Momentum Divergence — 15 Years of Heating Oil History

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Think of a ball thrown up in the air. As it moves higher, its rate of ascent slows until it reaches its maximum elevation, reverses direction, and falls back to earth.

Just as the ball's momentum changes before it ultimately reverses direction, momentum also relates to the rate of change of price, and momentum indicators evaluate the degree to which the rate of change in price is consistent with market direction. Momentum usually degrades, just as the velocity of the ball degraded, prior to the market actually reversing direction.

Momentum Indicators

Momentum indicators are valuable trading tools, but are often misused and misunderstood. A major reason for this is the use of the terms "over-bought" and "over-sold" when momentum indicators reach high or low levels. These terms are essentially without meaning, as extremes in momentum simply mean that momentum is high in either an up or down direction. In trending markets, momentum will remain high (in an "over-bought" and "over-sold" condition) for quite a while, and it is almost always a mistake to buy or sell simply due to this condition.

Before we look at the best momentum signal, "momentum divergence", let's look at three momentum indicators and what they measure:

- The Stochastic.
- The Relative Strength Index (RSI).
- The Moving Average Convergence Divergence (MACD) histogram.

The Stochastic is based on the observation that market closes tend to be in the direction of the market, until momentum runs down and measures the close relative to market high-low range over a number of bars.

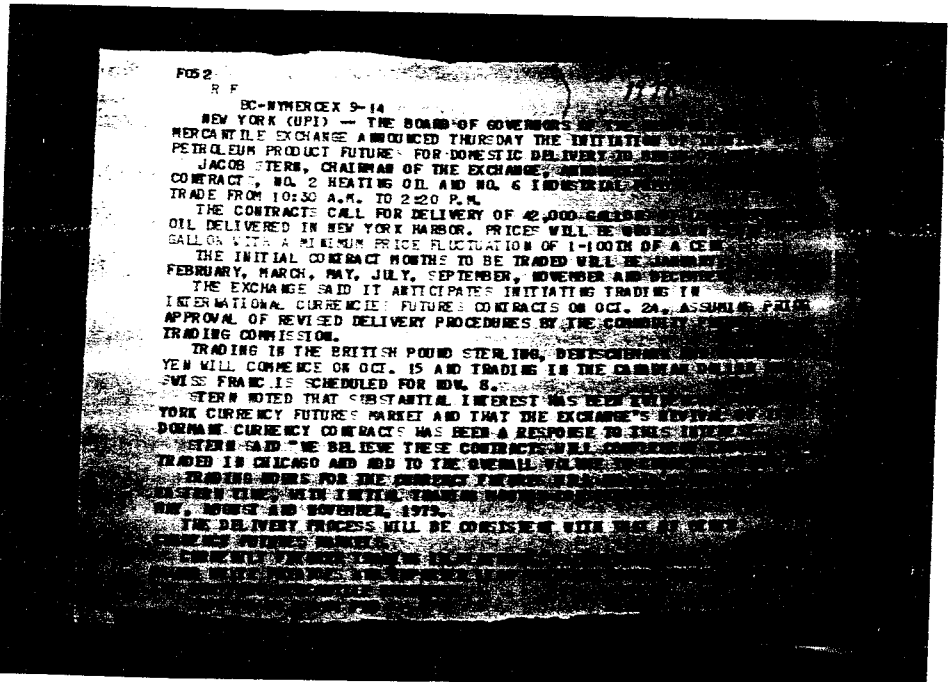
Thus in a rising market, we expect closes to be near the highs of the bars, on average, and in a falling market near the lows. When the market loses momentum, the closes fail to reach the highs or lows of the bars.

The RSI is based on the assumption that closes tend to move in the direction of the trend, and measures up closes vs. down closes.

Thus in an up-market, we expect closes, on average, to be higher than previous closes, and in a down-market, the closes, on average to be lower.

The MACD is based on the observation that moving averages diverge as a trend surges and converge as the trend dampens, and measures the degree to which divergence or convergence differs from the average level of convergence and divergence.

