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AIQ's Trend Score -
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PUTTING IT ALL TOGETHER

THE TREND SCORE IS YOUR FRIEND

By Dr. J. D. Smith

Many of our most popular clichés involve the trend in prices, be it for the market, sectors, stocks, or indexes. You've heard these clichés – "The trend is your friend," "Trade the trend," "Don't go against the trend". Some very good rules can be gleaned from these concepts for our trading process – rules that have stood the test of time and scrutiny.

In order to implement trading rules involving the trend, we need to be able to measure the trend. We must know the direction and the strength of the trend. For this reason, we developed an indicator called the Trend Score which measures trend direction and trend strength. Trend Score is found on AIQ stock, group, and sector reports.

The Trend Score has a range of values from +100 to -100, where +100 is a strong

uptrend and -100 is a strong downtrend. Values around zero indicate that no trend is present.

Before we get into the details of the Trend Score, let's look at an example of how rules determine AIQ Expert Ratings. On June 7 of this year, the market timing

DR. J. D. SMITH

"Trend Score is exactly what the Expert Rating is not. The Expert Rating is countertrend. Trend Score is trend following. The Expert Rating marks the exceptional events . . . Trend Score measures normal indicator behavior."

expert system generated a downside Expert Rating for the market of 3 - 97, as shown in **Figure 1** (page 2). As far as the Dow was concerned, the signal was early by about three weeks. But the broader market started to weaken at that point in time and continued to correct up to the time this article was written.

Figure 2 shows the three rules that fired on June 7 to cause the signal. The first rule revealed that the smoothed Advance/Decline Line, which represents market breadth, had turned negative,

PUTTING IT ALL TOGETHER *continued* . . .

that down volume was greater than up volume, and average declining issues were greater than the average advancing issues. Together these indications created a bearish sign.

The next rule fired because the Price Phase indicated advancing prices (the Dow advanced 30 points that day) but Volume Accumulation Percentage indicated that money was flowing from the market. This nonconformation provided another bearish sign.

The last rule fired because the High/Low indicator, a very stable and consistent indicator measuring market breadth, reversed direction and started moving in a bearish direction. Another bearish sign.

Each of the rules in the expert system has an assigned weight, and when a rule fires the rule weight is combined with other weights from other rules into an Expert Rating. On June 7, three bearish rules fired and the result was the 3 - 97 bearish Expert Rating for the market. Later, I will compare this type of expert system with the special type of expert system that is used in determining the Trend Score.

Returning to our example, we would need some confirmation before turning completely bearish at this point in time. The Weighted Action List on this date had an Up/Down Signal

