

Introduction to CQG TradeFlow™

by Thom Hartle

TradeFlow, a revolutionary way to see the market.

CQG has led the trading industry in bringing innovative new technology to traders. CQG's latest groundbreaking tool is called TradeFlow. CQG TradeFlow enables the trader to see order execution as it happens using color-coding to designate traded volume at the bid versus at the asking price for electronically traded contracts. Now, traders can instantly track the inside market with CQG TradeFlow.

To start, we will walk through the basic TradeFlow chart and preference choices. Next, we'll detail the TradeFlow studies: TradeFlow Volume, TradeFlow On-Balance Volume and TradeFlow On-Balance Oscillator. In addition, because TradeFlow is a chart type, other studies can be applied to the TradeFlow chart. The final example displays the Imoku study and TradeFlow.

TradeFlow™

The TradeFlow bar shows the best bid as the low and the best ask as the high. The width of the bar is the total volume of executed trades during the formation of the TradeFlow bar. The bar is color coded on a split basis. The red portion reflects the percentage of trades executed into the bid price. The green portion is the percentage of volume where traders lifted or paid the ask price.

Studies, such as moving averages can be applied to TradeFlow chart as an overlay or can be plotted in their own window, for example, the relative strength index.

Figure 1 is a TradeFlow chart of the E-mini S&P 500 with the total volume of trading for each TradeFlow bar. Certain TradeFlow attributes have been highlighted.

First, the width and brightness of the bar is based on the total volume of volume contracts trading hands during the formation of the bar. Checking the chart and comparing the width of the TradeFlow bar to the volume study illustrates the relationship. If the level of volume is high, then the TradeFlow bar is wide. If the level of volume is low, then the width of the TradeFlow bar is narrow. TradeFlow highlights high and low active periods.

Second, the bar is color coded based on the number of contracts traded at the ask price versus the volume of contracts traded into the bid price. In other words, the color coding of the bars reflect whether traders are paying up by lifting contracts at the ask price versus traders selling by hitting bids.

Figure 2 shows the preferences window for TradeFlow. The TradeFlow bars use five levels of width:

1. No volume
2. Small volume
3. Medium volume
4. Large volume
5. Extra-large volume

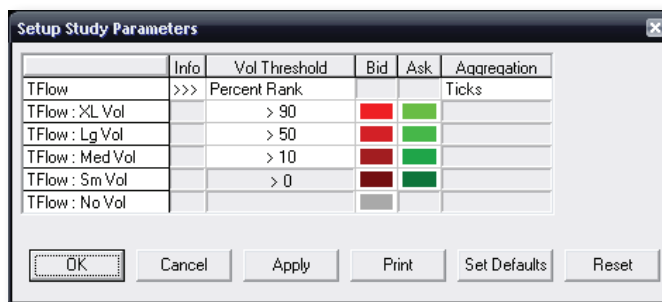
The second column uses one of **two methods** for determining which group the current bar's reading lands in.

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E-mini S&P 500. The width of the bar is based on the total number of contracts traded. The TradeFlow bar is split color coded on a percentage basis. Green indicates the percentage of volume that traders paid the ask price. Red is the percentage of volume of contracts where traders hit the bid.

Figure 2



TradeFlow Preferences. The width and the color coding of the TradeFlow bar is based upon either a percentile ranking or on the levels of actual trade volume. Aggregation combines individual TradeFlow bars into one. Type "5" in a TradeFlow chart; the high-low range of the TradeFlow bar will be a maximum of five ticks; if Bars is selected then five completed TradeFlow bars make one aggregated TradeFlow bar.

1. The default setting, "Percent Rank", normalizes the volume readings to determine what the current bar's volume reading is relative to the recent history. The algorithm ranks the historical volume readings from lowest to the highest over a fixed look back period. Then the range of volume readings is broken into five groups using the following scores: no volume, greater than zero and up to 10%, greater than 10% and up to 50%, greater than 50% and up to 90%, greater than 90% and up to 100%. These are the default settings, including the colors for the bars

and the width, which can be altered by the trader. A simple explanation follows: If the look back period was 1,000 TradeFlow bars, and the range of volume readings for TradeFlow bars was 0 to 1,000 contracts and the current bar's volume was 750 contracts, the bar would be 75% of the range and would be considered large volume (greater than 50%, but less than 90%).

2. The second choice is to use actual contracts. Now, the volume of the current bar is compared to the four different ranges of actual volume groups set by the trader.

Next, the bars are color coded using a split format. The color represents the percentage of the total volume traded during the formation of the TradeFlow bar that were traders paying the ask price versus traders selling into the bid price.

