AIQ Opening Bell® Monthly

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Feature

Sections

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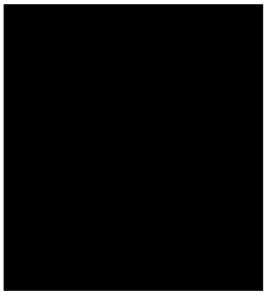
MARKET TIMING

IT'S ALL IN THE RULES PART I: UP SIGNALS

By Dr. J.D. Smith



DR. J.D. SMITH

Did you know that AIQ's David Vomund is ranked the No. 4 market timer in the country over the last five years? This ranking is by *Timer Digest*, a magazine that collects and evaluates market timing signals from the various newsletter writers around the country. Since David began publishing an advisory newsletter, he has consistently been rated as one of the best timers in the country. That's what I call having an edge.

Want to know David's secret? Ask him and he will tell you that he uses the signals from AIQ's market timing expert system, confirmed by the Price Phase Indicator. He then sends his signals to *Timer Digest* for validation and evaluation. *Timer Digest* keeps track of the results and publishes the performance of market timers each year.

This means that you too could beat the nation's most well known and respected advisors such as the likes of Martin Zweig, Al Frank, Jerry Favors, Stan Weinstein, and Joe Granville. Just use the AIQ expert system.

"...you too could beat the nation's most well known and respected advisors . . . Just use the AIQ expert system."

Expert Systems are part of a larger field of study known as Artificial Intelligence. AI was born in the mid-50's and focused on game playing and problem solving. I used AI in the late 60's to solve problems in foreign exchange arbitrage and the design of transverse bulkheads on super tankers.

Expert systems as we know them today are based largely on the MYCIN paradigm developed at Stanford University. This system was developed in the late 60's by pioneers such as Feigenbaum, Lederberg, Shortliffe, and Buchanan.

MYCIN was a system for diagnosis and treatment of bacterial infections and used a knowledge-based rule driven system structure. This is the

Market Timing continued on page 2

MARKET TIMING *continued* . . .

system structure I chose in 1984 for AIQ's expert system.

The structure for a knowledge-based rule driven system is shown in **Figure 1**. This is a typical production system flow where inputs are transformed into outputs. In our case, the inputs are the data processed by the knowledge base into Expert Ratings. Our inputs consist of price, volume, and market breadth information. For MYCIN, the inputs are the medical parameters for a patient.

AIQ's knowledge base is derived from the books and articles written on technical analysis and quantitative analysis since the 1920's. For MYCIN, knowledge is the total medical literature on bacterial infections. The rule structures for AIQ and MYCIN are identical. But, of course, the contents and conclusions are totally different.

An example of the MYCIN rule is shown in **Table A**. The structure of the MYCIN rule is:

If
  and if
  and if
Then
  weighted conclusion

An AIQ rule is shown in **Table B**. You can see it follows the same rule structure as the MYCIN rule. The