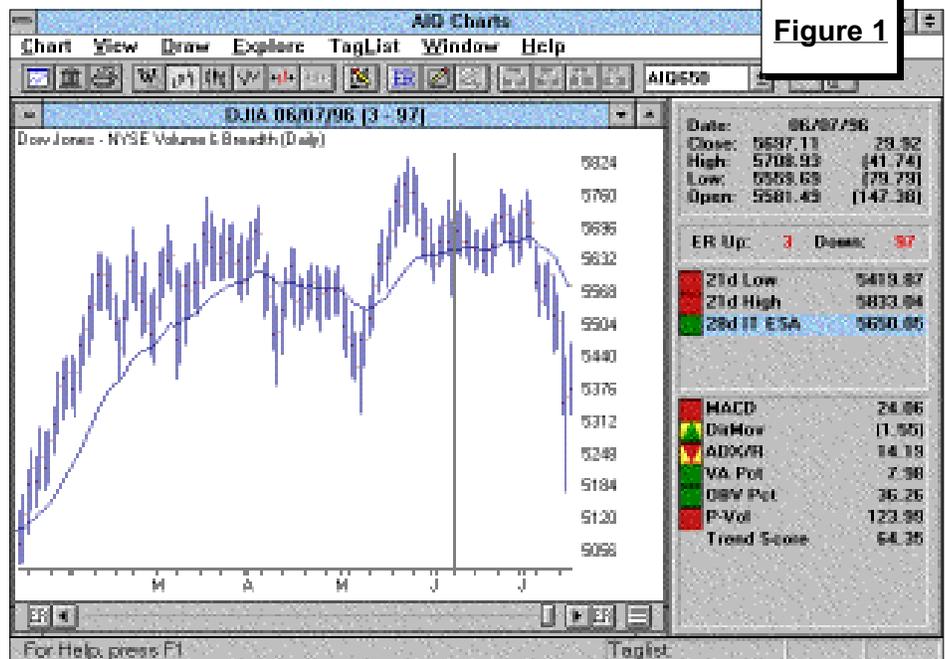


Figure 1

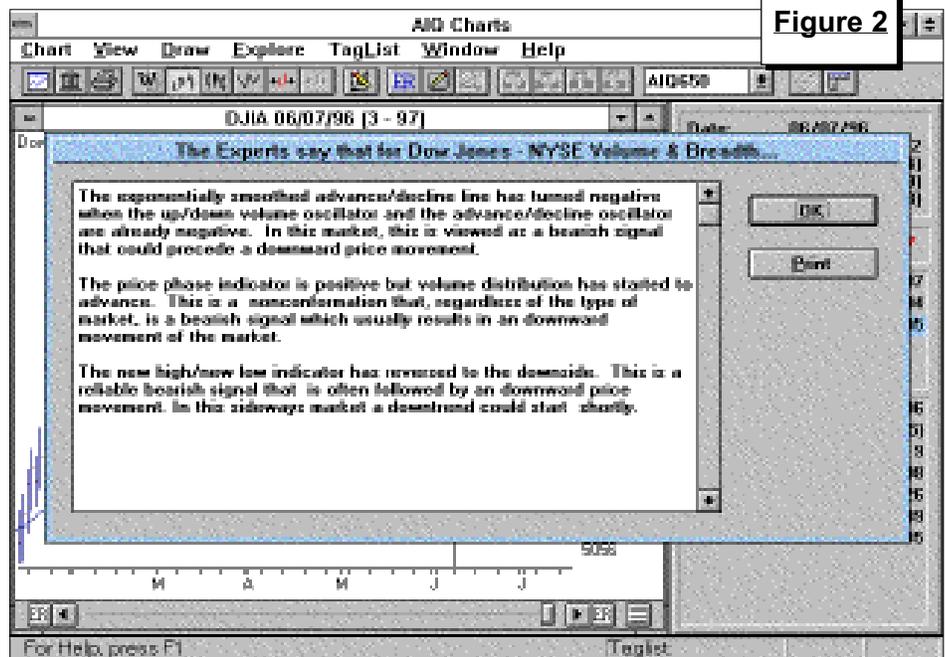


Figure 2

Ratio of 22 - 78 – bearish certainly, but not enough to confirm the Expert Rating.

Using Trend Score to Confirm a Market Expert Rating

The Daily Group Analysis report for the AIQ Pyramid group structure for June 7 is shown in Figure 3. AIQ's group and sector reports are sorted by Trend Score. The Score at the top of the June 7 group report is 68 - 32,

meaning that 68% of the groups in the AIQ Pyramid are in an uptrend. The Trend Score was computed for each group and 68% of the groups were in an uptrend while 32% were heading down. That's still bullish.

The Delta value at the top of the report is 28 - 72, indicating that 72% of the groups had decreasing Trend Scores from the previous period. Now *that* is bearish. Delta, a very good broad market indicator, is indicating

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PUTTING IT ALL TOGETHER *continued . . .*

that a downward price movement is already in progress.

A nimble trader could look at the groups at the bottom of Figure 3 for stocks to short. A more conservative trader would at the very least tighten stops, and wait for further confirmation of the Expert Rating.

A week later, the Dow had dropped 50 points. The indicator barometer on the market screen was showing red indicators and 51% of the groups in the AIQ Pyramid were now in a downtrend.

Figure 4 is the bottom section of the Group Analysis report for June 14. The correction was firmly in place. The nimble trader was counting profits, and the more conservative trader was starting to clear long positions as stops were triggered and looking for short positions — or at least for a money market account to weather the coming storm.

The Group Analysis report in Figure 4 is the perfect place to look for stocks to short. The groups that were in strong downtrends a week prior are still there but additional groups have rotated downward and offer opportunities for short positions.

