AIQ Opening Bell® Monthly

IN THIS ISSUE VOL. 7 ISSUE 9 SEPTEMBER 1998

Feature

Sections

The *Opening Bell Monthly* is a publication of
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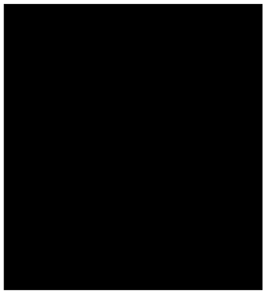
MARKET TIMING INDICATORS

GOOD OR BAD BREADTH? WATCH YOUR ADVANCE/ DECLINE INDICATORS

By Dr. J.D. Smith



DR. J.D. SMITH

As I write this, the market is down 42.22 points. Another way of saying this is that the weighted average of the 30 stocks compiled by Dow Jones decreased today less than 1/2 of 1%.

Is the Dow Jones the market? Well, yes. The Dow Jones Industrial Average is a very good indicator of what the overall market is doing. AIQ's market timing system is based to a great extent on the price action of the Dow.

> *"...using the Advance/Decline Line and the Advance/Decline Indicator as a confirmation of current price action and watching these breadth indicators for precursors of future price action will certainly improve our market timing capability."*

But the market also generates other kinds of data that we can use — advancing volume and declining volume, issues making new highs and new lows, issues advancing and declining. The latter is a measure of what we call market breadth, and we measure market breadth by the Advance/Decline Line.

The Advance/Decline Line is the cumulative net of the number of advancing issues less the number of declining issues. That is, the number of issues decreasing in price is subtracted from the number of issues increasing in price and the net is added to the prior period total on a daily or weekly basis. When this line is plotted on a chart, an increasing line is considered bullish and a decreasing line is bearish. The absolute value of the line itself has no real meaning. Because it is a summation indicator, it was initiated at some arbitrary value.

A second measure of breadth is the Advance/Decline Indicator. This is the exponentially smoothed average of the daily net between declining and advancing issues. At AIQ, the default time

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MARKET TIMING INDICATORS *continued . . .*

period for this exponentially smoothed average is 27 days. The Advance/Decline Indicator has a value that oscillates around zero.

The value of the indicator above zero is bullish and less than zero is bearish. The shape of the line shows the values in the current 27-day window relative to the value in prior windows. As an average, it is a quicker responding indicator and shows different things than the Advance/Decline Line.

Although the same data goes into these two indicators, the results can be significantly different. The advance/Decline Line is an absolute measure of breadth, measuring the absolute difference between advancing issues and declining issues.

On the other hand, the Advance/Decline Indicator is an average difference of advancing issues and declining issues during a moving window 27 days wide.

The Advance/Decline Indicator is used in the AIQ market timing system where I look for crossovers of the zero line as an event. Moving from positive to below zero is a bearish event and the movement from below zero to a positive value is a bullish event. Because Advance/Decline crossovers are incorporated into the market

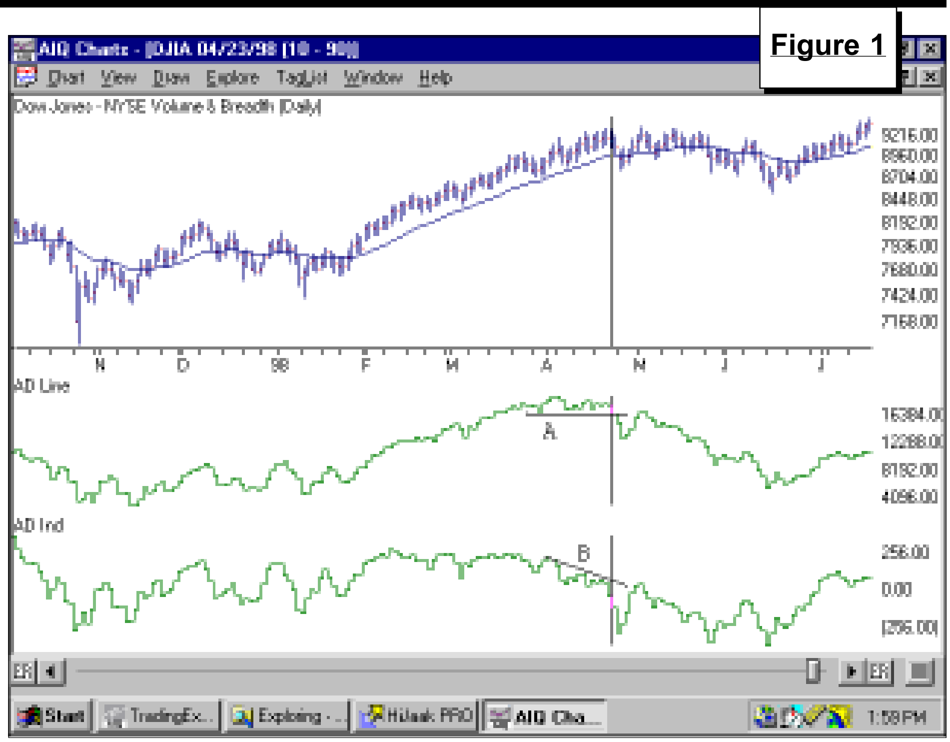

Figure 1

timing expert system, I recommend not using them in your trading process. Instead, I prefer to use the Advance/Decline Line and the Advance/Decline Indicator for trendline analysis looking for confirmations and divergences. You can also use pattern analysis which is independent of the Expert Rating itself.

