

Speculative Flows And Index-Level Prices

Let's put on our thinking caps and adjust the chinstraps for a bumpy ride. One of the greatest puzzles to the author over the years is the conceit the Commodity Futures Trading Commission's weekly Commitment of Traders (COT) report can be used to divine price direction.

The problem is and has been doubly puzzling as the CFTC has adjusted the COT report over the years in several ways. It used to be biweekly and then it was changed to weekly; who can be opposed to a higher data frequency? Second, it divided the world into the arbitrary categories of Commercial, Non-Commercial and Non-Reportable. The assumption amongst many was the Commercials might be involved more in hedging or in using futures to price deliveries or to fix and float swap positions; left unspoken is the simple reality many Commercial traders are as much gunslinger as any professional CTA or proprietary trader.

Third, the dividing line between reportable and Non-Reportable positions has shifted multiple times for many markets and in many cases has reached a high level. For example, the current Non-Reportable position level for ten-year Treasury note futures is 1,000 contracts. Walk into your FCM, tell them you have a 900-lot ten-year Treasury order and you will receive all manner of treatment inconsistent with Non-Reportable status.

Fourth, the COT data is not amenable to cross-sectional pooling. Each market has different characteristics and simple F-tests to see whether the data can be pooled always indicate they cannot be. This means the occasional anecdotal trade where an extreme position precedes a reversal in a market is just that, anecdotal, and not something that can be applied across markets.

The most important consideration, though, is how most position traders as opposed to high-frequency and day-traders, spread traders and those involved in futures/cash or futures/options arbitrage go about setting their positions. The dominant tool is trend-following in all of its various manifestations; it always has been and always will be as a long-term position against the dominant trend is assured of losing money. As Commercial traders have a much higher probability of having offsetting cash market positions, the Non-Commercials should be trend-followers in the main.

Price, Value And Trend

Trend-following, for all of its value, has some intrinsic flaws. Let's stipulate price in a market is a convergent search process for an underlying economic value. We can observe and therefore "know" price; we cannot know value. As new price information comes into the market constantly, value changes constantly and price effectively has to chase it, replete with all of those overshoots, retracements, etc, we find on charts.

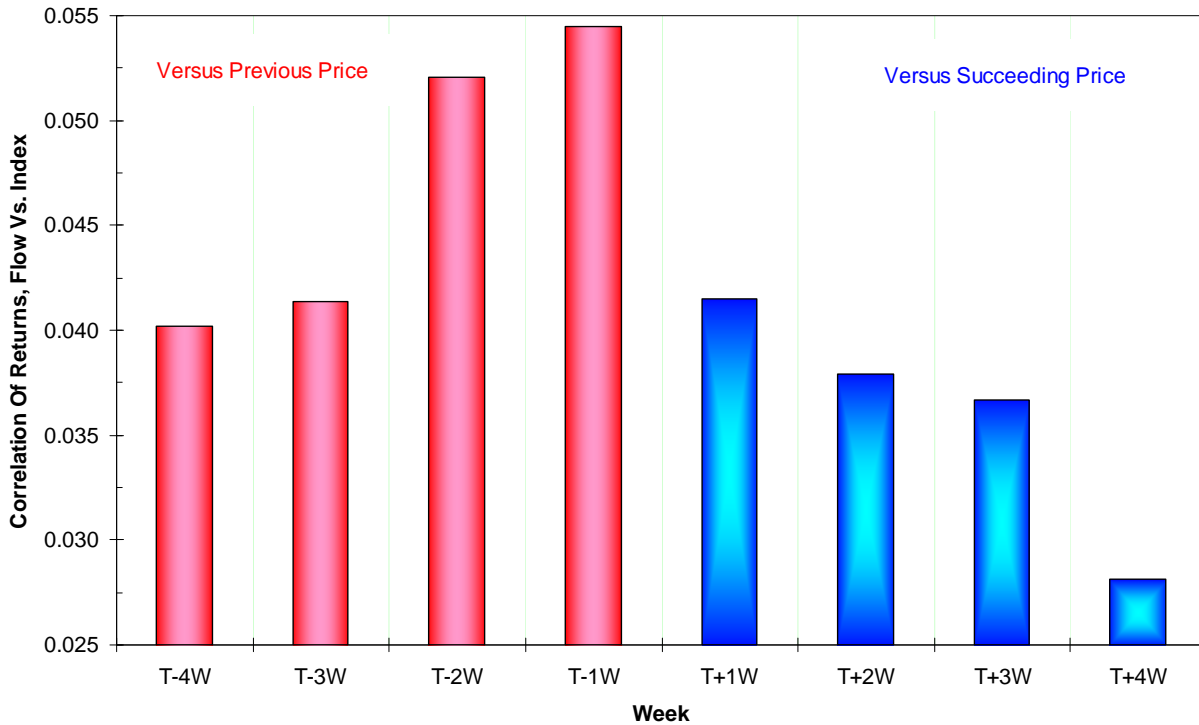
This means price has to lag value. It also means a trend, whether measured by a channel, an oscillator, a moving average or any other tool has to lag price. By definition, then, a trend-follower cannot lead a change in economic value as any trend-following system has to wait for several developments to take place including the change in value, the change in price and the system's signal. Worse, the faster the trading system is, the more likely it is to get whipsawed by false signals.

