



### *The Trader's Bread And Butter*

## Volume And Divergence

*Here's how you can use a divergence between price and volume for trading forex futures or exchange traded funds.*

*by Gail Mercer*

**T**he first time I looked at volume on my charts, I thought there had to be something significant in those bars, but I just could not put my finger on what it was. So to find out, I read books, went to seminars, attended online webinars, and studied all the cutting-edge techniques: the low-volume bars, the high-volume bars, the ultra high-volume bars, the signs of weakness, and the signs of strength. Yet on the live edge of the market, the concepts eluded me.

Instead of trading, I found myself frozen with fear of pulling the trigger because I did not know if there were hidden buyers or sellers behind the bar.

### **KNOW YOUR BUYERS AND SELLERS**

After years of frustration I simply took volume off my charts altogether, realizing I might not ever be able to read those little sticks as others could. In lieu of volume, I opted to simply focus on price with my analysis premise defined around price making higher highs and lows, or lower lows and highs, or in congestion (erratic highs and lows).

As I continued to analyze the markets that way, I revamped my understanding of volume to price with a simplified approach. This new method took my volume analysis to the following two questions: was the close greater than the open (buyers), or was it less than the open (sellers)? That was all I needed to know regarding volume.

Nevertheless, I still had this feeling that volume was important, so I continued to look at it on occasion. Finally, I partnered with the principals of FulcrumTraders.com who specialize in

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cumulative delta volume analysis (CDVA). CDVA displays what buyers and sellers are doing at a particular moment in a candlestick formation. It allows you to actually see the volume displayed just like a candlestick price chart. For the first time, this new approach made me feel as though I might be able to understand volume.

Although cumulative delta allows a higher level of understanding of the auction process, the technique I was attracted to was the momentum play. I gravitated toward momentum because I understood divergence, and the momentum play was based on divergence. It was also the most visual of their applications, and this made it easier for me to grasp. Finally, I was beginning to see what volume analysis was all about rather than trying to grasp vague volume concepts.

### UNDERSTAND DIVERGENCE

For traders who need a better understanding of volume divergence, I will start by explaining that the standard volume indicator is nondirectional, with the volume bar beginning at zero. For instance, when price makes higher highs, the volume bars should also be making higher highs. Similarly, when price is making lower lows, the volume bars should also be increasing. In addition, in an uptrend, when price is making lows, the volume should be decreasing. In a downtrend, when price is making highs, the volume should be decreasing.

There are many types of divergences. Divergence in its simplest form is found when price makes a new high, and the volume bar corresponding to that price bar does not make a new high. Divergence is also found when price makes a new low and the volume bar corresponding to that new low is not higher than previous volume bars. It is of the upmost importance to remember that the volume bar indicator is nondirectional.

Now that I had a better understanding of volume divergence and how it worked, I started focusing on analyzing volume bars. The challenge was in how to evaluate which volume bars mattered for determining divergence. Instead of looking at every volume bar, I realized that the important volume bars were those where price makes a high or a low. This led me to

focus on my volume bars.

Instead of concentrating on every volume bar as it related to price, I looked solely at the volume bars that coincided with a high or a low. I designed my own volume bars and colored them in relation to whether the price bars had made either a high, a low, or a high and a low on the same bar (also known as an *outside* bar).

Figure 1 illustrates the difference between standard volume bars and volume bars that coincide with a high or a low. When the price bar made a high, I colored the volume bar blue. When the price bar made a low, I colored the volume bar red. If the price bar made a high and a low on the same bar, then it was necessary to look at the close of the price bar to determine the significance of the volume bar. If the price bar made neither a high nor a low, then it did not convey any useful information, and consequently, it did not need to be displayed. These volume bars are left blank.



**FIGURE 1: STANDARD VOLUME BARS VERSUS VOLUME ON HIGHS AND LOWS.** Here you see the difference between standard volume bars and volume bars that coincide with a high or low. The blue volume bars indicate that the price bar made a high, whereas the red volume bars indicate that the price bar made a low.