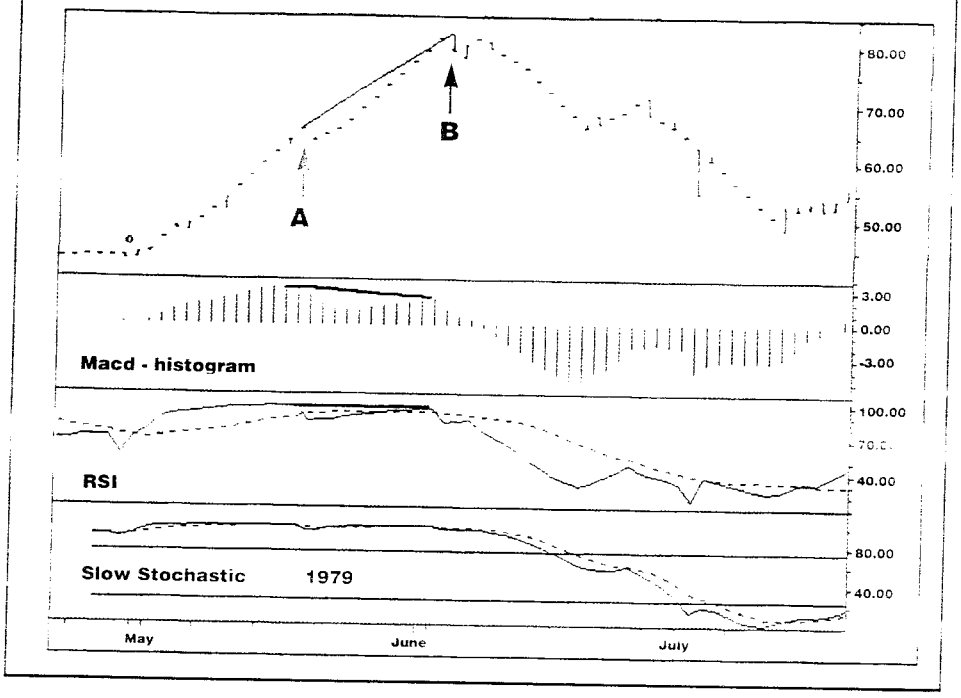
Thus when a trend is weakening, a fast moving average will diverge to a lesser degree.


FOS2
R F
BC-NYMEXCEX 9-14
NEW YORK (UPI) — THE BOARD OF GOVERNORS
MERCANTILE EXCHANGE ANNOUNCED THURSDAY THE INITIATION
PETROLEUM PRODUCT FUTURES FOR DOMESTIC DELIVERY
JACOB STERN, CHAIRMAN OF THE EXCHANGE
CONTRACTS, NO. 2 HEATING OIL AND NO. 6
TRADE FROM 10:30 A.M. TO 2:20 P.M.
THE CONTRACTS CALL FOR DELIVERY OF 42,000
OIL DELIVERED IN NEW YORK HARBOR. PRICES WILL BE
GALLON WITH A MINIMUM PRICE FLUCTUATION OF 1-100TH OF A CE
THE INITIAL CONTRACT MONTHS TO BE TRADED WILL BE
FEBRUARY, MARCH, MAY, JULY, SEPTEMBER, NOVEMBER AND DECEMB
THE EXCHANGE SAID IT ANTICIPATES INITIATING TRADING IN
INTERNATIONAL CURRENCIES FUTURES CONTRACTS ON OCT. 24, ASSUMING PRIOR
APPROVAL OF REVISED DELIVERY PROCEDURES BY THE COMMODITY
TRADING COMMISSION.
TRADING IN THE BRITISH POUND STERLING, DEUTSCHEMARK
YEN WILL COMMENCE ON OCT. 15 AND TRADING IN THE CANADIAN DOLLAR
SWISS FRANC IS SCHEDULED FOR NOV. 8.
STERN NOTED THAT SUBSTANTIAL INTEREST HAS BEEN EXPRESSED
YORK CURRENCY FUTURES MARKET AND THAT THE EXCHANGE'S EXPANSION
DOMESTIC CURRENCY CONTRACTS HAS BEEN A RESPONSE TO THIS INTEREST
STERN SAID "WE BELIEVE THESE CONTRACTS WILL
TRADED IN CHICAGO AND ADD TO THE OVERALL VOLUME
TRADING HOURS FOR THE CONTRACTS
EASTERN TIME, WITH INITIAL TRADING
NOV., NOVEMBER AND DECEMBER, 1978.
THE DELIVERY PROCESS WILL BE CONSISTENT WITH THAT
CURRENCY FUTURES MARKET.
CONTRACT