We can illustrate this in a complex but complete fashion. Let's take the net Non-Commercial futures positions for the seventeen members of the Thomson/Reuters/Jefferies CRB index traded on U.S. exchanges. Nickel and aluminum are traded on the LME. We can use these changes in net Non-Commercial positions and the changes in the CRB index itself to calculate a measure of net money flow into and out of the index using the index' geometrically weighted price over a set of periods.

Specifically, these flows' weekly returns can be correlated against CRB index price returns over the previous four, three, two and one weeks. These are displayed in the red columns below. All data have been adjusted to account for the gap between the Tuesday reporting period and the Friday release of the COT report.

A similar correlelogram for these flows' weekly returns against CRB index price returns over the next one, two, three and four weeks can be constructed. These are displayed in the blue columns below. The data suggest CRB index price changes from one and two weeks ago predict changes in Non-Commercial traders' reportable positions far more than the reverse, which is exactly what we should expect.

Flows Follow Price Change



The simple and straightforward interpretation of the chart above is net changes in Non-Commercial futures positions are a function of the previous two weeks' price action. More significantly for all of those who insist on blaming all market movements on "speculators," changes in net Non-Commercial futures positions are a much weaker cause of subsequent price actions. As causation can flow in one direction only, we can say prices determine positions and not vice-versa.

Trend Oscillator

We can look at this another way by converting the CRB index into a unified trend oscillator using the author's Adaptive Moving Average. Here an optimal trend speed is derived by the number of days between 4 and 29 that minimizes the function

$$\frac{1}{N} * \sum_{i=1}^N \frac{N}{Vol^2} * |(P - MA)| * |\Delta MA|$$

where Vol is the N-day high/low/close volatility, defined as

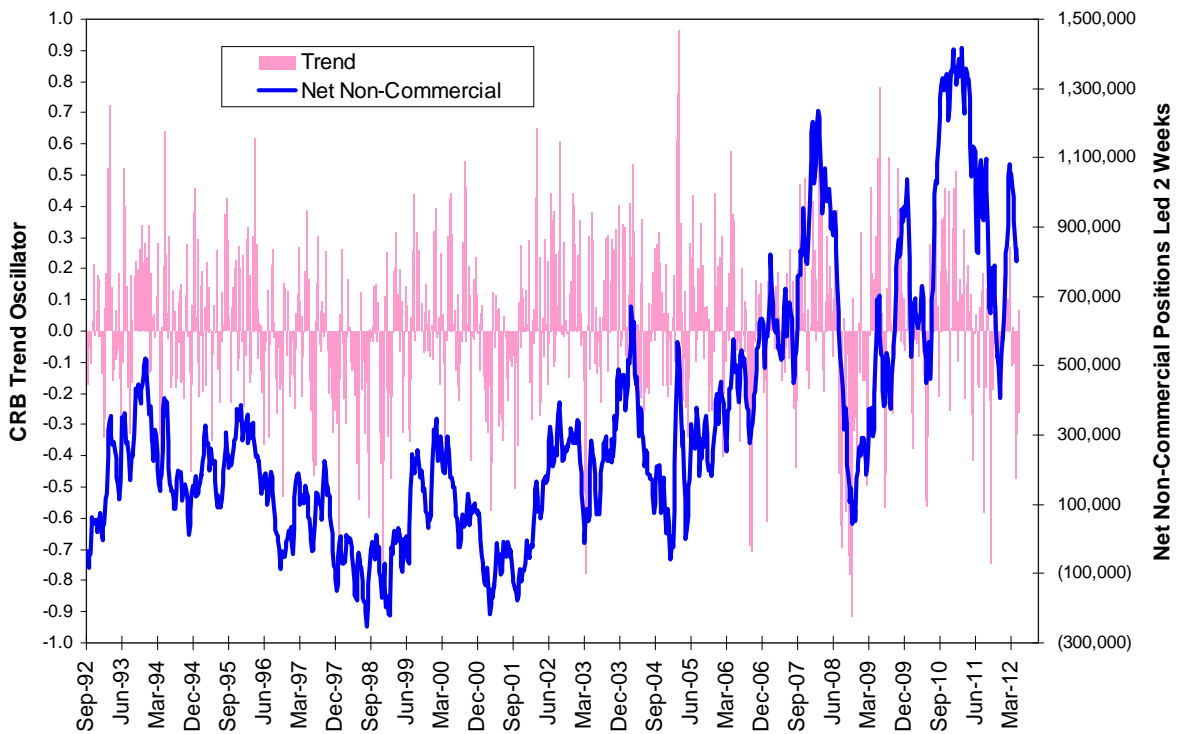
$$\sum_{i=1}^N \left[\frac{[.5 * (\ln(\frac{\max(H, C_{t-1})}{\min(L, C_{t-1})}))^2 - .39 * (\ln(\frac{C}{C_{t-1}}))^2] * 260}{N} \right]^{1/2}$$

where H, L, and C are high, low, and close, respectively. Once the MA is calculated, the trend is defined as the volatility-adjusted oscillator around this central tendency. In the construction of the index, the trend's "zero point" occurs when the price and the Adaptive Moving Average are equal.