Our first example of these indicators is shown in **Figure 1**. This chart displays a time period between October 7, 1997 and July 17, 1998. Plotted are the Dow Jones Industrial Average, the Advance/Decline Line, and the Advance/Decline Indicator. The cursor date line is located on April 23, 1998.

Examining the figure, we can see that in December and January the market is in a trading range. I am referring to the whole market — the Dow, the Advance/Decline Line, and the Advance/Decline Indicator. Their shapes, their highs and lows, match perfectly. The Advance/Decline Indicator is more pronounced than the Advance/Decline Line because of the quicker and short term characteristics of an average.

On January 28, the Advance/Decline Indicator turned positive and the Expert Rating generated that day was a bullish 98-2. In February, the Dow begins to advance and continues to advance until almost May. During February and March, the Advance/Decline Line confirms the bullish movement of the Dow. This indicates that the whole market is bullish, not just the Dow 30.

In April, the Advance/Decline Line starts to flatten out, as shown in trendline A, while the Dow continues its advance. This indicates that the overall market is no longer increasing in breadth and thus losing the strength to continue the advance.

What is the Advance/Decline Indicator showing during this time? After the January 28 Expert Rating, it advances to a value of almost 200 and stays flat for the next two months. An average daily difference of advancing issues and declining issues of 200 is very bullish.

But in April, the value of the Advance/Decline Indicator starts to drop back to zero. This is shown in trendline B. The Dow 30 continues to advance but the positive breadth begins to decline. This is a non-

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MARKET TIMING INDICATORS *continued . . .*

confirmation and the Advance/Decline Line turns flat — a clear and early warning of a coming correction.

With a bullish Dow and bearish breadth, what would your investment attitude be? I would be cautiously bullish. I have been long since February and now I am looking to take profits by tightening my stops in anticipation of a correction.

If a correction never comes, my profits continue to grow. Otherwise, I realize my gains now. Remember, no one ever goes broke taking profits.

An example of trendline analysis and pattern analysis on the Advance/Decline breadth indicators is shown in **Figure 2**. This example is from August, 1995. The Dow is in a slight downtrend and trendline A is placed over the descending highs. The Advance/Decline Line is in a slight uptrend and trendline B is placed under the ascending lows. The Advance/Decline Indicator is in a sideways or consolidation pattern as shown in C. The average net advance versus decline is around 50, which explains the slight uptrend in B.

In this case, we have a bearish Dow, a bullish breadth, and a somewhat neutral Advance/Decline Indicator. What to do? Price and breadth are divergent and something will change. One possibility is that breadth could increase and drag the Dow with it. This is what actually happened with a trend break on A and a breakout on pattern C.

