Markets provide a lot of data to forecast future price direction. The challenge is to convert the data into useful information. Surprisingly, price, the item traders usually watch most closely, is the least useful, one study shows.

Comparing price, volume & open interest

BY JAMES S. GOULD

Forecasting prices should be easy considering there are only three possible directions for price movements — up, down or sideways. However, if it were easy to forecast prices, there would be no market "losers," and every trade would be a guaranteed profit.

Markets continually provide the necessary data for forecasting the direction of prices. The job of traders is to interpret market data correctly and convert it into market information. Data provided by the market include current and past prices of the individual contract being considered as well as for all other traded markets, volume and open interest. Futures traders have a distinct advantage over equity traders because open interest is not available for equities.

Collectively, price, volume and open interest provide answers to three of the four essential questions: *What? How?* and *By whom?* Unanswered is the fourth question: *Why?*

FILLING IN ANSWERS

Price (movement) provides answers to the question about what happened. In reality, price movements are the result of underlying actions (buying and selling) reflecting the forces of supply and demand. Studying price alone to forecast price is limiting because only the resultant action (price movement) is considered. Future prices could move up, down or sideways, depending on the market's prevailing underlying strength of supply/demand reflected by buying/selling pressure.

Volume provides answers to the question *How?* Volume can be thought of as the force behind the price movement. High trading volume reflects strong interest by buyers and sellers to participate in the market while low volume reflects an absence of buying and selling interest. Volume accompanying price movement is a reflection of buying/selling pressure.

However, for every buyer there must be a seller, so volume alone does not tell which market force (supply or demand) is stronger. Volume combined with price does provide an indication of the current supply/demand balance underlying price. Trading axioms show an increasing trend, rising prices and rising volume indicate further price increases ahead. That information is helpful and offers greater assurance of being "correct" than an examination of price behavior alone.

Open interest provides answers to which traders (new market entrants or current position holders) are the dominant market force underlying current prices. Open interest increases when new market entrants (buyers and sellers) enter the market in greater numbers than current position holders exit the market. Open interest declines when current position holders exit their positions in greater numbers than are replaced by new market entrants. Open interest remains unchanged when current position holder trades are offset by new market entrants. Open interest combined with price provides insight about who is the prevailing dominant market force.

Information as to why trades are placed is also essential to forecast future price direction and must be inferred from current and recent price action. New positions are established with expectations of making money (greed) while current positions are closed to prevent further losses (fear), or because price objectives have been attained and the likelihood of further price movements in the desired direction are unexpected. Keeping these basics in mind and observing price direction (trend), astute price forecasters can surmise why trades were placed.

INTERPRETING SKILLS

Interpreting accumulation and distribution phases of price movements is facilitated by examining open interest and volume.

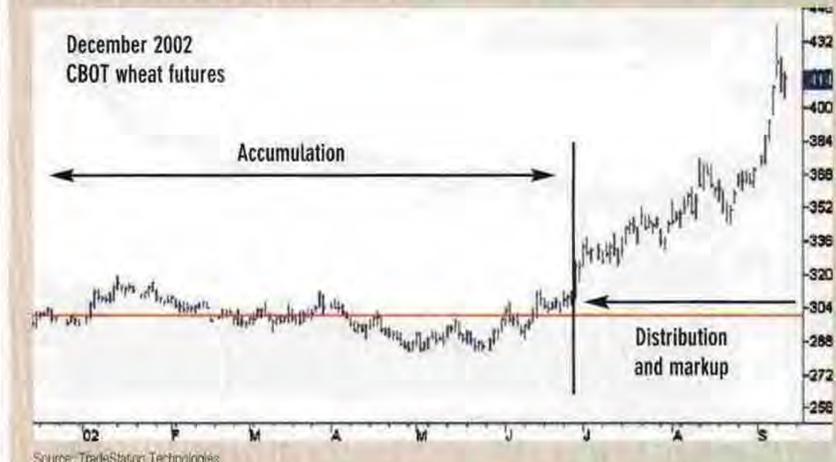
During accumulation volume should increase because current position holders — the public/weak hands — expecting declining prices (fear) are selling to new market entrants — insiders/smart money — who are buying in anticipation of rising prices (greed) and are entering the market in large numbers and absorbing all floating supply. The change in open interest should decline due to current position holders who probably bought at higher prices getting out at a loss (fear). New market entrants (smart money/insiders/strong hands) are building inventories for the markup phase of the price movement which will occur at a future date.

