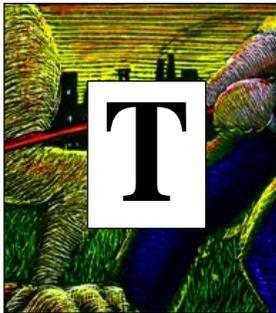


INDICATORS

Reverse Divergences And Momentum

An oscillator's failure to confirm the higher high or the lower low of the market is a red flag to most technical traders. Is there a message when the price diverges from the indicator? This veteran technician thinks there is.

by Martin J. Pring



Technical analysts are constantly comparing prices and indicators to see whether they are moving in gear or if there are discrepancies. It's when discrepancies appear that an alert to a probable change in trend is given. Most traders are familiar with the concept of momentum indicators experiencing positive and negative divergences with price. For instance, as you can see in Figure 1, momentum makes a series of declining peaks as the price works its way higher. This indicates that the underlying momentum is gradually dissipating, signaling that a peak in the price may be at hand. The opposite set of conditions would be true for a declining trend. The problem with divergences is that you never know how many to expect prior to the actual trend reversal.

An unusual but normally reliable discrepancy occurs when

price and momentum switch roles (where the price leads the momentum indicator), the opposite of the normal situation just described. That's why I refer to this phenomenon as a

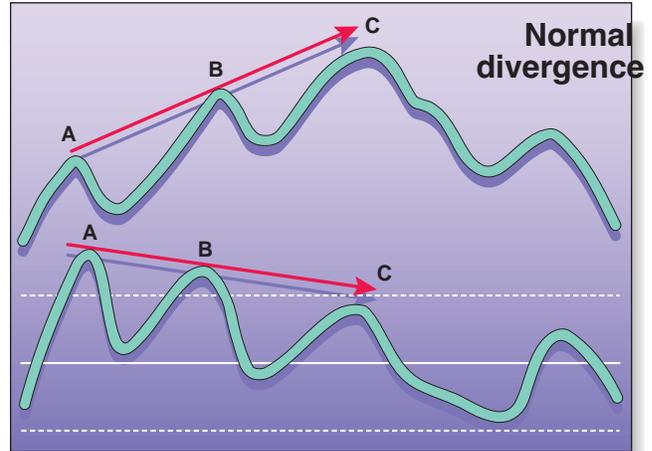


FIGURE 1: NORMAL DIVERGENCE AND PRICE. Momentum makes a series of declining peaks (lower plotline) as the price (upper plotline) works its way higher. This divergence indicates that the underlying momentum is gradually dissipating, signaling that a peak in the price may be at hand. The opposite set of conditions would be true for a declining trend.

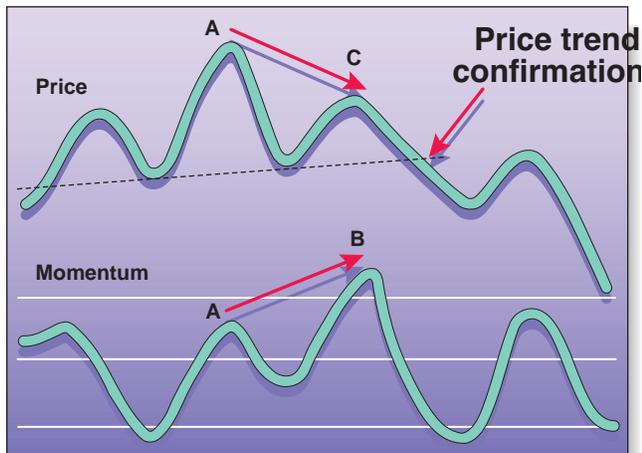


FIGURE 2: REVERSE DIVERGENCE. This chart shows a reverse divergence at a market peak, when price and momentum switch roles, the opposite of the normal situation shown in Figure 1. The price makes its high at point A, then makes a lower high at point B, but the oscillator makes a higher high at B. The fact that the oscillator peaks at B as the price is declining is what makes this a reverse divergence.

