCI rose above zero briefly in late May and early June.

THE IMPORTANCE OF AGREEMENT

Waiting for a CCI and Keltner breakout agreement might cause distress for some traders because it will not happen at the highest or lowest price reversal points. And even when agreement is reached, the trending behavior may only last a short while. However, as shown in Figure 2 (LULU), that method offers traders an opportunity to stay in tune with the trend and often helps to avoid whipsaw price action.

The pattern of agreement seems to hold even on an intraday chart such as the five-minute emini S&P in Figure 3. The price action following the US debt ceiling crisis resolution in early August began the day on heavy volume to the upside with the CCI above its zero line and price above the upper Keltner channel. However, that soon gave way to a strong downside reversal, where price spent the rest of the day. The weak rallies that took the CCI above its zero line met resistance at the upper Keltner line. Those resistance points provided excellent places to enter short positions.

Using the TMV indicators on strong stocks within a strong sector can be profitable for longer-term traders. Figure 4 shows the weekly chart of Chevron (CVX), which rose as the oil sector strengthened during the second half of 2010 and into the highs made in April 2011. Once again these indicators kept traders in harmony with the trend as the CCI remained above its zero line and price was above the upper Keltner line or found support at the middle Keltner line during a normal price retracement.

A warning signal occurred when the indicators fell out of agreement in May and June. At that time, the CCI fell below

Copyright © Technical Analysis Inc.

FIGURE 3: PATTERN OF AGREEMENT. Price found resistance at the upper Keltner channel of the emini S&P 500 during countertrend rallies that pulled the CCI above its zero line on the five-minute chart of the August 2nd decline that followed the debt crisis resolution.

its zero line but price remained within the Keltner channel. The price bounce in July met with resistance at the upper Keltner line, where price reversed and plummeted below the lower Keltner channel. Volume spikes occurred shortly before the beginning of the trend in 2010 and at the breakdown of the lower Keltner line in 2011.

In addition to a change of color from green bars to black bars as price approached the April highs, a bearish divergence between price direction and the CCI histogram, shown by the red lines on the chart, warned of decreasing momentum. And no volume spike occurred on the final small green bar at the April high, which suggested that buying demand was no longer underpinning the market.

COLOR CHANGE ALERTS

When price moves far above or below the channel lines, then reverses direction, and crosses back within the channel, that usually means giving back some profit. The colored bars were added both to identify trend strength and to provide an early alert of a potential reversal. When the bars revert to their normal color, it signifies that the 10-period ADX is no longer rising and at the same time, price is no longer closing above or below its eight-period moving average. The arrows on the chart of the Consumer Discretionary exchange traded fund (XLY) in Figure 5 point to examples of the alert prior to a price reversal.

Ordinarily, green bars appear when price is above the upper

FIGURE 4: STRONG STOCKS WITH STRONG SECTORS. Longer-term traders looking to follow the trend may find the TMV indicators useful to trade strong stocks within a strong sector. The Keltner channels provided price support during normal retracements and resistance when price ran out of momentum and reversed.

Copyright © Technical Analysis Inc.

FIGURE 5: ALERTS. The arrows illustrate a potential price reversal when price has been well outside the Keltner channels and the green and red colored bars revert to their usual black color. The change often serves as an early warning signal that gives a trader time to alter stop-loss levels or consider taking profit.

Keltner line and gathering steam to the upside, and red bars are seen when price is below the lower Keltner line and gathering strength to the downside. However, sometimes the ADX lags the eight-period moving average, which causes a temporary color reversal, as seen on the Navistar chart in Figure 6. This, too, provides a valuable alert.

One or more red bars that appear when price is above the Keltner channel means that the ADX is rising but that price has closed below its eight-period moving average. That occurred at point 2 on the chart. One or more green bars that appear when price is below the Keltner channel means that the ADX is rising but that price has closed above its eight-period moving average. This occurred at points 1, 3, and 4. Either condition warns of an unusual occurrence that could lead to a price shift.

SUMMARY

All too often, traders overload their charts with so many oscillators, lines, and moving averages that they lose sight of the broader market perspective. My goal was to share an analytic template that incorporates major components needed for making accurate and timely trading decisions in an easy-to-use format. In part, this was accomplished by using indicators that give more than one piece of information. Multiple moving averages — the eight, 13, and

FIGURE 6: TEMPORARY COLOR REVERSALS. The unusual occurrence of red bars that appear while price is above the Keltner channel or green bars that appear while price is below the Keltner channel as illustrated by the numbers on this chart often warns of a shift in price.

Copyright © Technical Analysis Inc.

20 periods — were not illustrated separately but integrated with the ADX, CCI, and Keltner indicators. Coloring the price bars and focusing on volume spikes helped call attention to specific or more extreme conditions.

This template is not a trading system. However, it can be used in most time frames to identify breakout and retracement opportunities in trending markets. By the same token, it would not work well in markets that are range bound or do not spend much time above or below the Keltner channels.

Because the TMV is not one indicator but a series of indicators, each reader is encouraged to substitute his or her own favorite indicators within those categories.

Barbara Star is retired from the University of Southern California, where she taught for more than 20 years. She is a past vice president of the Market Analysts of Southern California and led a MetaStock users group for many years. Her articles and software reviews have been published in STOCKS & COMMODITIES since 1991. Currently, she trades part-time and provides individual instruction and consultation to those interested in the technical analysis of the financial markets. Star can be reached at 818 224-4070 or via email at star4070@aol.com.

SUGGESTED READING

Evens, Stuart [1999]. "Keltner Channels," *Technical Analysis of* STOCKS & COMMODITIES, Volume 17: December.

Lambert, Donald R. [1983]. "Commodity Channel Index: Tool For Trading Cyclic Trends," *Technical Analysis of* STOCKS & COMMODITIES, Volume 1: Chapter 5.

‡MetaStock

‡eSignal (data)

See our Traders' Tips section beginning on page 61 for commentary and implementation of Barbara Star's technique in various technical analysis programs. Accompanying program code can be found in the Traders' Tips area of Traders.com.

See also the Subscribers' Area at Traders.com for the code contained in this article.

Find similar articles online at Traders.com

Copyright © Technical Analysis Inc.