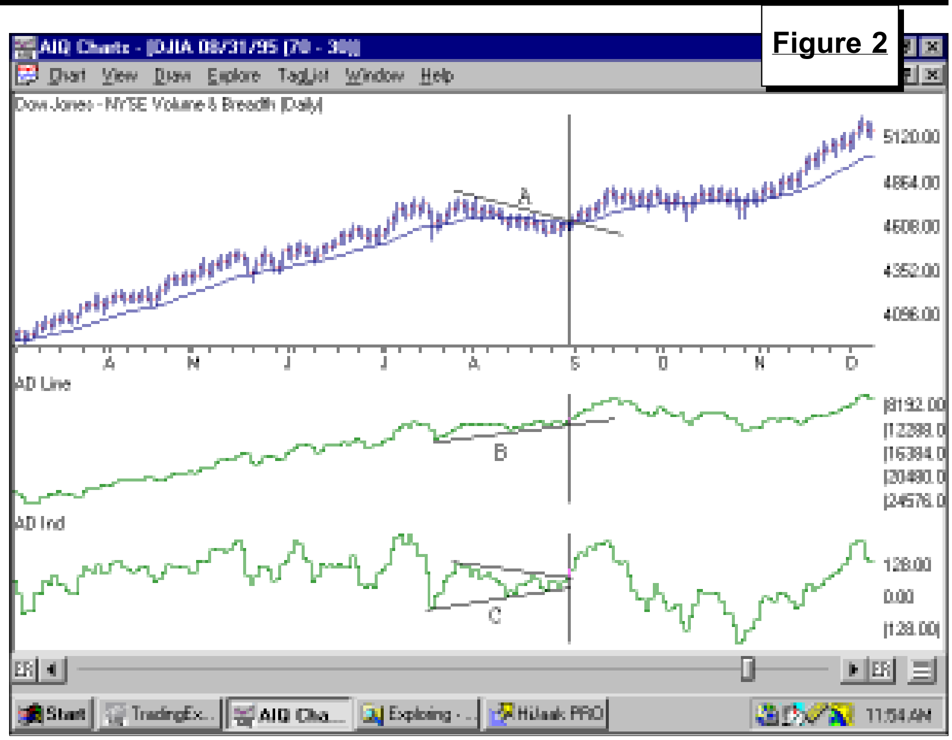


Figure 2

The alternative is that the decreasing Dow could drag the overall market with it and breadth would decrease, causing a trendline break on B and a breakdown on pattern C. In either of these two cases, your patterns and trendlines will tell the tale when it happens and you will be on the right side of the market.

Figure 3 is an example that emphasizes once again that nothing works all the time. So keep your stops in. This example takes place in June of 1996. The Dow was in a sideways consolidation pattern shown in A. But during this period breadth is decreasing, as shown in trendlines B and C. This indicates that the overall market is bearish and when the Dow does break out of this pattern, it will be to the downside.

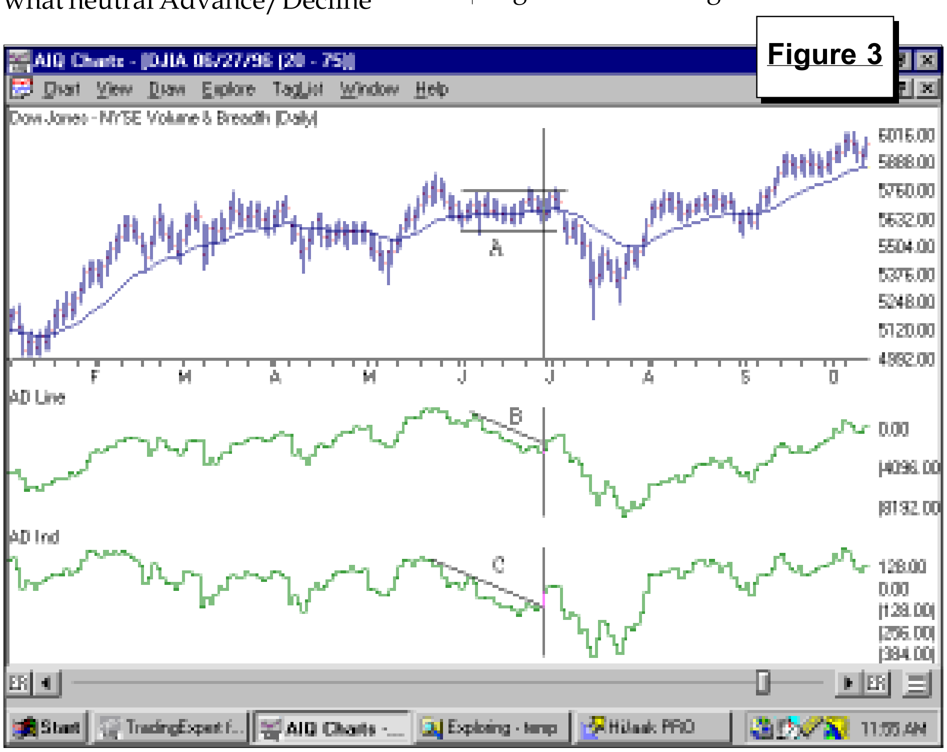


Figure 3

There was also a 1-99 downside Expert Rating on June 25 to add to the downside feeding frenzy.

The market had one more little surprise for those of us who did go short. The overall market had an upward spurt the first week in July, just enough to break the B and C trendlines in Figure 3 and run our stop loss points before turning south and doing what it was supposed to

Market Timing Indicators continued on page 4

MARKET TIMING INDICATORS *continued* . . .