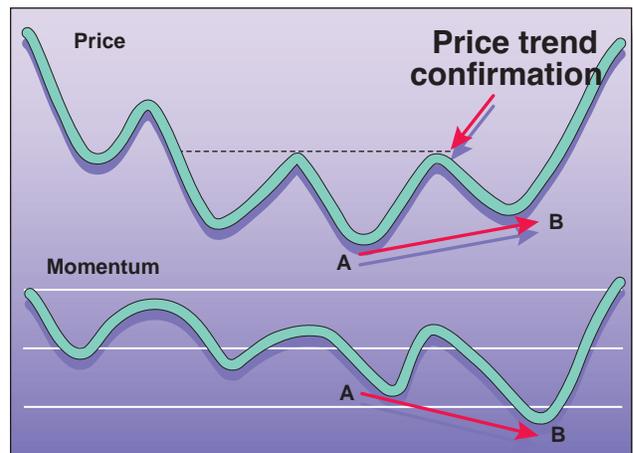


FIGURE 3: PRICE TREND CONFIRMATION. Here's a reverse divergence in action at a market bottom. Price makes its final low at point A; however, the oscillator bottoms at point B. This relationship appears to work so consistently because the market's movements are determined by many different cyclical components, and an individual oscillator only reflects a very small part of that picture. The cycle length dominating the oscillator will depend on the time span of the oscillator, so the longer the time span, the longer the cycle.



reverse divergence. Figure 2 shows a reverse divergence at a market peak. See how the price makes its high at point A, then makes a lower high at point B, but the oscillator makes a higher high at B. The fact that the oscillator peaks at B as the price is declining is what makes this a reverse divergence.

Of course, reverse divergences can also fail, so I like to see some kind of trend reversal in the price as a confirmation. I've used trendlines in these examples, but a reliable moving average crossover† works just as well. Figure 3 shows a reverse divergence in action at a market bottom. Note how the price makes its final low at point A, but the oscillator bottoms at point B. This phenomenon appears to work so consistently

because prices are determined by many different cyclic rhythms, and an individual oscillator only reflects a very small part of that picture. The type of cycle being reflected will, of course, depend on the time span of the oscillator, so the longer the time span, the longer the cycle.

When a price peaks or troughs ahead of the ideal cycle turning point, it indicates underlying strength or weakness, depending on whether it's in a downtrend or uptrend. Perhaps some other cycle not reflected by the specific momentum indicator being monitored has now become dominant. At any rate, when the price peaks or bottoms ahead of the oscillator, there is a strong possibility that a trend reversal will materialize.

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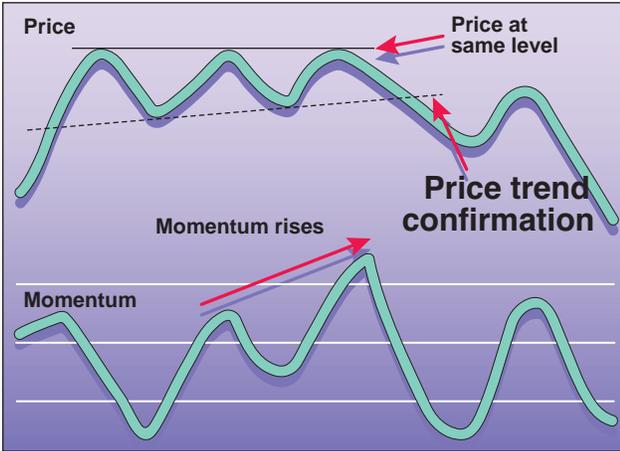


FIGURE 4: REVERSE DIVERGENCE IN A TRADING RANGE. Occasionally, a reverse divergence develops while the market is in a trading range. Here, the price is trading up against a resistance trendline, and each peak is at the same level. However, the oscillator is not constrained by a horizontal trendline and makes a higher peak toward the end of the trading range. This type of reverse divergence is typically followed by a trend reversal.