During distribution volume should also increase, reflecting the desire of current position holders — smart money/insiders/strong hands — to transfer positions to new market entrants and the desire of new market entrants to "get on board" (greed) before it is too late.

Increased trading volume answers the question about how price increased

GOING THROUGH PHASES

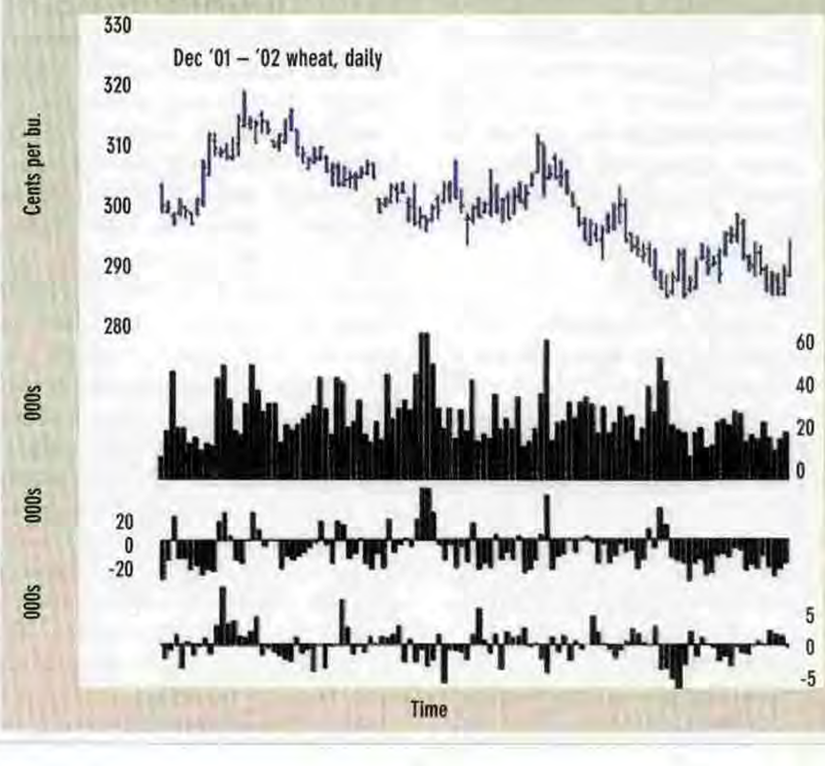
December wheat futures went through a lengthy accumulation phase before beginning the distribution phase in the summer of 2002.