**The challenge was in how to evaluate which volume bars mattered for determining divergence.**





**FIGURE 2: EURO THREE-MINUTE CHART ON COLORED VOLUME BARS.** Anytime price makes a high (blue volume bar), you compare the present blue volume bar to the previous volume bar where a high occurred. There is divergence when the new high is on lower volume. Similarly, anytime price makes a low (red volume bar), you compare the present red volume bar to the previous volume bar where a low occurred. If the bar is gray, you look at the close of the price bar. A close that is greater than the open is considered an up bar. A close that is less than the open is considered a down bar.

**BAR-BY-BAR ANALYSIS**

The three-minute chart of the euro/US dollar (EUR/USD) in Figure 2 displays the colored volume bars. Since I know that I only need to compare the volume bars coinciding with a price high and the volume bars coinciding with a price low, the analysis is substantially simplified. Anytime price makes a high (blue volume bar), I compare the present blue volume bar to the previous volume bar where a high occurred.

There is divergence when the new high is on lower volume. Similarly, anytime price makes a low (red volume bar), I compare the present red volume bar to the previous volume bar where a low occurred. If the bar is gray, I need to look at the close of the price bar. A close that is greater than the open is considered an up bar. A close that is less than the open is considered a down bar.

Beginning at point A as price began the pullback, the blue volume bars increased. Then as the new lower high completed, the blue volume bars decreased, indicating divergence. At point B, price made a high and then came back to retest the high.

First, you need to identify the highest volume bar associated with a high. In this case, it is a gray bar in which the close was greater than the open. Next, you compare this volume bar to the volume bar on the highest high, which in this case is lower. This indicates divergence, and in such a case, price is expected to go lower in accordance with the divergence.

At point C, price made a low. At point D, when the low is first tested,



**FIGURE 3: DOWNTREND COMPARATIVE VOLUME ON LOWS.** The selling climax occurred at point A. Each subsequent low was on lower volume (divergence), indicating a weakening of the downtrend (point B).

**FIGURE 4: DOWNTREND ENTRY.** Look for the price bars making a high. Then looking back to where price started to pull back to that high, identify the tallest volume bar that occurred as price was making highs. This becomes the volume bar to which the bar on the ultimate high of the small pullback will be compared. Then determine whether there is divergence at the highs.

the volume bar is higher. However, although price and volume behaved according to expectation for the first retest of the low, the next two bars came back to retest the low, each on lower volume. This signals a potential market bottom.



**VOLUME BEHAVIOR**

In addition to the bar-by-bar analysis, it is also possible to analyze volume behavior as the trend develops. In this case, since price is making lower lows and lower highs, the trend is down. As shown in Figure

3, the selling climax occurred at point A. Each subsequent low was on lower volume (divergence) indicating a weakening of the downtrend (point B).

Incorporating this analysis into a trading plan is simple. For instance, if price is in a downtrend, as illustrated in Figure 4, look for price bars that are making a high. Then, looking back to where price started to pull back to that high, identify the tallest volume bar that occurred as price was making highs. This becomes the volume bar to which the bar on the ultimate high of the small pullback will be compared. Then determine whether there is divergence at the highs.