As more and more groups show strong downtrends, the DTS (Delta Trend Score) column becomes more important. DTS shows the change in the Trend Score from the previous period. We use this to show which groups are new arrivals to the extreme ends of the report. For example, Railroads in Figure 4 has a Trend Score of -100, a strong downtrend, with a Delta of -26, which shows that this group just made the bottom of the report on June 14. The group has rotated down and is currently in the early stages of a strong downtrend.

Figure 5 shows another of the groups from the June 14 Group Analysis report. Precious Metals was in a strong downtrend the prior week, according to its Trend Score, and still is. As Figure 5 shows, opportunities in the Precious Metals Group are still available in mid-June.

This example shows how Trend Score can be used to confirm a market timing Expert Rating, and then used to select groups offering the most opportunities for profits in the prevailing market direction.

How Trend Score Is Determined

Now, exactly what is the Trend Score. Trend Score is exactly what the Expert Rating is not. The Expert Rating is countertrend. Trend Score is

Putting It All Together continued on page 4

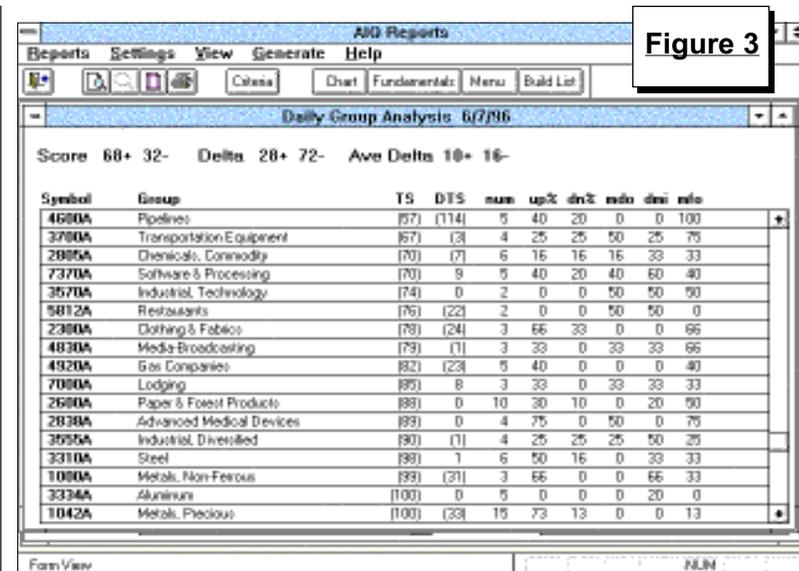


Figure 3

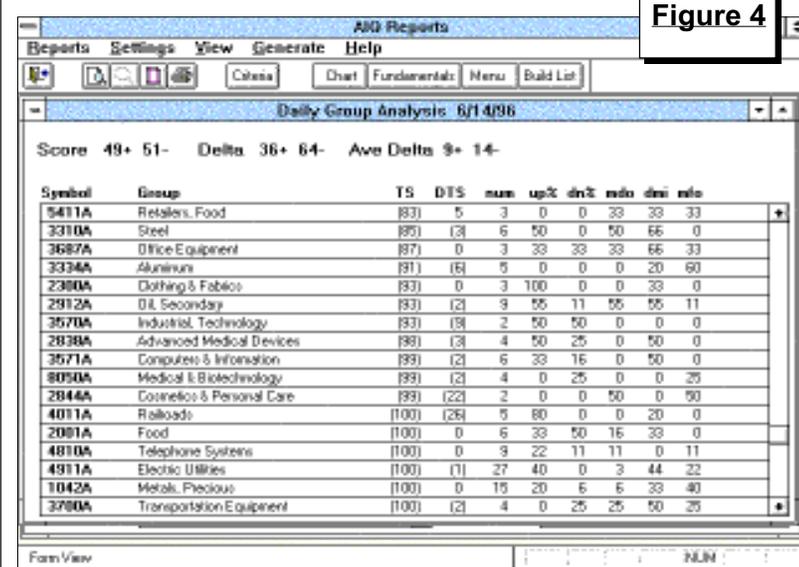


Figure 4

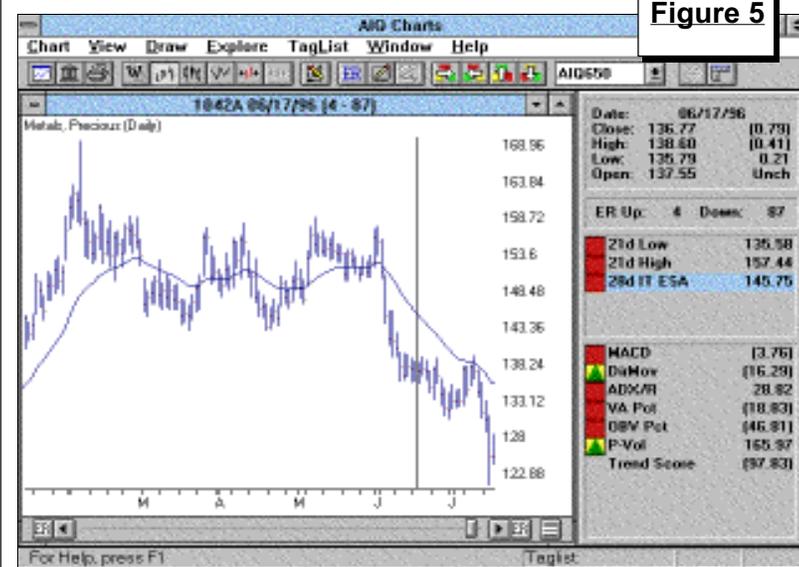


Figure 5

PUTTING IT ALL TOGETHER *continued* . . .

trend following. The Expert Rating marks the exceptional events among the indicators. Trend Score measures normal indicator behavior. And the Expert Rating is periodic, while Trend Score is a continuous measurement.

Trend Score is based on the movement of prices, on the direction of the trend in prices and the strength of the trend, on money flow, and on supply and demand. Prices are measured by the Price Phase indicator. Trend is measured by the Directional Movement Index and ADX. Money flow is measured by Volume Accumulation Percentage. And supply and demand is measured by the Positive Volume indicator.

