

Fine-tuning the demand index

by Thomas E. Aspray

Introduction

In analyzing the commodity markets, I use a series of approximately twelve technical studies which I have selected after extensive historical research. If these studies are in agreement (uniformly bearish or bullish), they determine how much emphasis to put on the daily studies.

For example, if the weekly studies are positive and the daily studies are negative, a short position would be recommended only for scalpers, with close stops used. Conversely, if the daily studies were positive, a larger position with wider stops could be taken. The studies I find most useful are those which combine the price action with volume or open interest. One which I use extensively is the Demand Index, developed by James Sibbet, which utilizes price and volume. I run this study in several different versions over both the daily and weekly data.

The study calculates the Buying Pressure (BP) and Selling Pressure (SP) in the following manner for the No Limit version.

If the prices rise: $BP = V$ or Volume

$SP = V/P$ where P is the percent change in price

If the price declines: $BP = V/P$ where P is the percent change in price

If the price declines: $SP = V$

Because P is a decimal (i.e., less than 1), P is modified to make it greater than one by multiplying it by the constant K.

For the No Limit version $K=(3 \times C)/Va$

where C is the closing price and Va is the Volatility average which is the ten-day average of a two-day price range (highest high minus lowest low).

Also if $SP > BP$ then $DI = -BP/SP$

In analyzing the Demand Index, I use several different levels of interpretation to help analyze the underlying trend. They are:

- 1) Identify bullish and bearish divergences, i.e., determine whether the DI is moving with the prices or opposite to the prices.
- 2) Extensively use trendlines and support/resistance levels on the DI, to determine important turning points.
- 3) Separate the DI into BP and SP then determine whether the BP is above the SP (positive) or below it (negative). I run an oscillator of the BP/SP which I call the Demand Oscillator.

I have found that both the Demand Index and the demand oscillator are quite useful in identifying

accumulation or distribution in both stocks and commodities.

In making recommendations, I feel that the weekly technical studies are extremely important as they can help you identify the predominant trend. I use the perpetual contracts from CSI for this analysis.

Weekly analysis

Figure 1 shows the weekly perpetual S&P 500 contract (up through the end of November, 1985), with the Buying/Selling pressure, the demand oscillator, and the Demand Index. Directly under the bar chart, the top half shows the BP (solid line) and the SP (dashed line). Below it is an oscillator of the BP/SP. When it is above the zero line, it is positive, and when it is below it is negative. These crossover points are noted by arrows.

Starting during the spring-summer period of 1984, note that the DI made its low in February (point 1) and a higher low in late July, even though prices made a new low, therefore forming a bullish convergence at point 2. By mid-August, the major downtrend in the DI, line a, had been broken confirming the bullish divergence. As the DI moved above -1, the demand oscillator moved into positive territory. The DI consolidated for the next several months as it dropped below -1 but still held well above the previous lows. It then turned strongly positive in January, 1985 as it moved up through its downtrend (line b). The S&P moved up over 30 full points, but both the DI and the demand oscillator made their highs early in the move. This is illustrated by the bearish divergence on the DI at point 4. This deterioration was confirmed by a drop below the uptrend (line c) on the DI. Shortly thereafter, the demand oscillator dropped into negative territory.

As the chart indicates, the ensuing drop was quite sharp as the DI and the oscillator quickly reached oversold levels. No bullish divergences were formed at the lows, though the DI did break its short-term downtrend in early October, 1985. By late October, the oscillator had also turned positive. As prices have now moved to new highs, none of these indicators have made new highs, yet they are all clearly positive.

Figure 2 shows weekly T-Bonds with the same three studies. The first time frame I would like to discuss is the latter part of 1983. T-Bonds were in a trading range between 68 and 74 from August, 1983 until late January, 1984. This is an important time frame because it illustrates how the DI alone can give misleading signals.

During this period, you can see that the demand oscillator fluctuated between positive and negative territory, even though the positive signals were weak. The Demand Index, meanwhile, moved briefly above -1 and formed a shallow uptrend (line c).

The studies I find most useful are those which combine the price action with volume or open interest.

Both the oscillator and the DI looked somewhat positive but the BP was giving negative signals as it was declining (line b). The SP was also declining. When this occurs, the DI gives false bullish signals. This can also occur when the BP and SP are moving up at relatively the same rate.