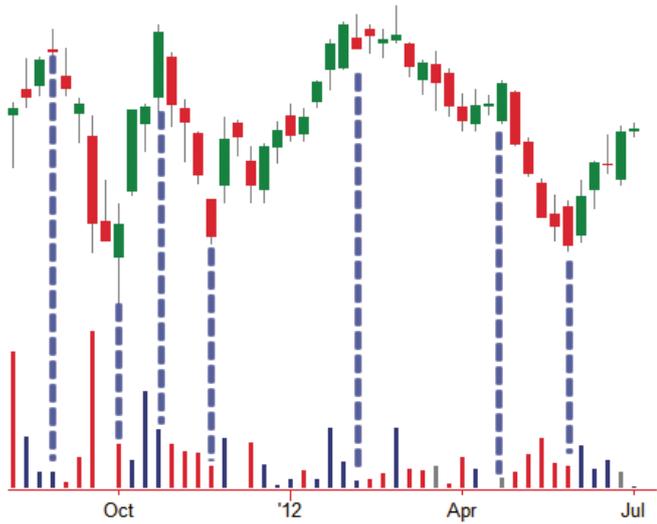
Similarly, for an entry in an uptrend, look at the volume on each low and repeat the procedure as described in the opposite direction to identify the measuring down bar. Then compare the volume bar on the last low to that measuring bar to determine whether there is diverging volume on the lows. This is illustrated in Figure 5.

Will this technique work on a variety of markets and time frames? The answer is simple: as long as there are price and volume bars, the technique will work. This can be demonstrated by looking at a few different markets and time frames.

**FIGURE 5: UPTREND ENTRY.** For an entry in an uptrend, look at the volume on each low and repeat the procedure in the opposite direction to identify the measuring down bar. Then compare the volume bar on the last low to that measuring bar to determine whether there is diverging volume on the lows.

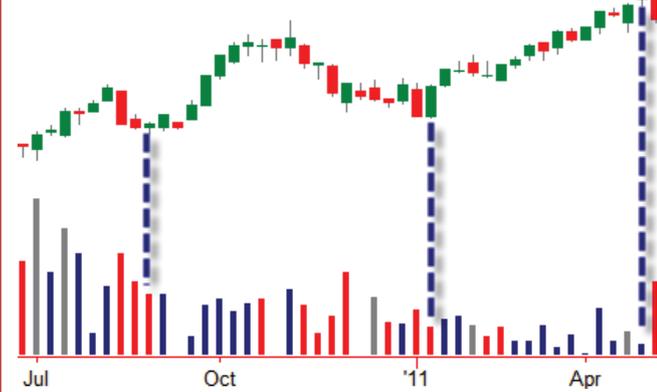


FXA Weekly ARCX



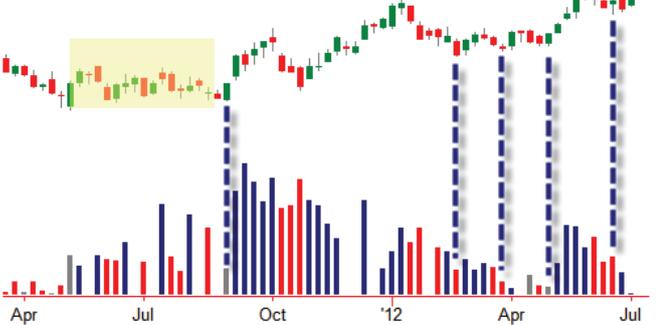
**FIGURE 6: CURRENCYSHARES AUSTRALIAN DOLLAR ETF (FXA).** Each vertical line represents where price has made either a high or low. Although price seems to be in congestion, the entry point can easily be identified for either longs or shorts simply on the basis of the volume patterns at the highs and lows.

ULE - Weekly ARCX



**FIGURE 7: PROSHARES ULTRA EURO 2X LONG ETF (ULE).** The first two vertical lines identify the volume divergence and potential entry into the uptrend. The last vertical line shows the divergence at the top of the market, signaling a profit-taking opportunity.

EUO - Weekly ARCX



**FIGURE 8: PROSHARES ULTRA EURO 2X SHORT ETF (EUO).** Here you see the area of accumulation (yellow box) followed by five vertical lines that correspond to the volume divergence on the lows and possible entry points.

### APPLYING IT TO ETFs

First, let's look at a couple of currency exchange traded funds (ETFs) examples. Figure 6 is the weekly chart of CurrencyShares Australian \$ (FXA). Each vertical line represents where price has made either a high or low. Although the price seems to be in congestion, the entry point can easily be identified for either longs or shorts, simply on the basis of the volume patterns at the highs and lows.