$$Trend \equiv \frac{\left(\frac{(P - MA)}{Vol} \right)}{P}$$

Here as in the case of index-level returns, the price trend leads net Non-Commercial positions by two weeks on average.

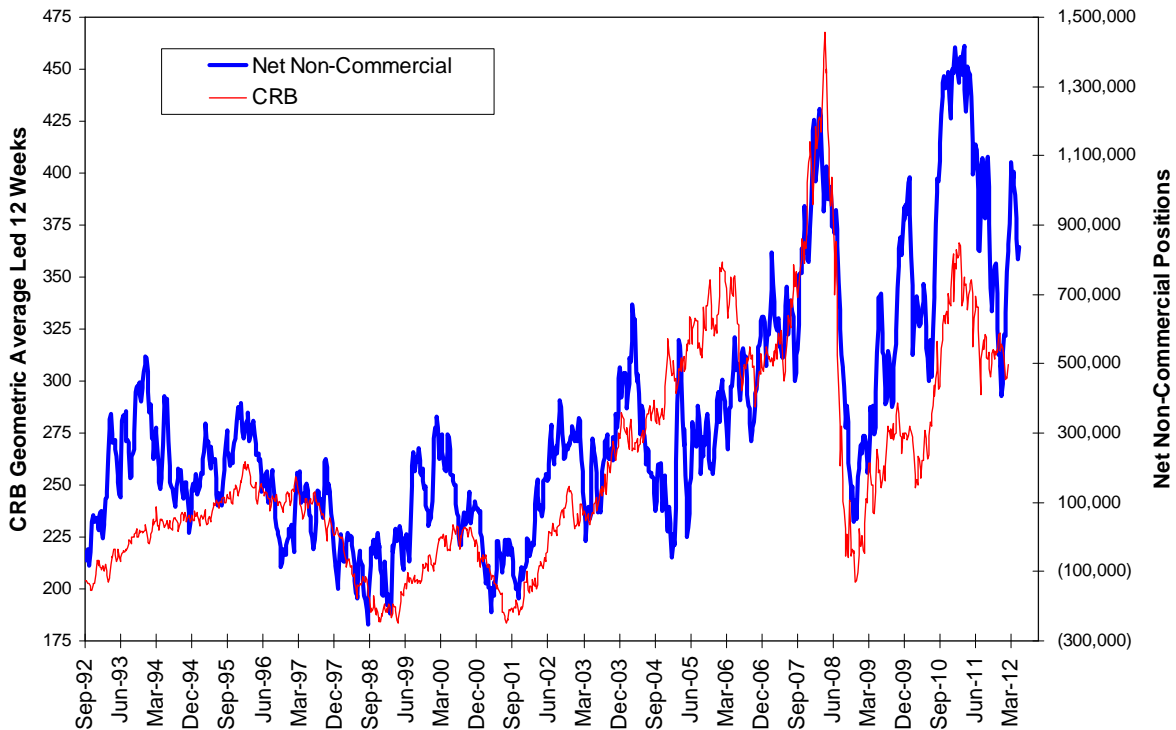
Price Trend Leads Positions



Responsible Opposing Viewpoint

We can test for the opposite, the lead-time, if any, net Non-Commercial futures positions would have on the CRB index. The answer is very straightforward: After more than two decades of data, the strongest lead-time for net Non-Commercial futures is twelve weeks, very close to one calendar quarter.

Non-Commercial Positions Lead Price By 12 Weeks On Average



We need to ask ourselves the question, “Does this make sense? Is it possible it takes twelve weeks on average for net Non-Commercial futures positions to embed in the CRB index?” The statistical answer is, “Yes;” the intuitive answer is, “No.” Normally rejecting a statistical conclusion for an intuitive one is amateurish, but we should make an exception here. If prices did in fact react to changes in position, they most likely would do it immediately and not three months later.

Will any of this stop people from trying to design trading systems based on these COT positions? Absolutely not; the same can be said of the even more arbitrarily divided “disaggregated” COT data and its categories of Swap Dealer, Managed Funds, Producers/Merchants and “Other Reportables.” These data suffer from the same flaw: Traders react to price, which reacts to value. How can trader positions lead something they must follow?

We will look at some aspects of the disaggregated report next month.