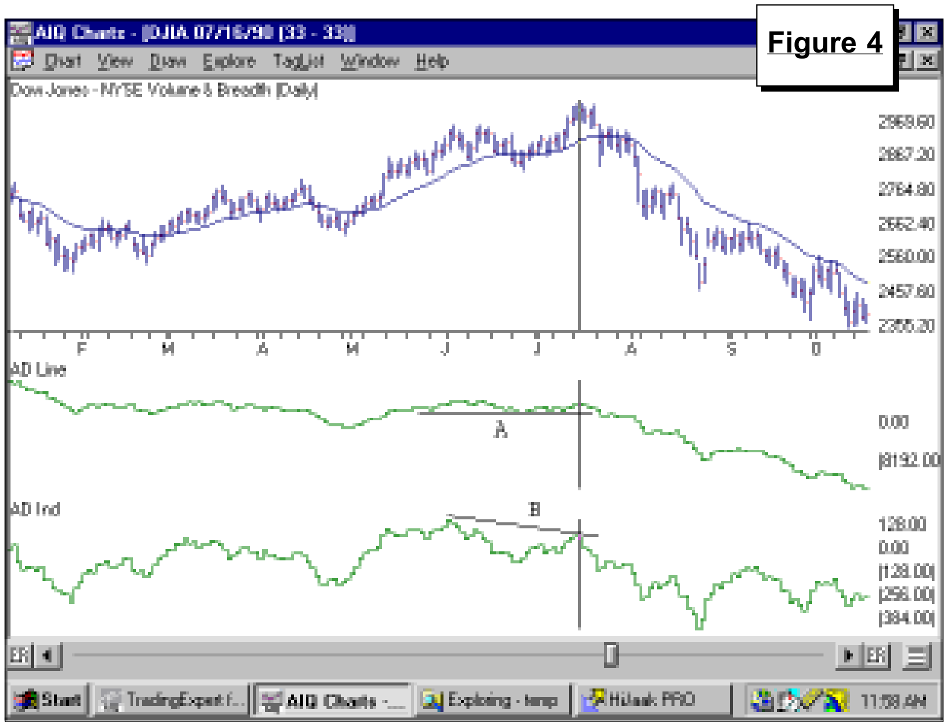
do.

Calling tops is not a pastime for the weak of heart, especially in these times when it's possible that the Dow could make 12000. But there will be a top, and when it does happen, the breadth indicators will give plenty of warning.

Figure 4 is an example from July, 1990. The Dow was over 2900, higher than October of 1987, and still climbing. But look at the Advance/Decline Line. It was flat, as shown in trendline A. And the Advance/Decline Indicator was increasing but not confirming the Dow highs as shown in trendline B.

Three days later, the market timing expert system issued a 5-95 downside ER. Those who tightened their stops saved their profits.

Figure 4



The only thing more fun than calling tops is calling bottoms. **Figure 5** is from April, 1994. It has been that long since we have had a real bottom. In January, the Dow reached 3978 and proceeded to correct a healthy 9.7 %. Prices came down and formed a classic double bottom as shown in line A.

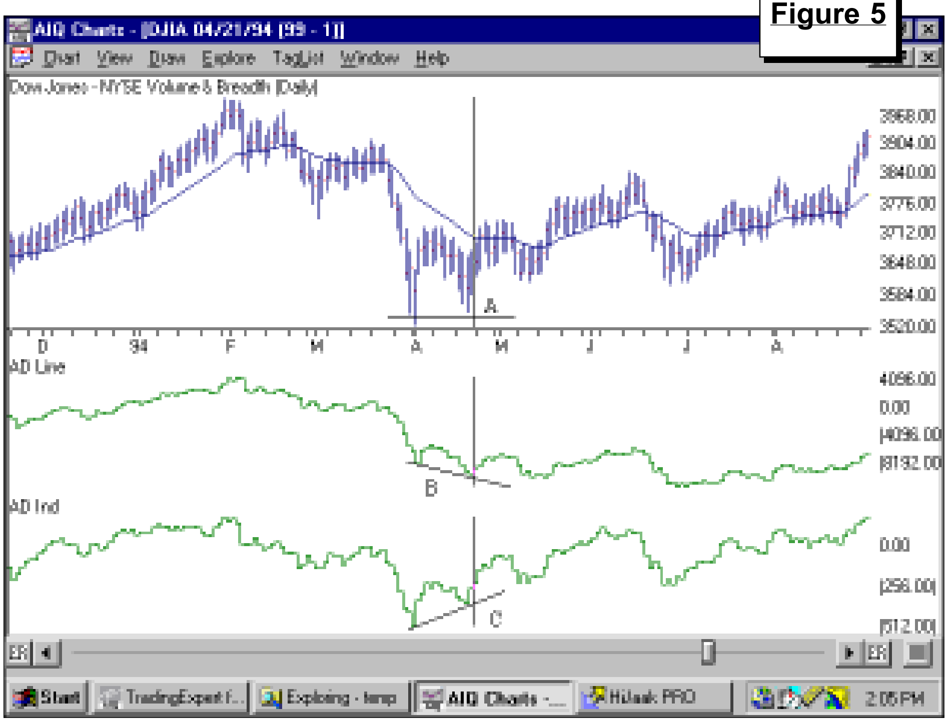
During this time, market breadth as shown in trendline B (the Advance/Decline Line), was decreasing and confirming the price decline.