Figure 1

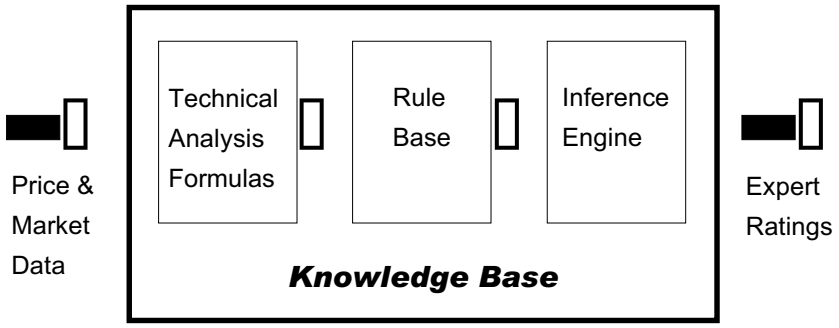


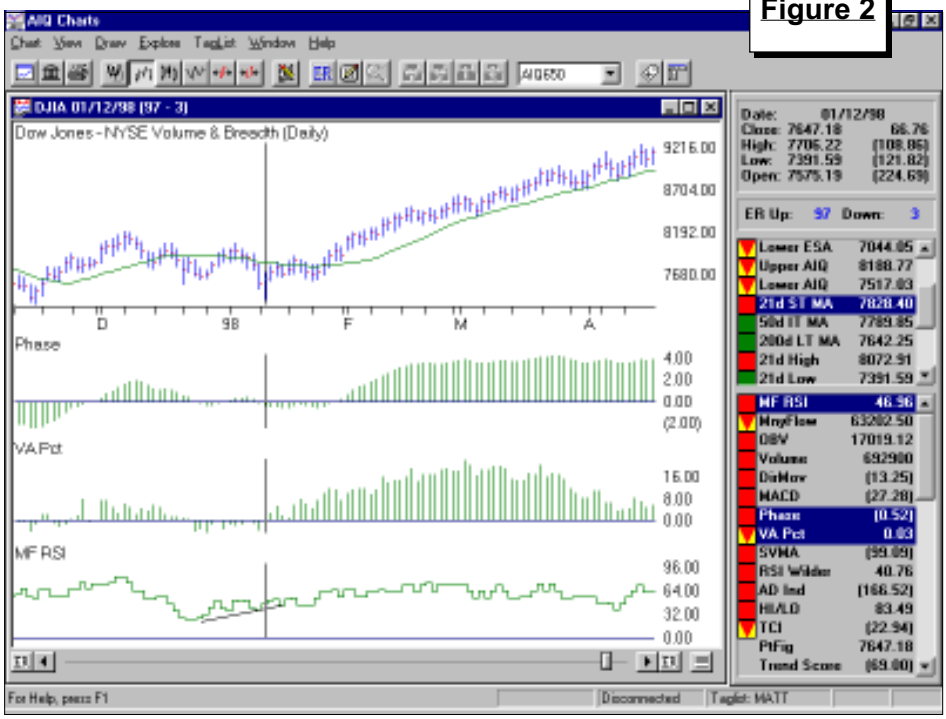
Table A

If
  The stain of the organism is gramneg
  and
  The morphology of the organism is rod
  and
  The patient is a compromised host
Then
  There is suggestive evidence (0.6) that the identity of the organism is pseudomonas

Table B

If
  The intraday low is a 21-day low
  and
  The volume accumulation percentage is positive
  and
  The market trend is strong down
Then
  Historical reliability for an upward price move is (0.7)

Figure 2



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MARKET TIMING *continued . . .*

inference engines for the two systems are essentially the same. A certain defactor for the process is initiated — at zero for MYCIN and at 33, 34, 33 for AIQ, representing the ratings for up, sideways, and down markets.

Then, each rule in the system is evaluated and if a rule fires — that is, if all the clauses in the rule are evaluated as true — then the weight of the rule is combined in the inference engine with the weights of all the other rules that have fired. The result is an Expert Rating for the market or, in the case of MYCIN, a prognosis for the patient.

Therefore, it is the rules in the system that represent the translation of expert knowledge from the technical literature into the expert system. It is the rules in the system which fire that cause the inference engine to combine the results of rule evaluation into a meaningful prognosis for a market or a patient. And it is the rules within AIQ that provide us with a snapshot evaluation of the market for today.

Let's look at some examples.

Figure 2 is a chart of the Dow Jones Industrial Average for the last part of 97 and early part of 98 with the date line located January 12, 1998. The indicators shown in the chart are the Price Phase Indicator, Volume Accumulation Percentage, and Money Flow RSI.

Price Phase is an oscillator and is the difference between the 12-day and 15-day moving average of closing prices. When the Price Phase is negative, it means that the short-term average is moving down faster than the long-term average. When the Price Phase is positive, it means that short-term prices are moving up faster than long-term prices.

On the chart (Figure 2), you can see that to the left of the date line short-term prices of the Dow have been dropping and the Price Phase indicator is negative.

Volume Accumulation Percentage is an attempt to evaluate supply and demand. On the chart, this indicator has been negative for two weeks and has, on January 12, turned positive. This means that demand for the market is increasing.

Money Flow RSI, which is a measure of short-term money flow, has been increasing for the last two weeks. I have placed a trendline on the higher lows for the two weeks prior to January 12.

The Expert Rating for January 12 is 97 to the upside. You can accept this rating on blind faith, or you can be more prudent and wait for confirmation by the Price Phase Indicator.