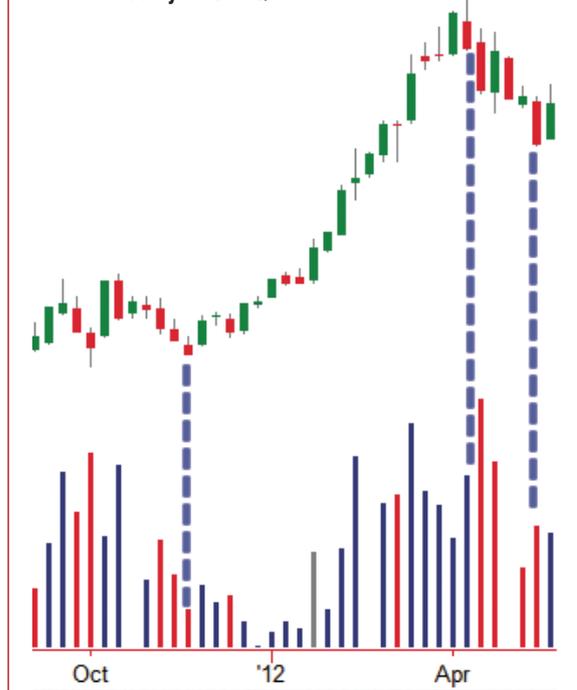
In addition to the CurrencyShares ETFs, there are also ProShare ETFs, which aim to double the daily performance of a specific currency. The first two vertical lines on the weekly chart of ProShares Ultra Euro 2x Long (ULE) in Figure 7 identify the volume divergence and potential entry into the uptrend. The last vertical line shows the divergence at the top of the market, signaling a profit-taking opportunity.

After taking profits in the ULE, we will shift our attention to an ETF that performs opposite to ULE — that is, the ProShares UltraShort Euro 2x Short (EUO). The weekly chart of EUO in Figure 8 identifies the area of accumulation (yellow box), followed by five vertical lines that correspond to the volume divergence on the lows and possible entry points.

### APPLYING IT TO EQUITIES

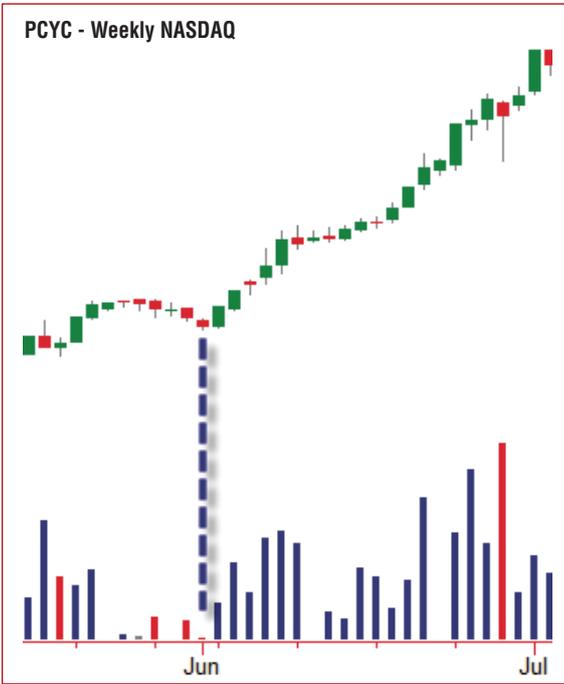
The next market example is taken from a weekly chart of Apple, Inc. (AAPL), that shows an uptrend (Figure 9). The possible entry point is ascertained by looking at the lows