However, the Advance/Decline Indicator — being the quicker responding average breadth indicator — is increasing, having caught the bottom as shown in trendline C. While prices of the Dow 30 were dropping to retest the low, the Advance/Decline Indicator was showing that the overall market was ready to advance.

We can't make any profits by directly trading the Advance/Decline Line or any other breadth indicator so our primary focus must be on prices. But using the Advance/Decline Line and the Advance/Decline Indicator as a confirmation of current price action and watching these breadth indicators for precursors of future price action will certainly improve our market timing capability.

As we all know, better market timing means better profits. Or, more pithily put — take advantage of good breadth and watch out for bad breadth. ■

Figure 5



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MARKET REVIEW

August was an extremely difficult month for the AIQ market timing model. Using anything but the slowest confirmation techniques, the model kept investors in the market. Several buy signals were registered in the month, with the last being a 96 buy on August 18.

The real breakdown in the market came on August 27. On that day, the charts showed two bearish indications:

- The S&P 500 Point & Figure chart highlighted in last month's newsletter registerd a second triple bottom sell signal.
- The trendline drawn from the 1996 summer lows on the S&P 500 (using a weekly chart in log scale) was broken.

At this point, it was obvious that the trend was no longer in favor of the market

People ask why a sell was not registered? The answer is simply that the criteria for a sell signal was not met. The rules that were fired in previous sell signals were not triggered in this move.

Although many are disappointed that a sell was not given, we do not see a need to change the model. If we changed the system by adding rules that would have given a sell signal in mid-August, then the same rules would trigger at other times as well. Many of the additional signals would occur near market lows.

We still believe that we have the best market timing model available on the market. We'll leave optimizing to others.

The market timing model has been remarkably effective so we rarely talk about what to do when it goes wrong. When you buy a stock, a stop-loss price is set in case the analysis is wrong. The same is true for market timing.

D.V.

STOCK DATA MAINTENANCE

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

Stock	Ticker	Split/Div.	Approx. Date
Burlington North SF	BNI	3:1	09/02/98
Rohm & Haas Co.	ROH	3:1	09/02/98
Dell Computer	DELL	2:1	09/07/98
Avon Prod.	AVP	2:1	09/14/98
Pittway Corp.	PRY	2:1	09/14/98
La-Z-Boy Inc.	LZB	3:1	09/15/98
Crane Co.	CR	3:2	09/15/98
Medford Bancorp	MDBK	2:1	09/16/98

Stock	Ticker	Split/Div.	Approx. Date
Tetra Tech Inc.	WATR	5:4	09/16/98
Trans World Ent.	TWMC	3:2	09/16/98
OshKosh B Gosh	GOSHA	2:1	09/21/98
Dollar General	DG	5:4	09/22/98
Legg Mason Inc.	LM	2:1	09/28/98
Celestial Seasonings	CTEA	2:1	09/28/98
Americredit Corp.	ACF	2:1	10/01/98

Trading Suspended:

BET Holdings Inc. (BTV), Western Atlas (WAI), Marine Drilling (MDCO), Merchantile Stores (MST)

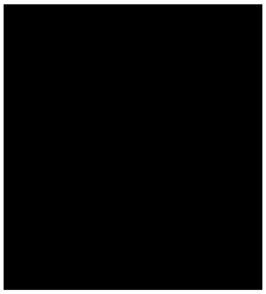
Name/Ticker Changes:

El Paso Natural Gas (EPG) to El Paso Energy Corp (EPG)

MARKET ANALYSIS

To Confirm or Not Confirm?

By David Vomund



DAVID VOMUND

In the first half of August many AIQ users were confused by the market timing model. The bulls said that AIQ was on an unconfirmed buy signal. The bears said AIQ was on a confirmed sell signal. In reality, both were true. Those that use the market timing Expert Ratings without confirmation went bullish on July 29, the day the model gave a 98 - 2 reading. This signal was not immediately confirmed so those that wait for confirmation did not act on the signal. This brings up the question that was last discussed over three years ago—to confirm or not confirm?

To answer this question we looked at the market timing signals over the last 10 years and tested the effectiveness of the ratings under three different scenarios: no confirmation, Phase confirmation, and MACD confirmation.

Our test of no confirmation is simple. When an Expert Rating buy signal of 95 or greater is registered, we purchase the S&P 500 index and hold it until an Expert Rating sell signal of 95 or greater is registered. Only the first buy signal in a string of buy signals is acted upon. For simplicity, we assumed that you could buy or sell the S&P 500 the day of the signal and did not include interest on funds not invested.

Our testing of confirmation techniques began with the Phase indicator. The Phase indicator is the same as the MACD indicator but settings of 10 and 49 days are used instead of 12 and 25 days. With these settings, the Phase indicator is equivalent to the faster of the two MACD lines. Don't let this confuse you. To make things simple, TradingExpert has both a MACD and a Phase indicator. Using the Phase indicator, a buy signal is not acted on until the Phase indicator increases in value. It doesn't matter if the Phase has a negative value or if its color barometer is red, it simply needs to increase in value for a buy signal to be confirmed. On the sell side, an Expert Rating sell signal is not acted upon until the Phase decreases in value.