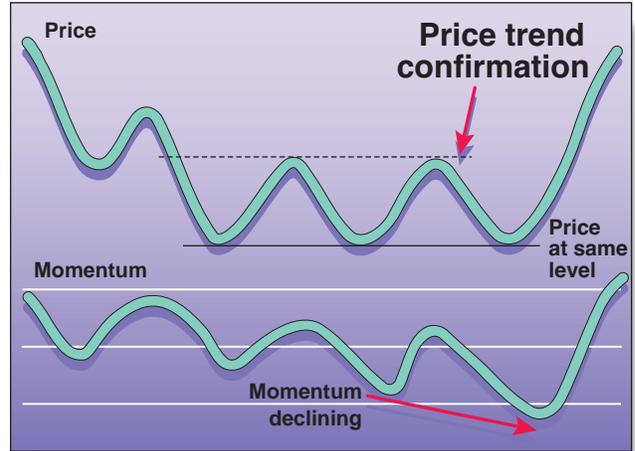


FIGURE 5: FALLING TO NEW LOWS. During a bottoming process, a reverse divergence occurs when the price keeps falling to the same level of support, but somewhere along the line, the oscillator falls to a new low.

Since the price is determined by the interaction of many different time cycles, it's important to plot several momentum indicators with differing time spans for any given situation. This is because the relationship between price and momentum reflected in the reverse divergence will probably only be apparent in one or two of the indicators.

Sometimes, the reverse divergence develops in a trading range environment. In Figure 4, the price is bumping against a resistance trendline and each peak is at the same level. However, the oscillator is not constrained by a horizontal trendline and makes its peak toward the end of the trading range. This type of reverse divergence is typically followed by a trend reversal.

Finally, another valid form of reverse divergence occurs when the same sort of pattern develops at a bottom, where the price keeps falling to the same level of support, but somewhere along the line, the oscillator falls to a new low (Figure 5).

TO CONSIDER

Bear in mind that the significance of the trend being reversed will depend on the time span of the oscillator. An oscillator constructed from monthly data will have greater trend reversal potential than one constructed from daily data. Further, reverse divergences can be observed in many different types of momentum indicators with a jagged appearance. Examples include the relative strength index (RSI), the Chande momentum oscillator and the demand index. I prefer the rate of change (ROC).

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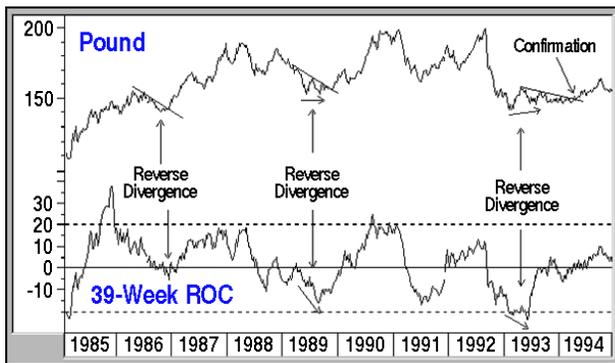


FIGURE 6: BRITISH POUND AND 39-WEEK ROC. At the end of 1986, you can see the arrow marking the momentum low is slightly to the right of the arrow marking the price low. In 1989, the currency was forming the second bottom in a double-bottom formation at a time when the oscillator was touching a multiyear low.

It's important to note, however, that reverse divergences are only valid for raw data because the smoothing process automatically delays turning points, so the turning point for the price often occurs after the smoothed momentum has reversed direction. To get a reverse divergence at a top requires two peaks for the price and two for the indicator. It works the same way for bottoms.

IN THE MARKETPLACE

Figure 6 features the British pound with a 39-week ROC. If you look closely at the end of 1986, you can see the arrow marking the momentum low is just slightly to the right of the arrow marking the price low. In 1989, the currency was forming the second bottom in a double-bottom formation at a time when the oscillator was touching a multiyear low.