AAPL - Weekly NASDAQ

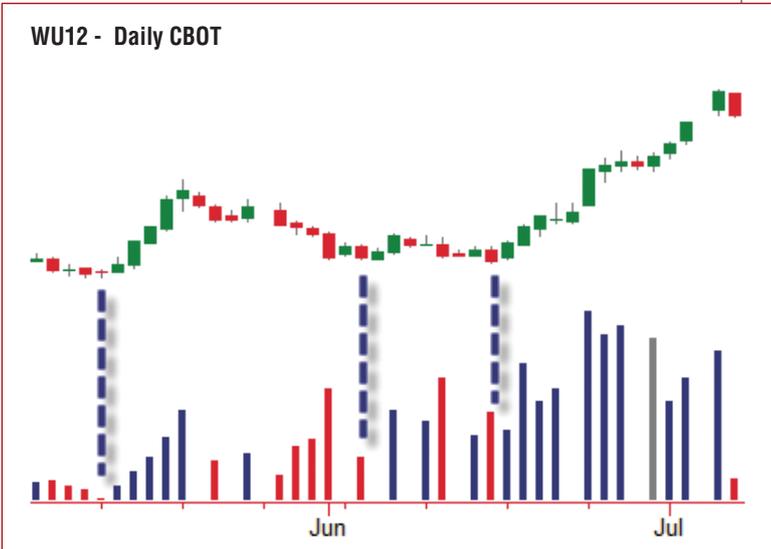


**FIGURE 9: WEEKLY CHART OF APPLE, INC. (AAPL).** The first blue vertical dotted line identifies where price made a low on diverging volume, thus providing the entry point. Price goes on to make new highs and eventually gives a short diverging volume on the high, indicating that profits should be taken. Then as price begins to pull back, new lows are being created. On the last blue vertical dotted line, price has made a new low on diverging long volume, providing another potential entry to the upside.

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**FIGURE 10: DAILY CHART OF PHARMACYCLICS (PCYC).** The entry in the uptrend was generated by a single volume divergence on the lows.



**FIGURE 11: DAILY CHART OF SEPTEMBER 2012 WHEAT CONTRACTS**

and determining whether there is long volume divergence at that point. The first blue vertical dotted line identifies where price made a low on diverging volume (the red volume bars are increasingly smaller as price proceeds lower), thus providing the entry point. Price goes on to make new highs and eventually gives a short diverging volume on the high (second blue vertical dotted line), indicating that profits should be taken.

Then as price begins to pull back, new lows are being created. Upon measuring the selling volume coinciding with the lows, it is easy to see that on the last blue vertical dotted line price has made a new low on diverging long volume, providing another potential entry to the upside.

On the daily chart of Pharmacyclics (PCYC), as illustrated in Figure 10, the entry in the uptrend was generated by a single volume divergence on the lows.

**WHAT ABOUT COMMODITIES?**

Volume divergence analysis works just as well in commodities as it does with ETFs and equities. The daily chart of September 2012 wheat contracts in Figure 11, the five-minute chart of August 2012 soybeans contracts in Figure 12, and the three-minute chart of August 2012

**SQ12 - 5 min CBOT**



**FIGURE 12: FIVE-MINUTE CHART OF AUGUST 2012 SOYBEANS CONTRACTS**



*"Dad, Eddie and I are expanding our lemonade business. Our IPO is coming up soon and we thought you'd like to have first crack at it. Can we put you down for a couple of million?"*