Market Timing continued on page 4

Figure 3

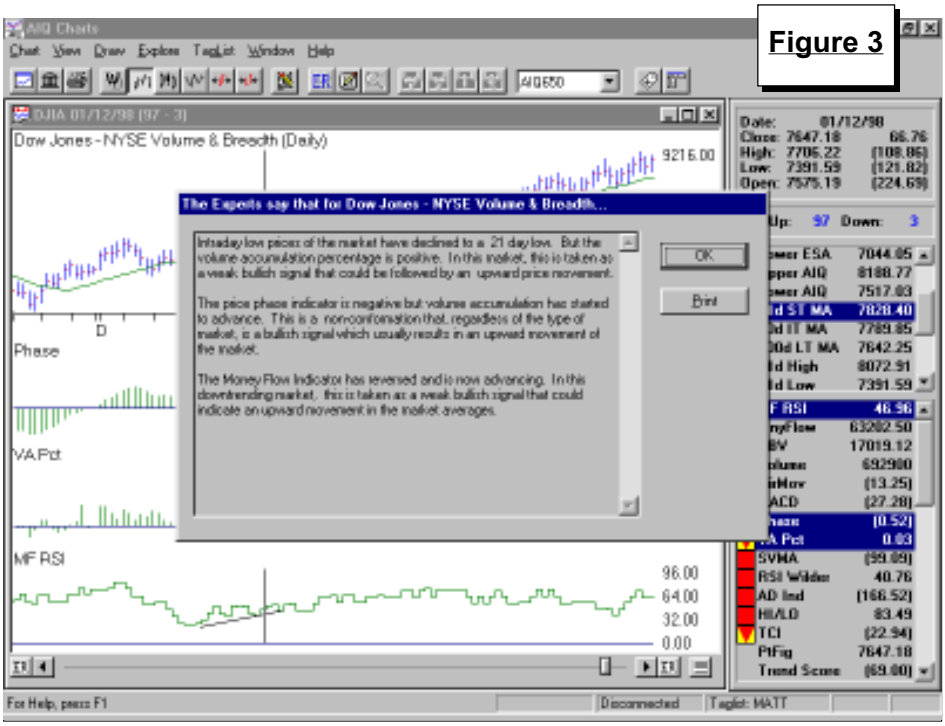
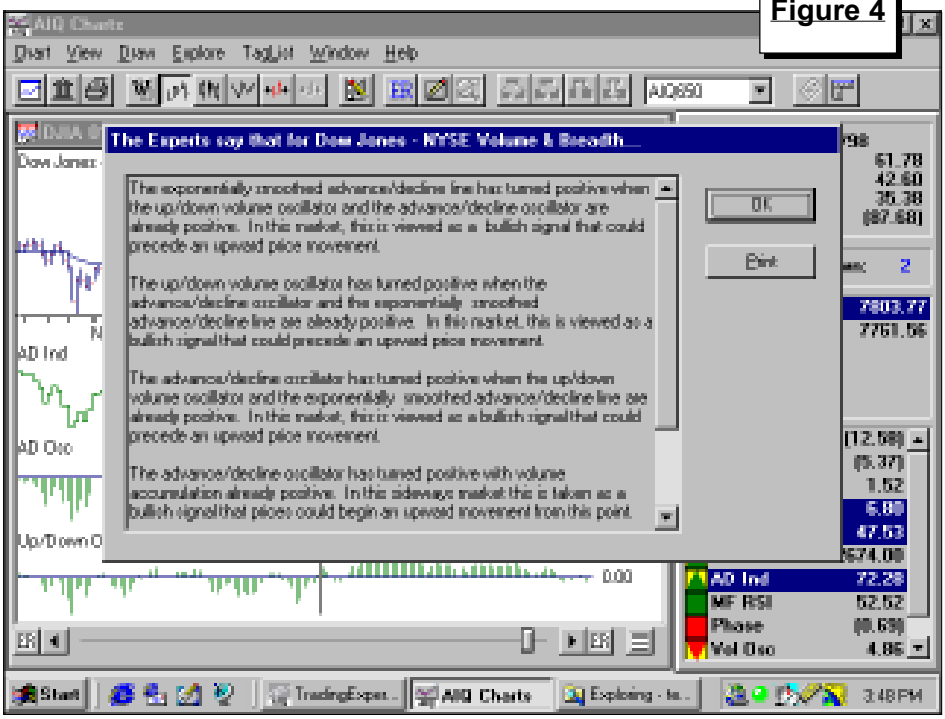


Figure 4



MARKET TIMING *continued* . . .

And you should probably wait for confirmation before you mortgage the homestead and go long the SPDR.