The heating oil futures contract, launched in 1978, was the first successful attempt at energy futures trading. As the introduction of the contract coincided with generally unstable market conditions, it received considerable attention in the business press, as seen by this United Press Int[illegible]

Figure 1

Heating Oil, May - July 1979



Momentum Divergence

While each indicator has numerous entry signals or rules, the main momentum signal we look for in all three indicators is called "momentum divergence".

What this means is that we have a new high in price and this is not matched by a new high in momentum. Sometimes this is expressed as "a higher high in price, a lower high in momentum". Others might say we have "an unconfirmed high". This is called "bearish divergence".

At market bottoms, we look for "bullish divergence" which is the inverse of the above. This article will focus on "topping patterns" in heating oil, and thus will concentrate on bearish divergence.

Because the three indicators identify different aspects of momentum behavior, it is a good idea to review all three. This is part of low-risk trading philosophy which combines techniques in order to reduce trading risk. A signal in just one indicator would be considered a weaker signal than one confirmed in two or three.

Quality of Momentum

Sometimes momentum signals are stronger than at other times. Thus momentum divergence can be classified into three levels of quality:

- Class 1 - High. A higher high in price, and a lower high in momentum.
- Class 2 - Medium. The same high in price (also known as a double top) and a lower high in momentum.
- Class 3 - Low. A higher high in price, the same level of momentum.

Heating Oil History

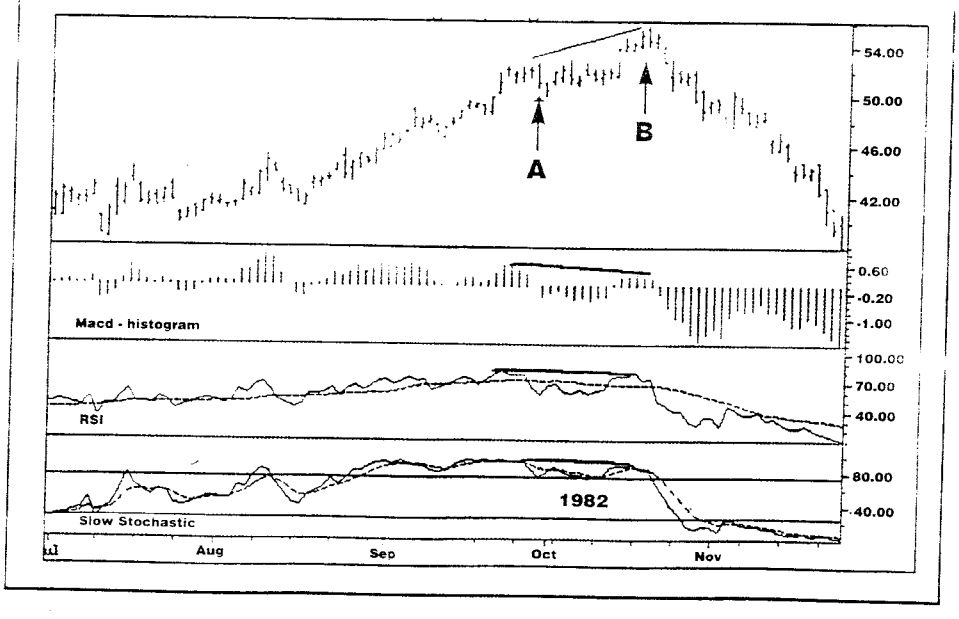
Now let's take a look at market highs or peaks in the heating oil contract in the context of momentum divergence.