Each of these indicators is placed in a rule and the weights from each of these rules is combined into the Trend Score. Here is an example of an Expert Rating rule and a Trend Score rule.

Rule 1 (Figure 6) is an Expert Rating rule. It says that if closing prices are at a 21-day high and if Volume Accumulation Percentage is less than zero, then the rule fires down. The weight assigned to the Expert Rating is the reliability of this rule to predict downward movements in prices. This is a countertrend rule. Prices are high but there is distribution, or money is flowing from the stock or index or market.

This is a periodic rule that will fire only once in a great while. If prices are at new highs and accumulation is occurring, it is normal behavior and the rule shown in Figure 6 does not fire. This rule fires only on the exceptional event when prices are at new highs and distribution is taking place.

Compare and contrast that with Rule 2 in Figure 7, a Trend Score rule. This is a trend following rule based on the Directional Movement Index. It says that if DMI is positive and increasing, there is a strong uptrend in place. But if DMI is decreasing, then prices are rolling over and a weak downtrend is starting.

On the other hand, if DMI is less than or equal to zero and DMI is decreasing, a strong downtrend exists. But if DMI is increasing, then an uptrend is starting.

This rule always fires. Of the four possible patterns in this rule, one will always exist and the rule will always provide a weight to the Trend Score expert system. The normal day-to-day behavior of the indicator is continually measured.

The other indicators that determine Trend Score have rules in the same form. The weights

Figure 6

Rule #1

If Close is a 21-day High
and VAPCT is less than zero,
WT = Down

Figure 7

Rule #2

If DMI is greater than zero
and DMI is increasing,
WT = Strong Up
else, if DMI not increasing,
WT = Weak Down

If DMI is less than or equal to zero
and DMI is increasing,
WT = Weak Up
else, if DMI not increasing,
WT = Strong Down