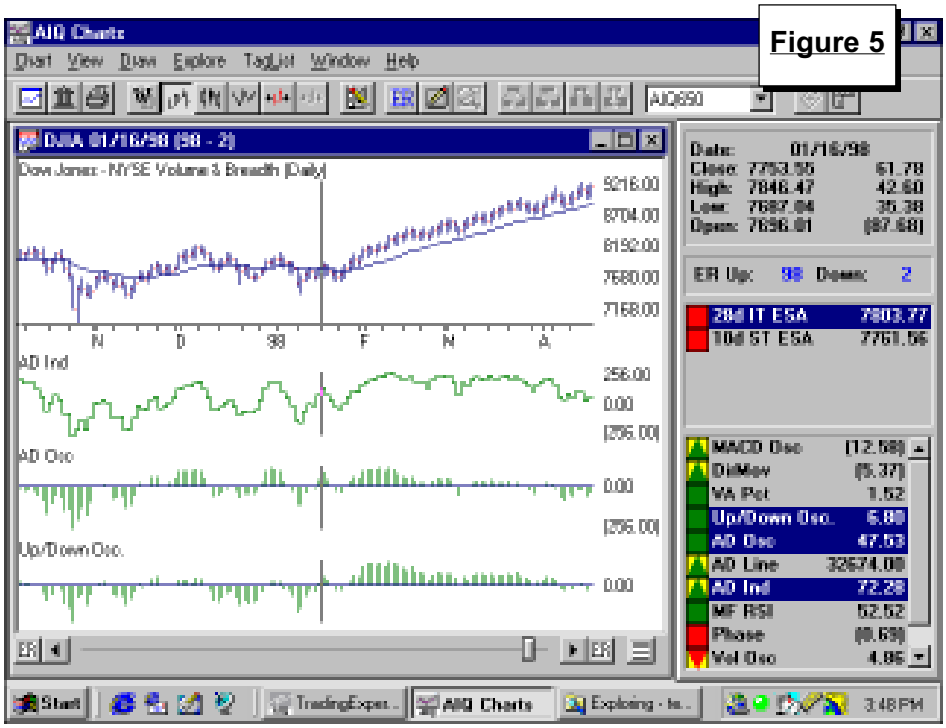
You can also click on the ER button and see the AIQ rules that fired to produce this Expert Rating. These rules are shown in **Figure 3** on page 3.

The first rule is a classic countertrend, nonconfirmation rule. The market is trending down strongly, the intraday low for the Dow is the lowest value in a month, but demand is shown to be increasing. And who buys at the bottom...?

This first rule is displayed in plain English because most of our users do not read computerese. But notice the structure of this rule as it is written in plain English and compare it to Table B. It is the same. The plain English version explains something that the system sees in the charts which might not be so obvious to you or me.

The second rule uses the same indicators but in a different way. In this case, Phase must be negative and demand — i.e., Volume Accumulation Percentage — must be increasing. It does not have to be positive, just increasing.

Figure 5



The third rule uses Money Flow RSI and the market trend. The trend of the market is down, but money flow is increasing. Who buys in a down market? Smart money.

Just by reading the rules, we get an immediate analysis of all the things worth knowing about the market as it stands on January 12, 1998. The trend is down strongly, prices are at new lows, and the smart money is buying. How do we know it's smart money buying? Just look at the price plot of the Dow (Figure 2) to the right of the date line. Smart money indeed.

What action do we take now, with Price Phase negative? We can certainly tighten the stops on our short positions, and we can also become a little bullish and watch the rules that fire in the coming days, regardless of the value of the Expert Rating.

On January 13, the second derivative of the average price line forms a cycle bottom. Prices cross the 20% Stochastic Line and accumulation continues to increase. In other words, prices are moving off their lows and starting to advance.

On January 14, the New High/New Low indicator reverses to the upside — breadth is increasing. That's bullish. On the 15th, we get a whipsaw in the New High/New Low indicator and it turns back down.

Figure 6

MARKET TIMING *continued* . . .

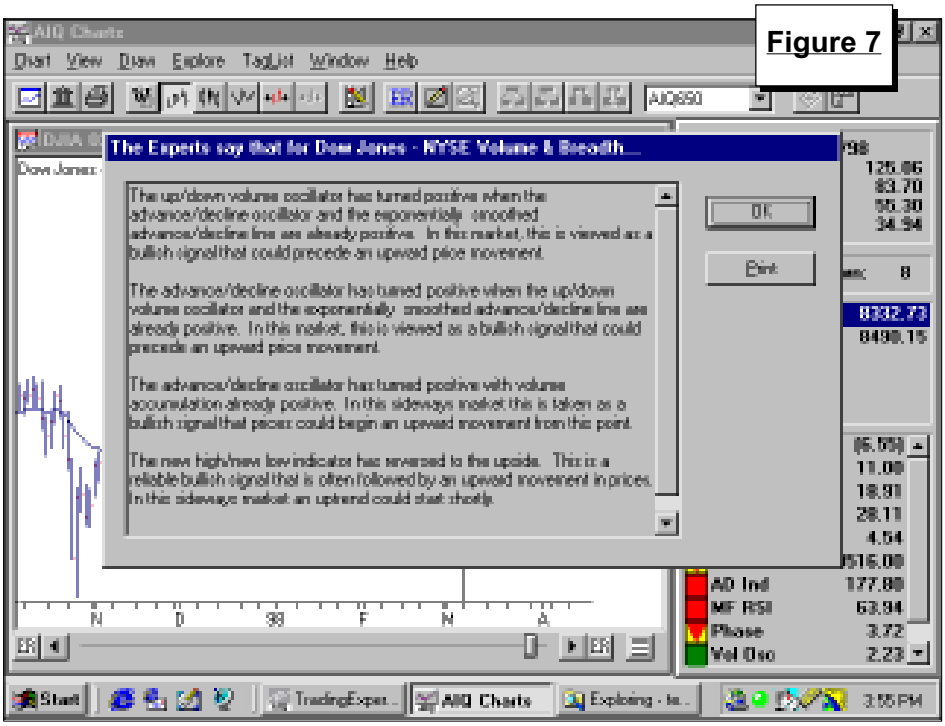
On January 16, we get a 98 upside Expert Rating. **Figure 4** (on page 3) shows the rules that fired on that day. By reading the rules we can see that the Advance/Decline indicator is moving up, the Up/Down Volume Oscillator and the Advance/Decline Oscillator are also positive. These indicators are all shown in **Figure 5**. In addition, the New High/New Low indicator has turned back to the upside.