Figure 1 shows the first peak in price experienced after the introduction of the contract, in the summer of 1979*. The price at point B is obviously higher than at A, but on the MACD, momentum is lower, and on the RSI (shown with its average) and the stochastic, the momentum is about the same, thus there is Class 1 divergence on the MACD, and Class 3 on the others.

Now, let's look at Figure 2 from the summer of 1982. In this case, there is clear Class 1 divergence on the MACD, and although not extreme, also on the stochastic. On the RSI, there is very slight divergence from the peak just four days prior to the final high. Thus while the signal generated by the RSI is unclear, there is good confirmation

Figure 2

Heating Oil, August - November 1982



from the other indicators.

Of course, from time to time, all three indicators will generate Class 1 signals, as in late 1985 (Figure 3). One can see that at point B there was a higher price than at point A, but all three momentum indicators achieved a lower high in momentum.

Finally, let's take a look at both the summer and fall price peaks experienced in 1992 (Figure 4). In the summer, price at point B is higher than at A. The MACD generated a Class 1 signal and both the RSI and stochastic Class 3 signals. In the fall, the price at D is higher than at C, and all three momentum indicators generate Class 1 signals.

Momentum divergence almost always signals at least a minor stall or pullback, so it is very valuable as a signal of profit-taking for position risk-management. However, divergence can occur, of course, at intermediate highs, so it is always a good idea to use another kind of signal, such as a reversal pattern, trending indicator signal, such as the moving average crossover (Figure 5), or statistical signal as confirmation before taking a position in the opposite direction. ■