Dark to light green reflects the percentage of volume of contracts traded at the ask price. Dark to light red represents the percentage of volume of contracts executed into the bid.

For example, if the E-mini S&P 500 futures contract was offered at 1265.25 and traders lifted a total of 400 contracts and hit the 1265.00 bid for 100 contracts the TradeFlow bar would be 80% green (400/500) from the bottom up and the top 20% would be red. The shade of red and green is determined by which "percent rank" group or "actual" volume group the current bar's volume reading landed in.

TradeFlow™ Studies

Besides the chart style there are three studies accompanying the TradeFlow chart:

- TradeFlow Volume - displays separate volume histogram bars of executions at the ask price versus into the bid price.
- TradeFlow On-Balance Volume - uses net volume of trades at the offer and into the bid.

TradeFlow™ Volume

The TradeFlow Volume study displays the total number of contracts traded at the asking price and total number of contracts traded into the bid price as histogram bars. Figure 3 displays the TradeFlow Volume study at the bottom of the TradeFlow chart.

During this uptrend, traders were consistently lifting offers or paying the ask price whenever the market stabilized. We can see this by the constant series of mostly green TradeFlow bars and the taller, on average, green histogram bars in the TradeFlow Volume Study.

Figure 4 displays the TradeFlow Volume parameters which enable you to set the color coding based on large volume and small volume execution. The "Vol Threshold" parameter is the cutoff level for color coding the histogram bars in the TradeFlow volume study.

In this case, it specifies how much actual volume is the minimum amount of volume to categorize the trade as a large trade versus a small trade.

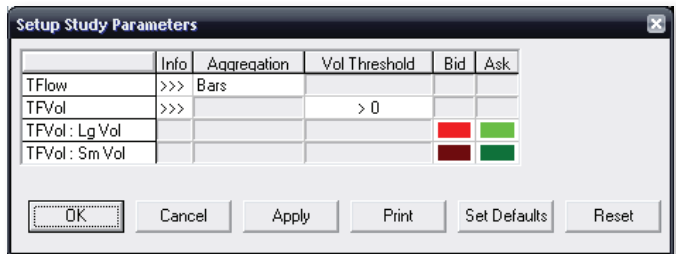
All consecutive trades with no bids or asks between them are considered to be one trade for the purpose of identifying large and small trades. If set to zero, all execution is considered large volume and the histogram bars are light red or green.

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TradeFlow Volume study. The TradeFlow volume study plots the volume of executed trades at the ask price (green histogram bars) versus the volume of executed trades into the bid price (red histogram bars).

Figure 4



TradeFlow Volume Parameters. You can set the parameters to display the histogram bars as separating small volume from large volume executions. If set to "0", then all of the volume is considered large and the histogram bars are all light green or light red.

Figure 5 shows Figure 3 with the Vol Threshold set to 100. The TradeFlow volume study separates the executed trades into large and small trades and colors the histogram bars on a split basis based on small versus large trades.

The next study is the TradeFlow On-Balance Volume Line. Figure 6 is the TradeFlow chart with the TradeFlow OBV line.

TradeFlow On-Balance Volume makes the most of the TradeFlow volume analysis. To illustrate this, first an explanation of the classic on-balance volume line is in order.

The classic on-balance volume line is a running sum. It uses the closing price of the bar and if the close is higher than the previous close then the total volume of the bar is added to the cumulative value. If the bar closes below the previous bar's close, the entire volume is subtracted from the cumulative value.

The classic approach assumes that if the close was down, sellers are thought to be dominating and all of the volume is subtracted from the OBV line. If the close was up, then buyers are assumed to be in control and all of the volume is added to the OBV line.

However, a situation can exist that causes an OBV line's drop to be misleading:

- A market can be rallying from low levels going into the close due to very good buying.
- Buyers did not have the time to run the market high enough to close up relative to the previous bar's close.

In such a case, if the close is down from the previous bar, then all of the volume is subtracted from the OBV line despite all of this heavy buying.

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TradeFlow Volume Study. The Vol Threshold was set to 100 and now the histogram bars are split colored based on small volume and large volume of executed trades.

Figure 6



TradeFlow On-Balance Line. The TradeFlow OBV line uses the net difference between the volume of trades executed at the ask price and volume of trades executed at the bid price. Studies, such as the moving average can applied to the TradeFlow OBV line. In this example, a 20-period exponential moving average (the blue line) is used.