When prices finally broke through support (line a), the demand oscillator turned strongly negative and the DI had broken its uptrend (line c). Prices then declined sharply, reaching a low in the 58 area. Selling Pressure increased dramatically as the distance between the SP and BP became very large, an extreme

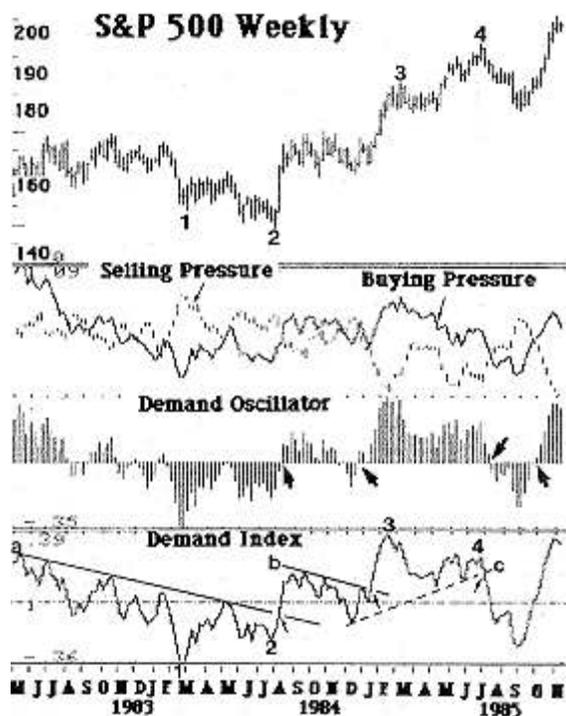


Figure 1: S&P 500 Weekly

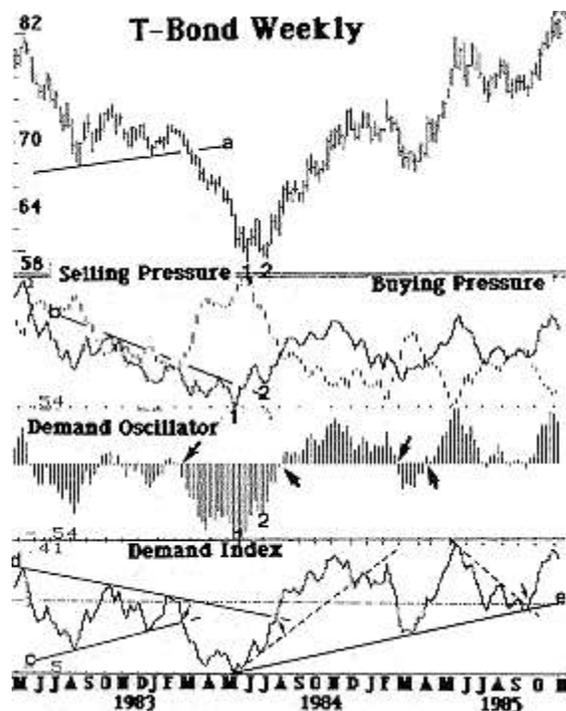


Figure 2: T-Bond Weekly

oversold condition. As prices were retesting their lows at point 2, the BP, oscillator, and DI all made *higher lows*, thereby giving bullish divergences. As prices moved up for three weeks, the oscillator turned positive and the DI broke its major downtrend (line d).

All of the studies stayed positive for the next six months until December, 1984 when several bearish divergences began to develop. The primary uptrend in the DI (dashed line) was broken in mid-December before prices made one push to new highs. These new highs were not confirmed by any of the three studies with the BP in a well-defined downtrend, even though prices were moving higher. This was clearly a sign of internal deterioration, and the oscillator turned negative three weeks later.

These sell signals were unusually short in duration as the oscillator moved back into the buy mode in early April. The DI also moved up strongly and above -1. As prices made two attempts to push through major resistance at the 80 level, all three of the studies deteriorated, and they were much lower as prices made a new closing high (see arrow).

During the following consolidation phase, the oscillator dropped twice into negative territory, but only for one week, and, more importantly, the DI held above its major uptrend (line e). The latest buy signal occurred in mid-October, 1985 as the oscillator turned strongly positive and the DI broke its short-term downtrend (dashed line).

Daily studies

After these two examples of how the Demand Index and its components can be used in major trend analysis, let's look at the daily studies for a shorter-term perspective.

Figure 3 is of the December, 1985 S&P 500. Starting with the DI, note that in late July, as prices were making new highs in the 200 area, the uptrend (line a) was broken. Shortly thereafter, the DI dropped below -1, where it stayed for the next two months. The next signal is evident in late September—early October when the downtrend (line b) was broken as prices were in the 182 area.

As this downtrend was broken, the DI had already formed a bullish divergence at point 2, and it did not make a new low even though prices did. As the DI moved up with the prices, we could draw the uptrend (line c - dashed line). This uptrend was not broken until November 25th as prices were moving up to the 202-204 area. The DI failed to make a new high with the prices, thereby giving a bearish divergence.