It is quite clear that market breadth is advancing. This is very bullish. Therefore, we got an Expert Rating from the inference engine of 98 to the upside. By January 29, the Price Phase Indicator turns positive, and the 98 up signal is confirmed. We can now do all the things we do when we are bullish.

But just because we are bullish and our portfolio is long does not mean that we can ignore the rules that fire each day until the next down signal. Instead, we can use the rules to keep track of what the market is doing.

Figure 6 shows the market chart with the date line on February 17.

Figure 7



The Expert Rating is 86 to the upside. Not high enough for a signal, but the single rule that fired that day tells us something about the market. The rule says the Dow Jones Industrial Average has closed above its 3.5% upper trading range for the prior four days. That is a strong bullish signal, indicating the current price move will continue. This is called a bullish affirmation.

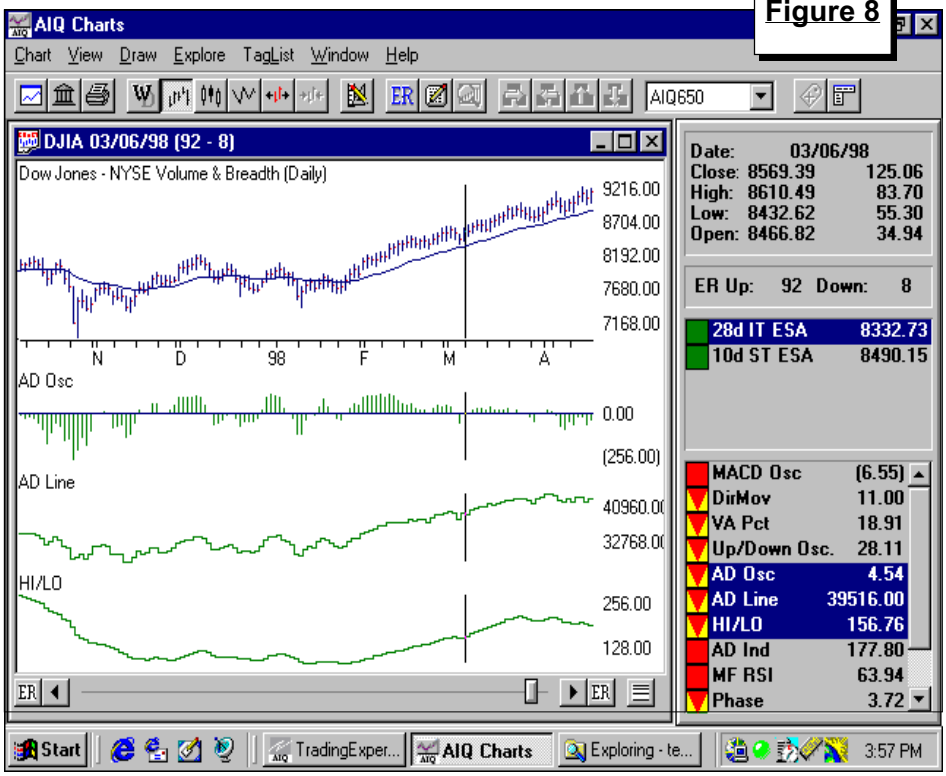
On March 6, we get a 92 upside Expert Rating and the rules are shown in **Figure 7**. The rules are telling us that once again market breadth is expanding.

Up/Down Volume Oscillator is advancing, Advance/Decline Oscillator is positive, Volume Accumulation is positive, Advance/Decline Line is moving up, and the New High/New Low indicator has turned up.