Our second confirmation test used the MACD indicator with its default settings. Using this indicator, an Expert Rating buy signal is not confirmed until the fast line rises above the slower signal line. The reverse is true on the sell side. This is typically a slower confirmation technique compared to Phase confirmation (i.e. it takes more price movement before the signal is confirmed). By examining the MACD Osc, MACD crossovers are more easily distinguished. A bullish MACD crossover corresponds to the MACD Osc rising above zero. The opposite is true on the bearish side.

For both confirmation tests, we once again assumed you could buy/sell the S&P 500 the day of confirmation and money market interest was not factored in. Also, there was no time limitation for confirmations to take place.

The testing is applied to the AIQ market timing model using data from *The Wall Street Journal*. Users who obtain data from Telescan will notice slightly different results since Telescan reports the actual high and low price of the Dow rather than the theoretical values that are reported by the other data vendors. While the buy and sell dates may differ, the conclusions should remain the same.

The detailed results of our testing are found in **Table 1**. The first thing we notice is that almost every signal is confirmed, especially when using the Phase. This would be true even if we had used a reasonable time limit for confirmation. The average buy signal is confirmed by the phase in 3.3 days. The average buy signal is confirmed by the MACD in 8.5 days.

There are times, although rare, when confirmation helps avoid a whipsaw. On April 20, 1995 the system fired a sell signal only to be followed by a buy the next day. The same thing happened on January 6, 1997. Those who used confirmations avoided the whipsaw.

Further examination of Table 1 shows why many people choose to use confirmation. The benefit of using confirmation on buy signals comes when a buy signal is registered in a falling market and the market keeps falling. The best example of this comes from a buy signal which was the most potentially damaging signal given over our testing period. This signal, a 99 buy, was registered on August 13, 1990, midway into what turned into a bear market. By the time the next sell was registered, the market had dropped an additional 10%. This signal was not confirmed. Applying Phase confirmation would have kept you out of half of the downward move.

More recently (July 28) a 98 buy signal was registered immediately before the market began to fall. By the time the Phase indicator confirmed this signal (August 17), the market had fallen nearly 4%. The MACD confirmation came on August 19 (**Figure 6**). In this case, confirmation techniques helped keep investors out of a falling market.

Does this mean everyone should use a confirmation technique? Not so fast. There are many examples where waiting for confirmation would have resulted in your buying at a higher price or selling at a lower price than had you acted immediately. Look no further than this year. The January 12

Market Analysis continued on page 8

MARKET ANALYSIS *continued . . .*

Testing Results (Updated through Aug. 14)