Figure 8

Ticker	Stock	Wt	ER	Price	%Chg	TS	DTS	Group	TS	DTS
SYBS	Sybase Inc	99	98	23 3/4	5	37	9	7370A	(65)	6
AZA	Alza Corp Del	85	99	28 3/8	0	46	(22)	2838A	(98)	(3)
SGU	Seagull Energy Corp	79	98	25	8	(63)	22	4920A	(51)	28
NBL	Noble Oilfields	99	98	34 1/8	1	87	(6)	2912A	(93)	(2)
BAL	BankAmerica Corp	95	98	77 3/8	1	42	60	6021A	(32)	3
FLR	Fluor Corp	52	98	65 5/8	3	99	2	8911A	99	0
ABF	Airborne Freight	48	98	25 5/8	5	97	1	4700A	75	6
AU	Aurac Gold	47	98	6 3/8	4	(61)	31	1042A	(100)	0

Figure 9

Symbol	Group	TS	DTS	num	up%	dn%	mo	dmi	mlo
BBH9	Health Care	29	42	20	15	15	20	30	20
FSDAZ	Defense & Aerospace	16	(26)	20	30	10	30	35	15
FSLBZ	Brokerage & Investment	15	(8)	20	30	5	20	15	10
FSAVZ	Automotive	11	(5)	20	45	15	40	35	25
FRRBZ	Regional Banks	(15)	(36)	20	35	20	35	25	20
FRRFZ	Transportation	(46)	6	20	45	0	20	35	10
FRLSZ	Leisure	(47)	(105)	20	35	25	15	35	25
FBMPZ	Broadcast & Media	(54)	(113)	20	20	35	20	30	25
FRRPZ	Retailing	(55)	(30)	20	45	25	15	25	30
FDFAZ	Food & Agriculture	(56)	(16)	20	25	25	10	15	5
FSEBZ	Energy	(61)	(14)	20	45	5	15	40	15
FSLBZ	Environmental Services	(61)	(114)	20	30	20	15	40	10
FSPFZ	Paper & Forest Products	(69)	(115)	20	30	15	30	55	5
FSPCZ	Insurance	(69)	(30)	20	25	15	15	35	20
FSTCZ	Telecommunications	(70)	(29)	20	25	20	15	15	25
FSDGZ	Natural Gas	(72)	(6)	20	55	5	20	40	5
FVSLZ	Home Finance	(72)	(21)	20	20	20	30	55	20

PUTTING IT ALL TOGETHER *continued* . . .

from each of the rules are combined into the Trend Score. The more indicators that show strong uptrends, the higher the Trend Score. On the other hand, if all the indicators are showing weak or strong downtrends, then the value of the Trend Score will be close to -100.

Using Trend Score to Confirm a Stock Selection

An example of using Trend Score to confirm a stock selection is illustrated in **Figure 8**, the Weighted Action List for June 14. Since we are indeed bearish by this date, many traders will be looking for stocks to short. The Weighted Action List shows that MST, Mercantile Stores, has a downside Expert Rating of 100 but the stock's parent group has a positive Trend Score of 63. Do not fight the trend.

On the other hand, IPL, Ipalco Enterprises, has an Expert Rating of 93 to the downside and a group with a Trend Score of -100. The trend is your friend. I know which of these two I would consider to short.

Using Trend Score to Determine Group and Sector Rotation

The Daily Group Analysis report for June 14 is displayed in **Figure 9**. In this case, the groups are surrogate indexes, groups of stocks created with AIQ's MatchMaker to represent the Fidelity Select Funds.

This report is telling Select Fund traders to transfer funds from the Select Funds into the Money Market fund and take a trip. According to the summary at the top of this report, 89% of the surrogate indexes are in a downtrend, and 86% have a Trend Score lower than the prior period. Now that is bearish.