To see the context of the rules that fired on March 6, look at **Figure 8**. After advancing for almost six weeks, the market took a pause. But how can you tell the difference between a pause and the end of a trend? Let the rules that fire tell you. The rules that fired on March 6 are clearly bullish rules. So we can simply sit back, relax, and let our profits run. n

Next month: Part 2 - Down Signals.

Figure 8



MARKET ANALYSIS

Large Cap or Nasdaq? RSMD Indicator Helps to Determine Which Stocks To Be In

By David Vomund

DAVID VOMUND

There is a common misconception that our market timing model only applies to the Dow Jones Industrial Average. This misconception arises from the fact that the signals appear when you plot the Dow (ticker DJIA). The truth is our model applies to the entire market, not just the Dow stocks.

For its signals, our market timing model is comparing the narrowly based Dow Jones Industrial Average to the activity in the broader market. All the stocks on the New York Stock Exchange are used to compute the market breadth indicators and the number of stocks hitting new highs and new lows.

There are times when it is best to be in large cap stocks after a market timing buy signal and there are times when it is best to be in Nasdaq stocks. To help determine which type of stocks will be the better performers, use the Relative Strength indicator.

Relative Strength compares the strength of one security or index to another security or index. This article will concentrate on the RSMD SPX indicator. The RSMD SPX is the Relative Strength of the displayed ticker (stock or index) to the S&P 500 index.

Relative Strength is most often computed by dividing the price of one security by the price of another. With the RSMD indicator, we smooth the resulting value by applying the formula for the MACD indicator. The faster line (typically green) is computed as the difference between two moving averages on relative strength and is called the Difference Line. The second line (typically blue) is an exponentially smoothed average of the Difference Line and is called the Signal Line. The constants for this indicator are identical to the MACD indicator.

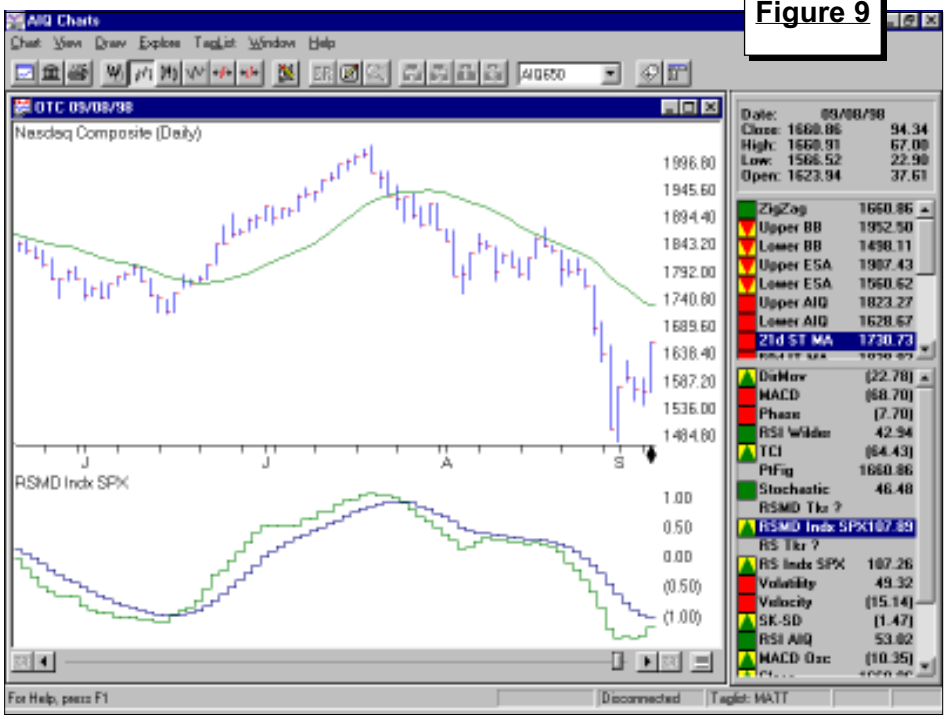
When the Difference Line is rising and is above the Signal Line, then the plotted security is outperforming the S&P 500. The opposite is true when the Difference Line is falling and is below the Signal Line.

The RSMD SPX indicator is a good indicator to use in conjunction with the market timing model because it helps determine whether the large company stocks will outperform or underperform the Nasdaq stocks when AIQ is on a market timing buy signal.

Here is the strategy — when a market timing buy signal is registered using ticker DJIA, plot the Nadsaq Composite (OTC) with the RSMD SPX indicator. If Relative Strength favors the Nasdaq Composite (Difference Line is above the Signal Line), then the Nasdaq Composite is purchased and held until a market timing sell signal is registered. Otherwise, the S&P 500 is purchased and held until a market timing sell signal.