Table 1

– – No Confirm – –			– – Phase Confirm – –			– – MACD Confirm – –		
Entry Date	Exit Date	S&P 500 % Ch.	Entry Date	Exit Date	S&P 500 % Ch.	Entry Date	Exit Date	S&P 500 % Ch.
01/20/88	04/14/88	7.06	01/25/88	04/14/88	3.01	01/29/88	04/15/88	1.05
05/03/88	05/05/88	-1.60	05/03/88	05/05/88	-1.60	05/03/88	05/06/88	-2.10
05/13/88	07/18/88	5.35	05/16/88	07/18/88	4.56	05/31/88	07/18/88	3.19
07/28/88	10/27/88	4.23	07/29/88	10/27/88	1.94	08/01/88	10/27/88	1.86
11/09/88	01/03/89	0.72	11/22/88	01/03/89	3.03	11/29/88	01/03/89	1.63
03/03/89	03/17/89	0.52	03/06/89	03/17/89	-0.72	03/13/89	03/20/89	-1.83
03/29/89	06/29/89	9.35	03/29/89	06/29/89	9.35	04/03/89	06/29/89	7.86
06/30/89	10/11/89	12.27	07/07/89	10/12/89	9.38	07/11/89	10/13/89	1.48
11/15/89	01/10/90	1.99	11/15/89	01/10/90	1.99	11/15/89	01/11/90	2.35
01/31/90	02/20/90	-0.33	01/31/90	02/20/90	-0.33	02/05/90	02/23/90	-2.32
02/27/90	03/22/90	1.64	02/27/90	03/22/90	1.64	02/27/90	03/30/90	2.93
05/01/90	07/05/90	7.05	05/02/90	07/05/90	6.34	05/07/90	07/05/90	4.45
08/13/90	10/09/90	-9.96	08/27/90	10/09/90	-5.08	08/30/90	10/11/90	-7.30
10/15/90	12/21/90	9.41	10/15/90	12/24/90	8.80	10/18/90	12/27/90	7.38
01/16/91	04/22/91	20.49	01/17/91	04/22/91	16.15	01/18/91	04/24/91	15.21
05/01/91	06/17/91	-0.04	05/01/91	06/18/91	-0.45	05/09/91	06/17/91	-0.81
06/28/91	07/24/91	2.02	07/01/91	07/24/91	0.19	07/11/91	07/26/91	1.05
08/21/91	09/04/91	-0.16	08/21/91	09/04/91	-0.16	08/23/91	09/06/91	-1.29
09/11/91	10/24/91	-0.01	09/16/91	10/24/91	-0.18	09/19/91	11/06/91	0.62
11/07/91	11/15/91	-2.82	11/07/91	11/15/91	-2.82	11/14/91	11/15/91	-3.66
11/29/91	02/24/92	9.87	12/02/91	02/25/92	7.62	12/13/91	02/24/92	7.23
04/10/92	05/15/92	1.43	04/10/92	05/15/92	1.43	04/13/92	05/15/92	0.99
05/29/92	06/05/92	-0.45	05/29/92	06/05/92	-0.45	No Confirm		N/A
06/22/92	07/20/92	2.57	06/29/92	07/20/92	1.18	07/01/92	07/22/92	-0.47
07/27/92	08/06/92	2.20	07/28/92	08/06/92	0.74	07/29/92	08/10/92	-0.66
08/14/92	09/08/92	-1.30	08/28/92	09/08/92	-0.10	09/03/92	No Confirm	
09/10/92	09/22/92	-0.67	09/10/92	09/22/92	-0.67	N/A	09/24/92	0.12
09/28/92	12/14/92	3.89	10/13/92	12/14/92	5.75	10/19/92	12/15/92	4.24
12/18/92	01/07/93	-2.39	12/18/92	01/07/93	-2.39	12/23/92	01/07/93	-1.89
01/12/93	02/16/93	0.67	01/25/93	02/16/93	-1.39	01/26/93	02/16/93	-1.37
07/06/93	10/22/93	4.95	07/08/93	11/03/93	3.21	07/12/93	11/04/93	1.89
12/17/93	02/04/94	0.74	12/17/93	02/04/94	0.74	12/17/93	02/04/94	0.74
02/28/94	03/24/94	-0.60	03/07/94	03/24/94	-0.55	03/14/94	03/25/94	-1.46
03/28/94	06/20/94	-0.98	04/07/94	06/20/94	1.02	04/15/94	06/20/94	2.08
06/27/94	08/05/94	2.19	07/06/94	08/05/94	2.46	07/11/94	08/09/94	2.20
08/23/94	09/19/94	1.36	08/23/94	09/20/94	-0.25	08/24/94	09/20/94	-1.21
09/26/94	09/29/94	0.31	No Confirm		N/A	No Confirm		N/A
10/10/94	10/20/94	1.70	10/10/94	10/21/94	1.27	10/12/94	10/25/94	-0.85
11/07/94	04/20/95	9.12	11/14/94	No Confirm		12/06/94	04/20/95	11.52
04/21/95	06/16/95	6.16		06/26/95	16.76	04/24/95	05/15/95	2.90
08/25/95	10/02/95	3.86	09/01/95	10/02/95	3.17	09/01/95	10/02/95	3.17
10/12/95	10/19/95	1.29	10/12/95	10/23/95	0.34	No Confirm		N/A
11/16/95	12/18/95	1.59	11/16/95	12/18/95	1.59	11/16/95	12/18/95	1.59
01/16/96	04/03/96	7.80	01/18/96	04/08/96	5.92	01/22/96	04/03/96	6.93
04/15/96	04/17/96	-0.14	04/15/96	04/17/96	-0.14	No Confirm		N/A
05/08/96	06/07/96	4.42	05/10/96	06/10/96	3.08	05/18/96	06/07/96	1.78
07/09/96	08/29/96	0.40	07/18/96	08/29/96	2.15	07/29/96	08/29/96	4.2
09/09/96	01/06/97	12.64	09/09/96	No Confirm		09/11/96	No Confirm	
01/07/97	03/13/97	4.82		03/13/97	18.95	N/A	03/13/97	18.33
03/21/97	08/08/97	19.60	04/08/97	08/08/97	21.85	04/16/97	08/08/97	22.27
09/02/97	11/18/97	1.15	09/02/97	12/10/97	4.55	09/08/97	12/12/97	2.38
12/29/97	01/08/98	1.79	12/29/97	01/08/98	0.28	01/02/98	01/09/98	-4.85
01/12/98	04/17/98	19.54	01/14/98	04/20/98	17.3	01/21/98	04/23/98	15.33
06/02/98	06/10/98	1.76	06/05/98	06/10/98	-0.14	06/09/98	06/11/98	-2.13
06/16/98	07/21/98	7.12	06/17/98	07/21/98	5.24	06/24/98	07/23/98	0.61
07/29/98	N/A	-5.55	No Confirm			No Confirm		

MARKET ANALYSIS *continued* . . .

buy signal was confirmed by the Phase two days later but a 2% advance was missed. The June 2 buy signal was confirmed three days later but during that time period the S&P 500 rallied 1.9%. Finally, the June 16 buy signal was confirmed by the Phase one-day later but a 1.8% rally was missed. These are all small examples but they add up.