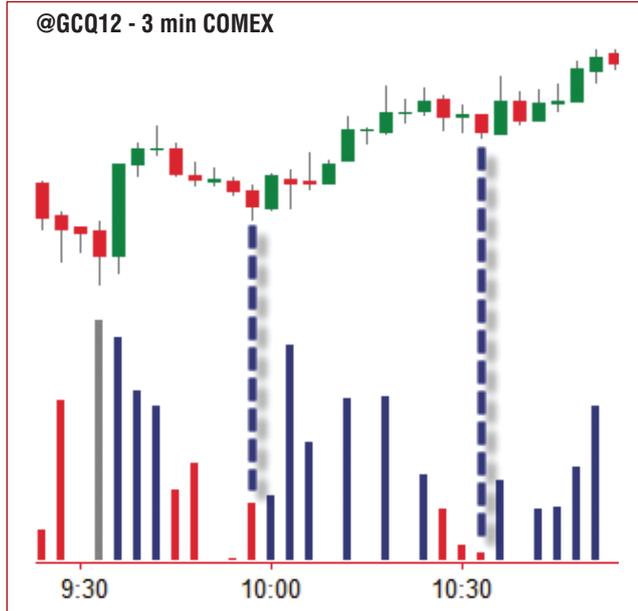


FIGURE 13: THREE-MINUTE CHART OF AUGUST 2012 GOLD CONTRACTS



FIGURE 14: THREE-MINUTE CHART OF SEPTEMBER EMINI S&P 500 CONTRACTS. Each of the vertical lines represents an entry into the downtrend based on diverging volume resulting in a three-point move every time.



**Volume divergence analysis works just as well in commodities as it does with ETFs and equities.**

gold contracts in Figure 13 illustrate the same concept. The only difference is a change in the symbol and time frames.

Finally, will it work for those who like to scalp the mini S&P 500? Yes. The three-minute chart of the September emini S&P 500 contracts in Figure 14 illustrates how effective this technique is for scalping during the market opening on July 6, 2012. Each of the vertical lines represents an entry into the downtrend based on diverging volume, resulting in a three-point move every time.

### IS IT THE HOLY GRAIL OF TRADING?

Once again, this demonstrates that this divergence technique is simple yet powerful, providing an edge for any experienced trader. Is it the holy grail? Absolutely not, but it will often explain why support did not hold, or why a trend reversed just as it started to accelerate. The technique is substantially more powerful when executed and integrated with price reversal patterns, support/resistance levels, multiple time frames, gap analysis principles, and within liquid markets having sufficient volatility.

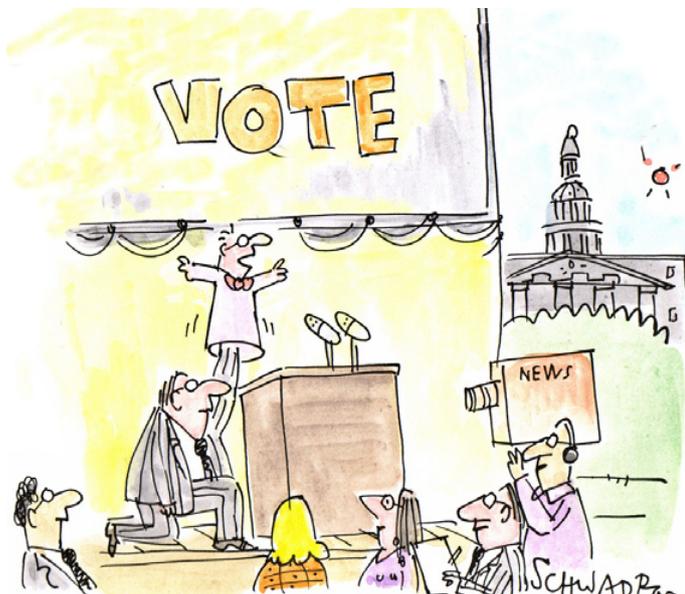
*Gail Mercer is a trader, director, and instructor for trader-shelpdesk.com, and is known as an indicator expert. Mercer hosts a free live trading room where she teaches forex and index traders how to approach the markets. She currently trades futures, forex, indexes, and stocks.*

### SUGGESTED READING

Mercer, Gail [2011]. "Empowering Traders With The Russell 2000," *Technical Analysis of STOCKS & COMMODITIES*, Volume 29: March.

\_\_\_\_ [2010]. "Looking At Other Markets," *Technical Analysis of STOCKS & COMMODITIES*, Volume 28: May.

‡MultiCharts



"My campaign promise: The US government will no longer prop up puppet governments overseas."



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