The demand oscillator turned negative at point 1 three days after the July highs at 196. It stayed negative until October when it turned positive at 186. The demand oscillator also shows a bearish divergence (line d), as it did not make a new high with prices.

The next chart shows the June, 1984 D-Mark with the same studies. The DI broke its short-term downtrend (line a) as prices were bottoming in the .3600 area. This was confirmed as it moved above -1. It stayed positive and above the uptrend (line b) until early March as prices moved up to the .4000 level. Prices rallied back sharply in early April, but the DI just moved back to resistance (dashed line) before turning down once more. This is characteristic of a reflex rally and can often be used to fine-tune entry or exit points. A downtrend (line c) then developed into early May. It was broken as prices reached support in the .3600 area, and the DI showed a bullish divergence at point 2.

The demand oscillator turned positive in early February and turned negative on the sharp pullback in the latter part of March. It gave a brief whipsaw on the five-day rally but quickly moved back into the sell mode where it stayed for the next two months. Note that while the oscillator turned positive on the reflex

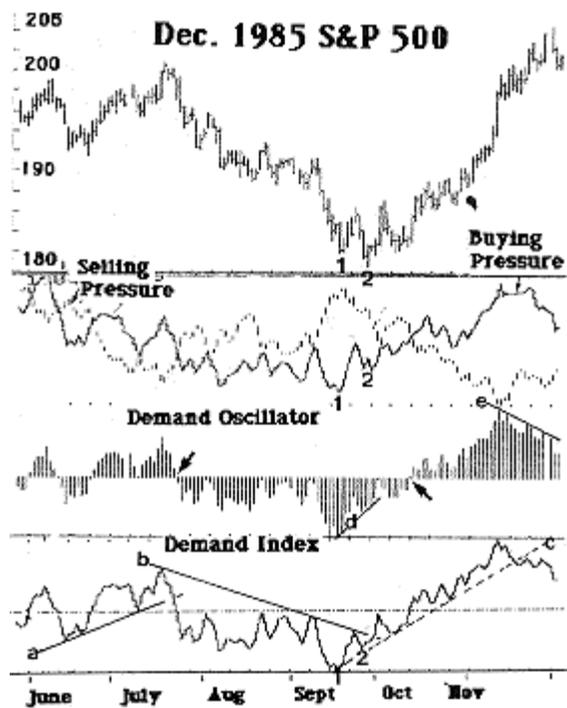


Figure 3: Dec. 1985 S&P 500

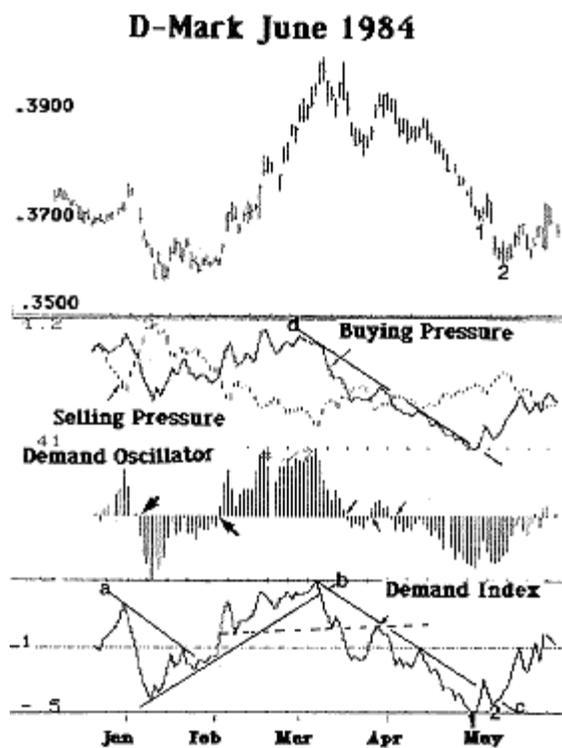


Figure 4: D-Mark June 1984

rally, the BP was very weak as it stayed in a sharp downtrend (line d). This failure of the BP to respond, combined with the fact that the DI was only able to rally back to its resistance, was confirmation that the rally was only reflexive in nature. This presented a low-risk shorting opportunity.

Conclusion

At conferences and in discussions with clients, it is apparent that many are looking for a single, infallible indicator which they can rely on. In my experience, I have not found such an indicator and prefer an integrated approach where a series of indicators are used. In this manner, whipsaws are often avoided, while the major moves are rarely missed. I hope this discussion of the Demand Index will encourage you to use it, and I hope it improves your trading.

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