For Non-Timid Traders

The last example, **Figure 10**, is for the swashbuckling buccaners among us. This is another Group Analysis report for June 14 containing surrogate index groups again constructed with MatchMaker. But in this case, the underlying indexes all have index options available. If one wants to play

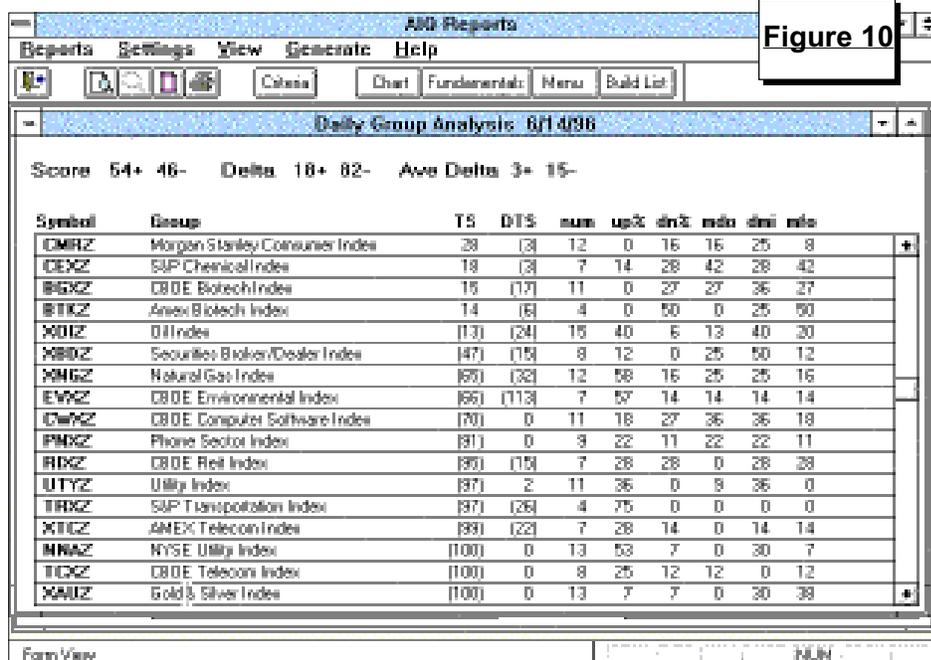


Figure 10



Figure 11

the downward correction, a put or two on the CBOE Environmental Index might be called for. This index has a Trend Score of -66 and a Delta Trend Score of -113, the fastest declining index on the report.

Figure 11 shows the movement of the CBOE Environmental Index in the subsequent weeks. That's what I call trading the trend.

Trend Score is a powerful tool to add to our kit bag of tools in our

trading process. As we have illustrated, it can be used for market timing confirmation, determining sector rotation, analyzing groups, and picking stocks.

If the trend is our friend, then it goes without saying that the Trend Score is as well. ■

AIQ'S NEW MARKET BREADTH BUILDER — SYSTEM TESTING

By David Vomund

Last month we introduced the Market Breadth Builder, available in TradingExpert's new 3.0 version. The Breadth Builder creates breadth data which allows us to use indicators such as the Advance Decline Line, Advance Decline Oscillator, and New Highs/New Lows for groups, sectors, or user created lists. A secondary benefit is that we can use the very successful AIQ market timing model for groups, sectors, or user created lists. In this article, we'll begin to test Expert Rating signals generated by the market timing model for the AIQ Pyramid industry sectors.

Breadth data is most valid when created from a large group of stocks. The average AIQ Pyramid industry group has only four stocks, which is not enough. Instead, we'll test the Breadth Builder on the Pyramid sectors. It will then calculate breadth on all the stocks within each sector.

We began by testing eight of the fifteen Pyramid sectors (next month we'll test the remaining sectors). For these sectors, we compared the regular Expert Ratings to the market Expert Ratings which were derived using the Breadth Builder. The time period for this test, January 1994 to July 15, 1996, covers approximately two and one-half years. This time period includes both a sideways market and a strongly advancing market.

This is a strictly mechanical test which considers only signals of 95 or greater and uses the Phase indicator for confirmation. If a buy signal of 95 or greater is registered, we bought the sector when the Phase indicator began to increase (or on the day of the signal if the Phase was already increasing). Conversely, we sold when a sell signal of 95 or greater was confirmed by a decreasing Phase indicator.

This is a test of the accuracy of the Expert Ratings and not a test of an actual trading strategy. After all, you can't buy a sector. Therefore, we make the assumption that we could buy at the close on the day of confirmation. Commissions and slippage are not included.

Table 1 shows the results of the eight sectors we selected. The first column shows the average annual rate of return from trading the sectors based on the Expert Ratings from the regular AIQ stock timing model. The second column lists the results of timing the sectors using Breadth Builder to create a market for each sector. The final column lists the buy-and-hold results.