An example is shown in **Figure 9**. On September 8, the market timing model registered a buy signal. Looking at the Nasdaq Composite's RSMD SPX indicator we see that the Difference Line is below the Signal Line. This implies that the Standard & Poor's 500 index will likely outperform for that buy signal.

Figure 9



MARKET ANALYSIS *continued . . .*

Table 1 shows results of backtesting for a five-year period beginning in 1993. For simplicity, only market buy signals are examined and confirmation techniques are ignored. Positions are purchased the day of the market signal and held until the next market sell signal. Columns 5 and 6 show the percent change in the S&P 500 and the Nasdaq Composite for each market signal. Column 7 lists which market index was purchased based on the Relative Strength reading. Column 8 shows the percent return received by purchasing the stronger index.

Notice that during this period, the average gain per signal on the S&P 500 and the Nasdaq Composite is close to the same. The S&P 500 gained 3.47% per signal while the Nasdaq Composite gained 3.48%. By switching between the S&P 500 and the Nasdaq Composite based on Relative Strength, the average return per trade is further increased to 3.68%.

This technique can become more proactive by switching between the S&P 500 and the Nasdaq Composite when AIQ is on a buy signal as market conditions change. For example, on our October 8 buy signal Relative Strength initially favored the S&P 500. Two weeks later the RSMD indicator reversed direction and signaled strength in the Nasdaq Composite.

Mutual fund investors can follow a strategy of purchasing the stronger index. The Rydex group of mutual funds (800-820-0888) has an index fund that tracks the S&P 500 index and another index fund that tracks the Nasdaq Composite. n

Table 1

Relative Strength Comparison
S&P 500 vs. Nasdaq

Entry Date	Expert Rating	Exit Date	Expert Rating	S&P500 % Ch.	Nasdaq % Ch.	Greater Rel. Str.	Index % Ch.
01/12/93	95	02/16/93	96	0.67	-2.07	OTC	-2.07
07/06/93	99	10/22/93	99	4.95	10.03	OTC	10.03
12/17/93	98	02/04/94	100	0.74	2.38	SPX	0.74
02/28/94	99	03/24/94	100	-0.60	-0.74	OTC	-0.74
03/28/94	96	06/20/94	100	-0.98	-6.94	SPX	-0.98
06/27/94	98	08/05/94	98	2.19	2.28	SPX	2.19
08/23/94	97	09/19/94	98	1.36	3.84	OTC	3.84
09/26/94	95	09/29/94	98	0.31	0.49	SPX	0.31
10/10/94	100	10/20/94	98	1.70	1.51	SPX	1.70
11/07/94	95	04/20/95	99	9.12	7.44	SPX	9.12
04/21/95	98	06/16/95	98	6.16	10.35	SPX	6.16
08/25/95	95	10/02/95	95	3.86	0.75	SPX	3.86
10/12/95	99	10/19/95	99	1.29	3.09	SPX	1.29
11/16/95	98	12/18/95	95	1.59	-4.01	SPX	1.59
01/16/96	95	04/03/96	99	7.80	12.05	SPX	7.80
04/15/96	99	04/17/96	100	-0.14	0.94	OTC	0.94
05/08/96	99	06/07/96	97	4.42	3.92	OTC	3.92
07/09/96	95	08/29/96	98	0.40	-0.74	OTC	-0.74
09/09/96	98	01/06/97	95	12.64	14.60	OTC	14.60
01/07/97	96	03/13/97	100	4.82	-2.59	OTC	-2.59
03/21/97	96	08/08/97	98	19.60	27.47	SPX	19.60
09/02/97	100	11/18/97	99	1.15	-1.09	OTC	-1.09
12/29/97	100	01/08/98	96	1.79	1.18	OTC	1.18
01/12/98	97	04/17/98	95	19.54	23.81	OTC	23.81
06/02/98	98	06/10/98	95	1.76	0.65	SPX	1.76
06/16/98	95	07/21/98	100	7.12	12.89	OTC	12.89
07/29/98	98	09/03/98	95	-12.70	-16.46	SPX	-12.70
09/08/98	100	10/05/98	97	-3.41	-7.48	SPX	-3.41
		Average Trade =		**3.47**	**3.48**		**3.68**

David Vomund publishes VIS Alert, a weekly investment newsletter. For a sample copy go to ***www.visalert.com*** *or call (702) 831-1544.*