Source: TradeStation Technologies

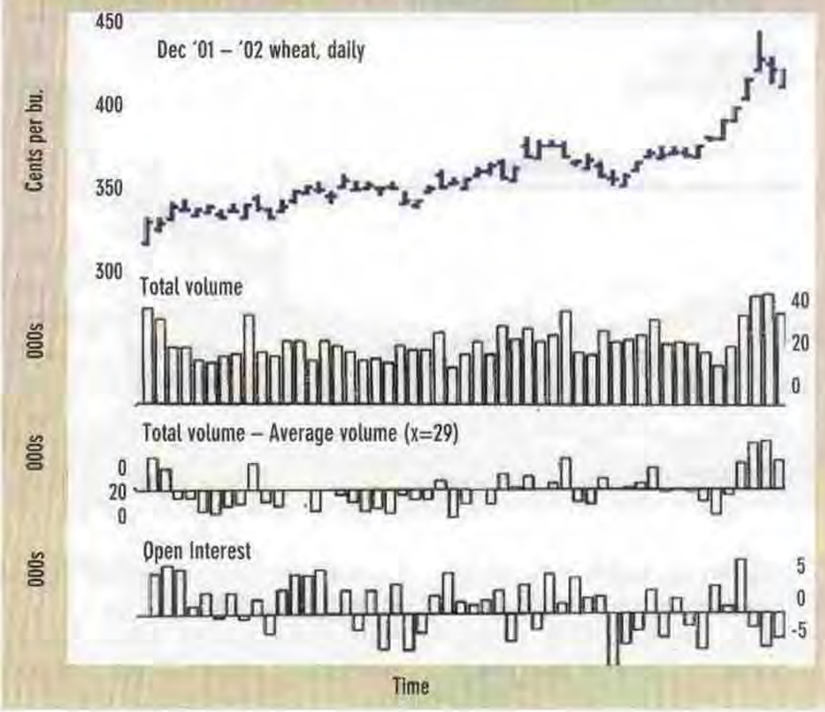
ACCUMULATION PHASE TRAITS

Even while continuing its lengthy decline, wheat provided some hints of a bullish condition in its market data.



DISTRIBUTION PHASE TRAITS

As the rally in wheat unfurled, market data showed some signs of technical weakness as volume was mediocre and open interest declined.



but leaves unanswered the question, *By whom?* Open interest is also expected to decrease, reflecting the desire of current position holders (weak hands/the public) to close positions and get out before suffering greater losses (fear). Once again, however, the increased trading volume answers the question of how price increased but leaves unanswered the questions *By whom?* and *Why?*

ANALYZING THE DATA

Three graphs of December 2002 wheat futures at the Chicago Board of Trade illustrate the use of volume and open interest to forecast prices and assess the underlying strength and weakness of supply and demand as reflected by buying and selling pressure. "Going through phases" (page 53) shows the contract price history with areas of accumulation and distribution marked. For forecasting purposes this has the least value.

"Accumulation phase traits" (page 53) shows daily volume, the difference between daily volume and average volume and open interest during the accumulation phase following a long price decline. The decline in trading volume while price declined is bullish. Average trading volume during accumulation was 30,400 contracts. Comparing the difference between daily trading volume and average trading volume indicates that daily volume was below average volume during accumulation, suggesting a bullish market condition. Declining open interest while the price declined suggests current position holders were leaving the market. The increase in open interest during the last four trading days suggests new positions entered the market and foretold a possible price increase.

"Distribution phase traits" (above) shows volume, the difference from average volume and open interest during the distribution phase. The absence of an increase in trading volume as price increased is a sign of technical weakness. This is further confirmed by comparing the difference between daily trading volume and average trading volume (29,000 contracts), indicating daily volume was below average and confirming technical weakness. Increasing open interest suggests new position holders (weak hands/the public) were entering the market.

During distribution, open interest and volume provided important market information. The mediocre volume indicated further price increases were unlikely while increasing open interest reflected new market entrants. Price and volume behavior for the last four trading days appeared very bullish, suggesting further price increases are ahead. However, open interest during the same time period indicates established position holders, who probably bought at higher prices, are leaving the market fearing a loss, while new market participants are not entering the market. This has the appearance of a bull trap and suggests lower prices may be forthcoming.

Price, volume or open interest — which is most important to foretell the direction of price movements? The answer is open interest (by whom), which provides greater insight to understanding market forces (buying/selling, supply/demand) underlying the current price and provides information to interpret volume's answer of how. Of lesser importance but still important, is the amount of volume accompanying the price movement.

Mastery of the market is little more than the ability to determine which market force (supply/demand reflected by buying and selling) is dominant at the current time period and assessing when the balance changes. To accomplish this, you must use all available information (open interest and volume) to foretell future price direction. **FM**

James S. Gould is professor of marketing at Pace University in White Plains, N.Y. He prepares grain price forecasts for Grains Newsletter using Grandmill's method. He can be reached at jgould@pace.edu