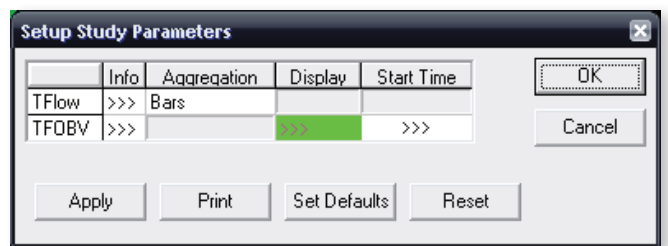
On the other hand, TradeFlow On-Balance Volume tracks the net difference between the volume of trades executed at the ask price and the volume of trades executed at the bid price. This net difference is added to the cumulative or running sum that is plotted as the TradeFlow OBV line.

Therefore, if more traders are paying the ask price (buying) than hitting bids (selling), the TradeFlow OBV line will reflect this accounting of greater demand than supply by giving a positive reading without any consideration to whether the TradeFlow bar finishes at a higher or lower price than the previous TradeFlow bar.

Figure 6 shows how the TradeFlow Volume OBV line was rising at a steady rate indicating persistent buying by traders. Figures 7 and 8 are the parameters for TradeFlow OBV.

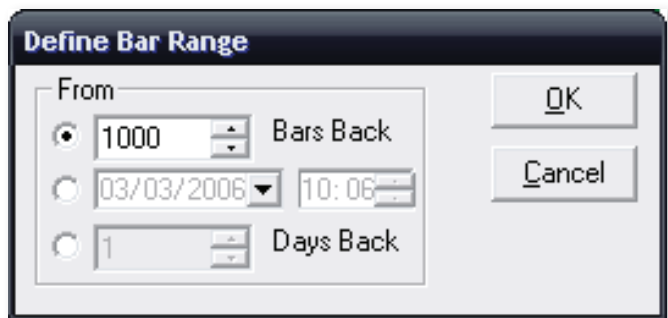
The final study is the TradeFlow On-Balance Volume Oscillator (TFOBVO™). The TFOBVO is used to identify overbought and oversold conditions. Traders

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TradeFlow OBV Parameters. Traders have the choice of actual volume or tick volume and start time setup.

Figure 8



Start Time. Traders can set the start time for the TradeFlow OBV line calculation to a number of bars back, specific date, or days back.

can view positive readings as a sign of demand and negative value as an indication of selling. The oscillator's default setting is the difference between a 4- and 8-bar simple moving average of the TradeFlow On-Balance Volume line. Figure 9 is an example of the TradeFlow On-Balance Volume Oscillator. In this figure the OBVO tended to turn up just before the market was starting to move away from support.

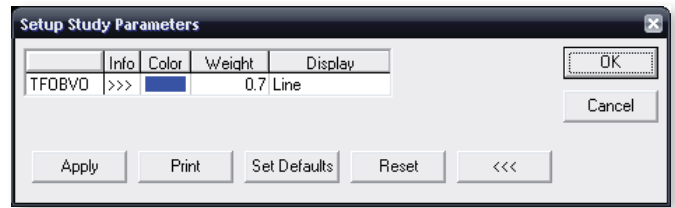
The setup parameters default setting is the difference between the 4- and 8-bar simple moving average. Traders can select other lookback periods and smoothing algorithms. Figures 10 and 11 are the setup study parameters. TradeFlow is an innovative way to follow the markets. You can see firsthand whether traders are buying by lifting offers or selling by hitting bids. Next, the Imoku study is applied to a TradeFlow chart.

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TradeFlow On Balance Volume Oscillator. The oscillator's default setting is the difference between a 4- and 8-bar simple moving average of the TradeFlow On-Balance Volume line.

Figure 11

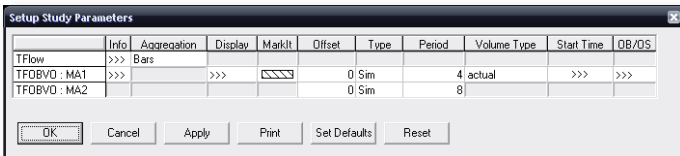


TFOBVO Setup Study Parameters. Here, you can choose the weight of the line and you have the choice of a line display or a histogram bar display.

TradeFlow™ and CQG Studies

Traders can apply their favorite studies to the TradeFlow chart. A study can be arranged as an overlay on the TradeFlow bars or plotted in its own window. The TradeFlow bars use the first trade for the open and the last trade for the close. Figure 12 shows the Imoku study plotted over the TradeFlow bars and the stochastics oscillator plotted below the chart.

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TFOBVO Setup Study Parameters. Traders can input various look back period values as well as choose between a number of smoothing techniques including simple, exponential and weighted moving averages. Also, either actual or tick volume may be used.

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Here, the Imoku study is plotted over the TradeFlow chart and the stochastics oscillator is plotted below the price chart. **Patent Pending**

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