MARKET REVIEW

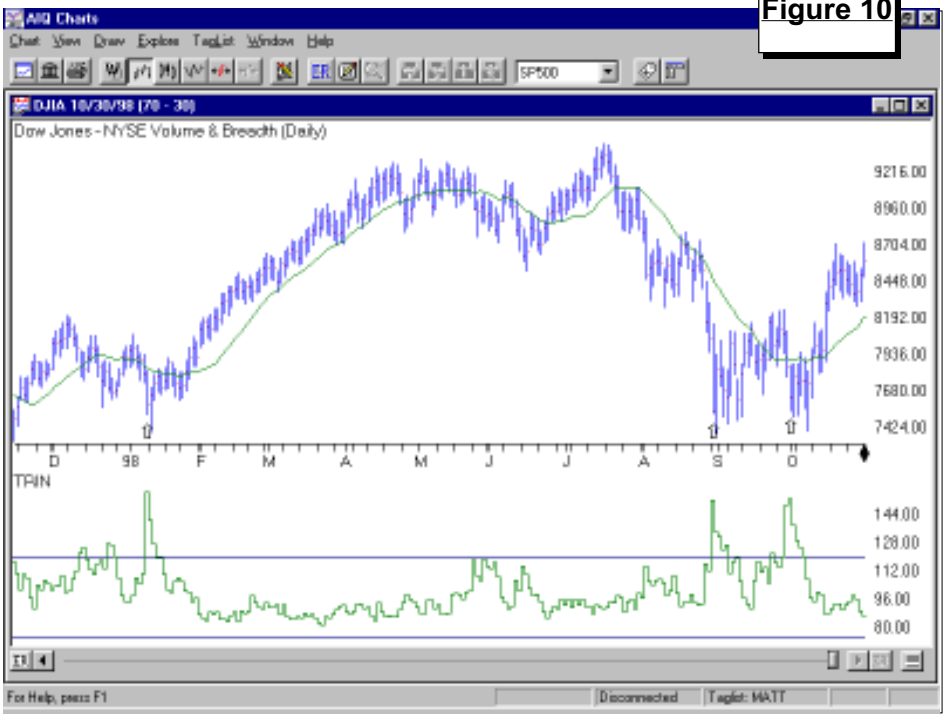
The recent bear market was very similar to the 1990 bear market. In 1990, the S&P 500 topped out in July and corrected 19.9%. The bottom came in mid-October. At the low, the Advance/Decline Line was breaking down and was hitting new lows. In the current market, the S&P 500 reached the high in July, corrected 19%, and bottomed in mid-October after testing the lows. Just as was the case in 1990, the Advance/Decline Line hit new lows in October giving no indication that a bottom was made.

As for Expert Ratings, AIQ issued a sell just before the final 1990 downward leg and then issued a buy at the low. This October, a 97 down signal was registered on October 5 followed by a 95 up signal on October 8. October 8 represents the low point in both the Nasdaq Composite and Russell 2000 to the day. The buy signal was confirmed by the Phase indicator on the following day.

Last month we discussed how a TRIN level of 150 has recently called the low points in the market. TRIN hit 152.6 on October 1 (see arrows in **Figure 10**).

Since October 8, the broader market has outperformed large-company stocks. Through the end of October, the S&P 500 rallied 15% off its low and the Russell 2000 rallied 22%. The best performing groups were Semiconductors and Oil-Drilling. Many of these stocks have rallied 50% since the October 8 buy signal. n

Figure 10



STOCK DATA MAINTENANCE

The following table shows large dividends:

Stock	Ticker	Div.	Approx. Date
Southside Bancshares	SBSI	3:1	11/17/98
Delta Airlines	DAL	3:2	11/17/98
Varlen Corp	VRLN	5:4	11/18/98
America Online	AOL	2:1	11/18/98
Xomed Surgical Prod.	XOMD	3:2	12/01/98
Gap Inc.	GPS	3:3	12/01/98

Trading Suspended:

BetzDearborn Inc. (BTL), Capstone Capital (CCT), Dresser Industries (DI), First Chicago NBD (FCN), H.F. Ahmanson & CO. (AHM), IQ Software (IQSW), NationsBank Corp. (NB), Newmont Gold (NGC), Stratus Computer (SRA), Thinking Tools Inc. (TSIM), Travelers Group (TRV), U.S. Rentals (USR)

Name/Ticker Changes:

Air & Water Tech (AWT) to Aqua Alliance Inc. (AAI)
Apple South (APSO) to Avado Brands (AVDO)
Cincinnati Milacron (CMZ) to Milacron Inc. (MZ)
Citicorp (CCI) to Citigroup Inc. (CCI)
DDL Electronics (DDL) to SMTEK Int'l (SMK)
Rent-Way Inc. (RWAY) to Rent-Way Inc. (RWY)