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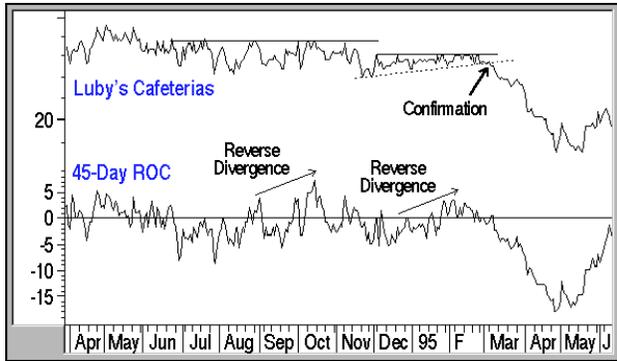


FIGURE 7: LUBY'S CAFETERIAS AND 45-DAY ROC. This variation on the reverse divergence principle is an example of the divergences not appearing after an advance or decline but having been formed during a trading range. Luby's traded sideways in the summer and early fall of 1994. The price was unable to rally above the resistance trendline, although the 45-day ROC was able to make a new high in August, September and October. This rally was followed by a small decline and another trading range. During the second trading range, the same situation occurred as the price was unable to break to the upside, although the ROC did. All this was followed by a fairly severe decline.

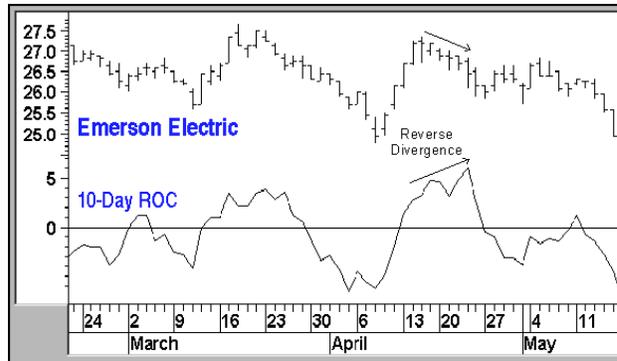


FIGURE 8: EMERSON ELECTRIC AND 10-DAY ROC. Reverse divergences apply to all time spans. See how the price declines in mid-April as the 10-day ROC continues to rally and is then followed by a decline. Unfortunately, there was nothing in the way of a price trend confirmation. Reverse divergences are unusual, but they are another potential tool for your technical arsenal. Don't forget they can also be used with moving average crossovers as well.

The same thing happened in mid-1993. That time, the second price low was higher than the first, but momentum made its low at the second bottom. The pound did experience a move to the \$1.70 area later, but the change in trend following this reverse divergence was from down to sideways, since the currency held above the 1993 low for many years.

Figure 7 shows another example of a reverse divergence in action. Luby's Cafeterias experienced a sideways trading range in the summer and early fall of 1994. The price was unable to rally above the resistance trendline, although the 45-day ROC was able to make a new high in August, September and October. This rally was followed by a small decline and another trading range. During the second trading range, the same situation occurred as the price was unable to break to the upside, although the ROC did. All this was followed by a fairly severe decline. This is also a variation on the reverse divergence principle because the divergences didn't come after an advance or decline but were formed during a trading range.

You may think that reverse divergences are limited to momentum indicators with a longer time frame — long enough to peak or trough after the price series — but this principle applies to all time spans. Figure 8 features a 10-day ROC for Emerson Electric. Look how

the price declines in mid-April as the ROC continues to rally and is then followed by a decline. Unfortunately, there was nothing in the way of a price trend confirmation.

Reverse divergences are unusual, but they are another potential tool for your technical arsenal. Don't forget they can also be used with moving average crossovers as well. But like everything else, they do fail sometimes, so don't forget to get a trend reversal in the price for confirmation.

Martin Pring is the author of a number of books, publishes "The Intermarket Review" and is a principal of the investment counseling firm Pring-Turner Capital Group.

RELATED READING

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†See *Traders' Glossary* for definition