We first notice that the results with our regular knowledge base on sectors are unimpressive. This confirms our long held belief that regular (stock) Expert Ratings do not work for groups and sectors. Instead, it is better to use Trend Score and Delta Trend Score values (this is why our group and sector reports are based on Trend Score instead of Expert Ratings).

Next, we see that results dramati-

cally improve when we use the market timing model on sectors instead of the regular model. On average, the return with the market model is more than double the return with the regular model.

Despite the fact that performance dramatically improves by creating a market for each sector, we see that it still does not beat a buy-and-hold strategy for the 2-1/2 year test period. Does this mean that the new Expert Ratings should be ignored? Not so fast. Until this July, we've been in a market that has been, for the most part, steadily rising - a buy-and-hold type market. It is hard for a timer to outperform when there are no corrections. Looking at the individual sectors, the sectors that outperformed the most were those that experienced a correction, such as was the case for the Consumer-Cyclical and Transportation sector.

A second and more important consideration is that the annualized return of the average trade based on the market model is greater than the annualized buy and hold return. **Table 2** lists the average return and the average holding period for each buy

Table 1

Average Annual Rate of Return (%)

	Regular ER Trading	Breadth Builder ER Trading	Buy & Hold
Basic Materials	7.83	5.64	8.54
Consumer-Cyclical	1.09	9.41	-1.14
Financial Services	4.15	7.52	15.97
Health & Pharm.	2.03	8.15	30.97
Oil-Prod. & Services	8.46	18.37	15.27
Technology	-5.85	17.65	19.49
Transportation	9.17	5.39	1.17
Utility	4.30	0.03	2.49
Average =	3.90	9.02	11.60

MARKET ANALYSIS *continued* . . .

signal. The second column annualizes the first column. The final column shows the annual (buy-and-hold) return for each sector.

We see that, in six of the eight cases, the annualized return for an Expert Rating buy period is greater than the annual buy-and-hold return. This is even true for sectors such as Financial for which the timing model severely underperformed buy-and-hold (see Table 1). How can this be? The Financial sector on average made 1.5% in 18 days during each buy signal. This is nearly twice the rate of return for this sector during an average 18 day time period.

The reason that the timing model underperformed is that the model was on a sell during some periods when the sector rallied. Therefore, the timing model outperformed when it was on a buy signal but underperformed overall because it didn't catch every move. This tells us that the Expert Ratings don't catch every bullish rally but when the sector is on a buy signal, it outperforms.

Summary

For the eight sectors tested, we see that a mechanical model which buys and sells sectors based on market

Expert Ratings underperformed a buy-and-hold strategy. That's mainly because of the rallies that were missed. The Expert Ratings tend to be counter-trend so if a buy signal is not registered when a sector is near a low and beginning to rally, then it is not likely that a buy signal will occur as the sector enters its strong advance.

While the sector Expert Ratings don't work for someone who's looking for a black box trading system, they are effective for a trader who wants to buy outperforming sectors. When a sector

is on a buy signal, its average return (on an annualized basis) exceeds its average buy-and-hold return. The Expert Ratings are effective in flagging bullish moves.

Note: The results and conclusions of our sector testing does not apply to the overall market or individual stocks. We've already seen that the market timing Expert Ratings can effectively be applied to timing the S&P 500 using a mechanical trading method. ■

Table 2

Breadth Builder Test Results

	ER Trading % Gain per Trade	ER Trading Annualized %	Buy & Hold Annual %
Basic Materials	1.4 in 39 days	12.91	8.54
Consumer-Cyclical	1.7 in 30 days	20.88	-1.14
Financial Services	1.5 in 18 days	30.00	15.97
Health & Pharm.	1.9 in 24 days	27.10	30.97
Oil-Prod. & Services	3.3 in 44 days	27.50	15.27
Technology	2.7 in 28 days	33.75	19.49
Transportation	1.1 in 38 days	11.00	1.17
Utility	0.1 in 28 days	0.13	2.49
Average =		20.41	11.60

STOCK DATA MAINTENANCE

The following table shows past and future stock splits and large dividends:

Stock	Ticker	Split/Div.	Approx. Date	Stock	Ticker	Split/Div.	Approx. Date
Palm Harbor Homes	PHHM	5:4	08/05/96	Beckton Dickinson	BDX	2:1	08/16/96
ABM Industries	ABM	2:1	08/06/96	Nobility Homes	NOBH	3:2	08/19/96
Cubic Corp	CUB	3:2	08/08/96	Wolverine Worldwide	WWW	3:2	08/19/96
ACC Corp	ACCC	3:2	08/09/96	Data Research Assoc.	DRAI	3:2	08/20/96
Bank of NY	BK	2:1	08/09/96	Graham Corp	GHM	3:2	08/26/96
Hubbell Inc.	HUB.B	2:1	08/12/96	Keystone Financial	KSTN	3:2	08/26/96
Werner Enterprise	WERN	3:2	08/12/96	Infodata Systems	INFD	2:1	08/26/96
Heritage Media	HTG	2:1	08/13/96	Life Tech.	LTEK	3:2	08/29/96
NTN Canada Inc.	NTNC	3:2	08/15/96	Coachmen Inds.	COA	2:1	08/29/96
Magna Bancorp	MGNL	2:1	08/16/96	SunAmerica	SAI	2:1	09/02/96

Trading Suspended:

Acme Cleveland (AMT) Community Health Systems (CYH)
Rockefeller Center Prop. (RCP) Ameridata Technologies (ADA)

MARKET REVIEW

WHAT GOES UP FAST OFTEN GOES DOWN FASTER

By David Vomund

Figure 12



DAVID VOMUND

The month of July saw the revenge of the market timers. It has been years since we've seen a serious market correction. Until July, the best rated mutual funds and investment newsletters were those that remained fully invested with high beta stocks. Then people learned that what goes up fast often goes down faster. For the month, the S&P 500 fell 4.6% but the broader markets were much weaker. The technology heavy NASDAQ Composite fell 8.8%.

The S&P 500 index fell below the support trendline that held the market for 16 months (see Figure 12). This pattern typically means that the rate of advance is over and that a consolidation or a correction will begin. The bearish picture was clouded, however, as AIQ buy signals were registered as the S&P 500 fell below the support trendline.

The month began with a 99 sell signal on July 5. This was the third straight sell signal with the first sell coming on June 7. After that, there was

a whole series of buy signals. Buys were registered on July 9, July 10, July 12, and July 23. While market commentators were talking about the bear, AIQ signals were saying, "not so fast!"

We've reported in the past that historical studies show the highest return from trading the market timing system comes when no confirmation is used. Adding a confirmation does help avoid some very painful trades, however. Here is a case where adding a confirmation was appropriate. The first set of market timing buy signals were not confirmed as the market was falling sharply. Confirmation of the Phase indicator came on July 18 when the market began to stabilize. The last buy signal came on the day of the Dow's low price.

The market's intraday low point came on July 16, when the Dow was down 180 points before making a dramatic turnaround and closing higher. A big reversal day also came near the end of the bear market in 1990 and after the mini-crash of 1989 (see 09/28/90 and 10/16/89). In each case, the market made a short term rally, fell back to the lows, and then began to rally. This month, the test of the lows

came a week after the turnaround day.

While the large-cap stocks have shown better relative strength than the smaller company stocks, that may be changing. For the first time since May, the RSMD SPX indicator, which compares the Russell 2000 versus the S&P 500, is flattening (see Figure 13). This indicator will begin to advance if the smaller company stocks take leadership.

Not surprisingly, volatility readings on the market are sky high. At the start of '96, implied volatility readings on the S&P 500, derived from the prices of near-term options, were running around 8%. Recently, volatilities have shot up above 18%, revisiting the highs last seen in February '94.

Market timers got their revenge in the month of July but calling a correction is only half the game. A common mistake market timers make is to fall in love with their outlook rather than listen to what the market is saying. Sidestepping a correction/bear market is no good if you end up buying back in at higher prices. Beware of becoming complacent. ■

In addition to managed accounts, David Vomund publishes two advisories for stock and sector fund investing. For information, phone 702-831-1544.

Figure 13