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Figure 3

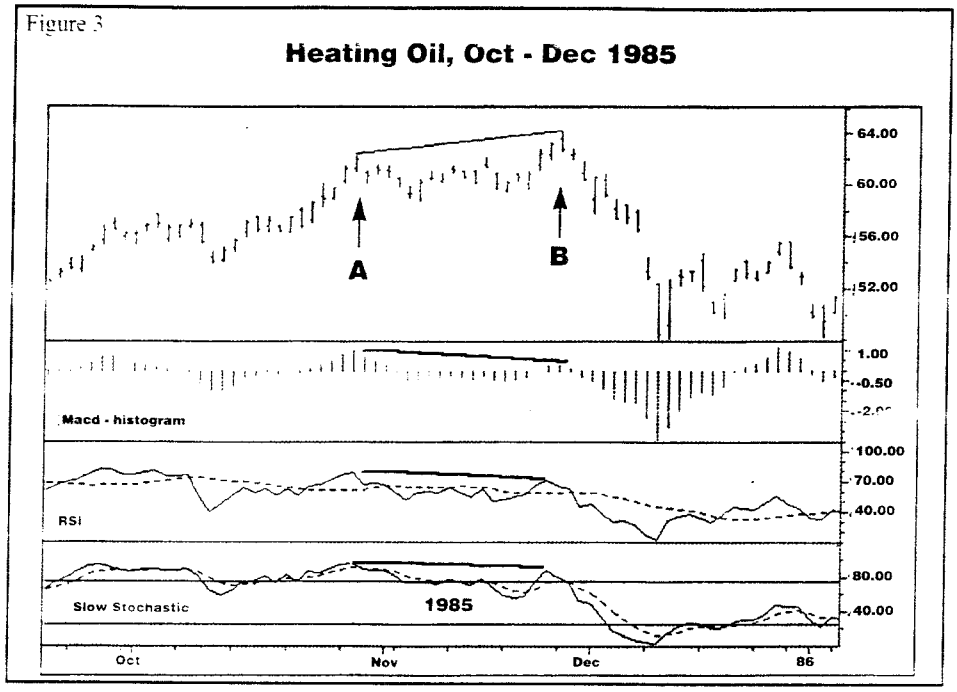


Figure 4

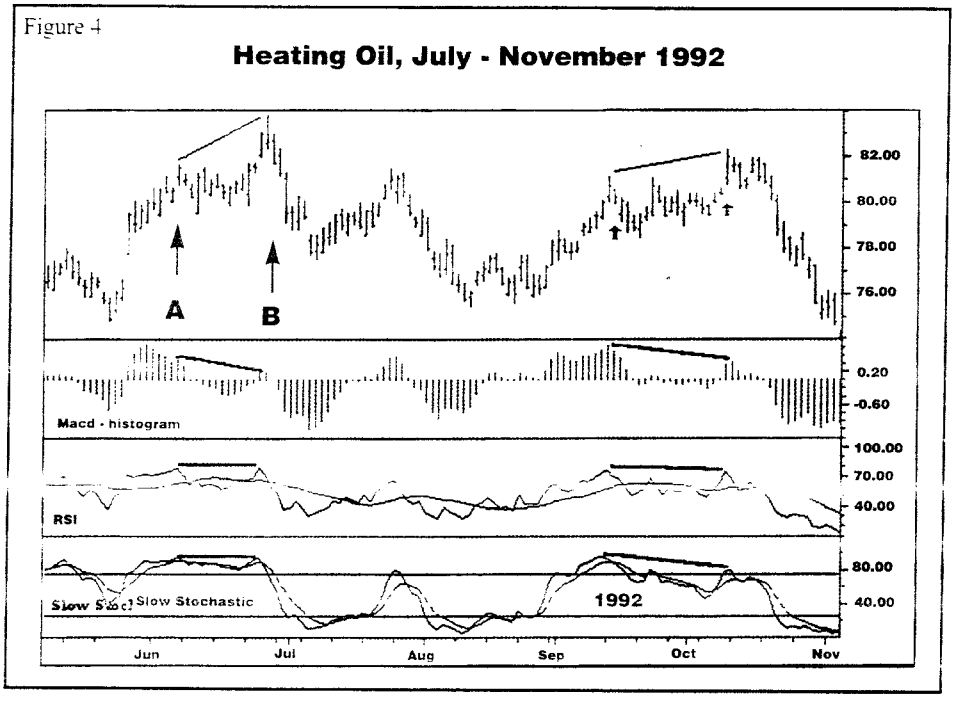
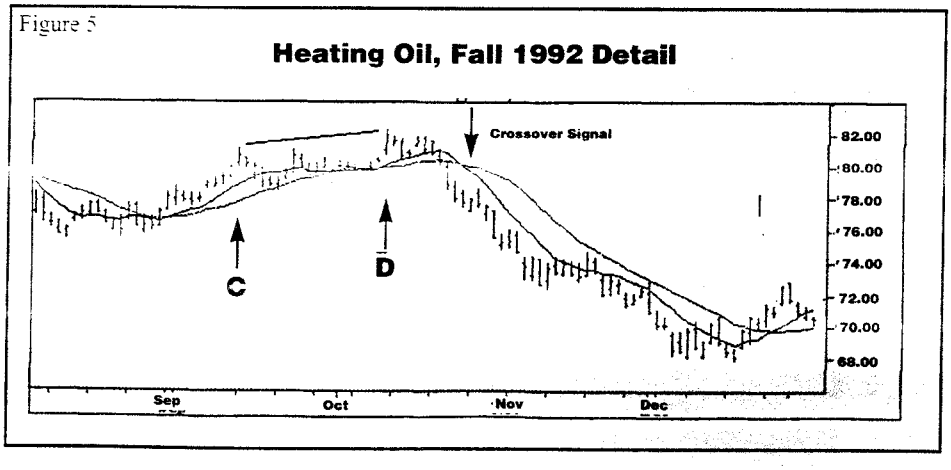


Figure 5



FOOTNOTES

*All charts from Omega Research TradeStation. First nearby continuous data purchased from "TickData" has been "back normalized," thus prices shown have been corrected to remove gaps between contract months, and may differ from actual prices experienced.