Table 2 summarizes results of our confirmation testing. We see that the highest return was obtained by ignoring confirmation. The Phase confirmation, the faster of the two confirmations, showed the next highest return. The lowest return came from the MACD confirmation. While returns are lower with confirmation, there are several cases where using confirmation helped avoid large drawdowns and whipsaws.

Whether or not to use confirmation and what confirmation method to use are personal decisions. Over our 10-year testing time period, the highest returns are achieved by not using confirmation. More often than not, you will buy sooner and at a lower price and sell at a higher price than those who use confirmation. However, you must be prepared for times of frustration, such as in early August, when confirmation has helped avoid big losses. If you are an index option trader looking to get in before others do, don't use confirmation. If being whipsawed by the signal in late April '95 or being invested in the first two weeks of August of this year upsets you, then apply a confirmation technique.

Compared to the MACD, the Price Phase indicator is a good balance between the cost and benefit of using confirmation. Since it is a fast method, little price movement is required to achieve confirmation and, as the study shows, it helps avoid some of the bad signals and reduces the losses from buying too early.

The biggest benefit of confirmation is during prolonged downtrends. Since the market is extended and top heavy, we expect most people will choose to use a confirmation technique. In fact, if you limit your time frame to the last 2 ½ years, the overall return using Phase confirmation is about equal to that with no confirmation. ■

Figure 6

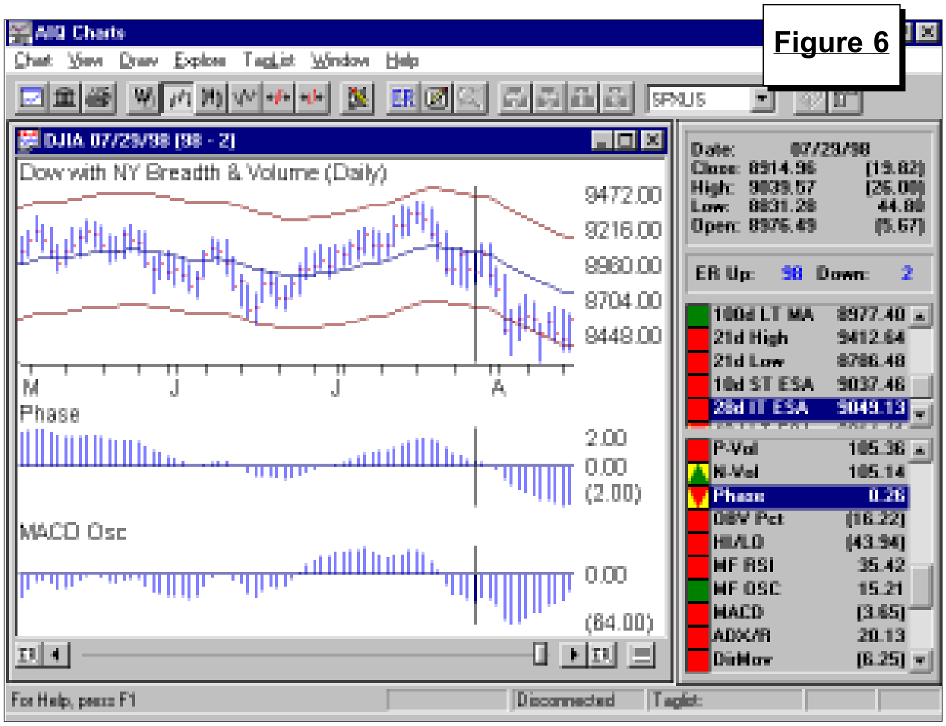


Table 2

Summary Statistics
(1988 through August 14, 1998)

No Confirmation	
%Ch. w/o Compounding	192%
Avg. % Ch. per Trade	3.42%
Number of Trades	56
Largest Loss	-9.96%
Phase Confirmation	
%Ch. w/o Compounding	172%
Avg. % Ch. per Trade	3.31%
Number of Trades	52
Largest Loss	-5.08%
MACD Confirmation	
%Ch. w/o Compounding	127%
Avg. % Ch. per Trade	2.60%
Number of Trades	49
Largest Loss	-7.30%

Note: Only the market timing Expert Ratings are considered in the testing. Findings of the testing do not apply to the AIQ stock timing signals.