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Feature

Sections

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TRADING TECHNIQUES

AN INTERVIEW WITH JOHN BOLLINGER

By David Vomund

This month we are pleased to present an interview with John Bollinger, a keynote speaker at our March seminar in Dallas. Mr. Bollinger is president of Bollinger Capital Management. He provides money management services and publishes the Capital Growth Letter. He is best known for his Bollinger Bands, which is a feature in TradingExpert. For information on Bollinger Capital Management's products and services, call 310-798-8855 or write to P.O. Box 3358, Manhattan Beach, CA 90266. Send e-mail to bbands@ix.netcom.com.

John Bollinger, CFA, CMT

DV: *Thank you for joining us for this interview. To begin with, I'd like to ask you about your trading style. In your managed account program, what percent of the investments are in equities and what is your average holding period?*

JB: We are primarily equity investors. We don't buy any futures. Our growth model is currently allocated approximately 60% to the stock market, 20% to the bond market, and 20% to the international stock market. We are primarily intermediate term traders. Our research tends to center on a holding period of three to six months with most of the emphasis on six months. However, that doesn't preclude us from taking advantage of short term opportunities, for example when we see an attractive technical non-confirmation.

DV: *I'm often asked what my favorite indicators are. Since you have an indicator named after you, I guess I know what your favorite indicator is.*

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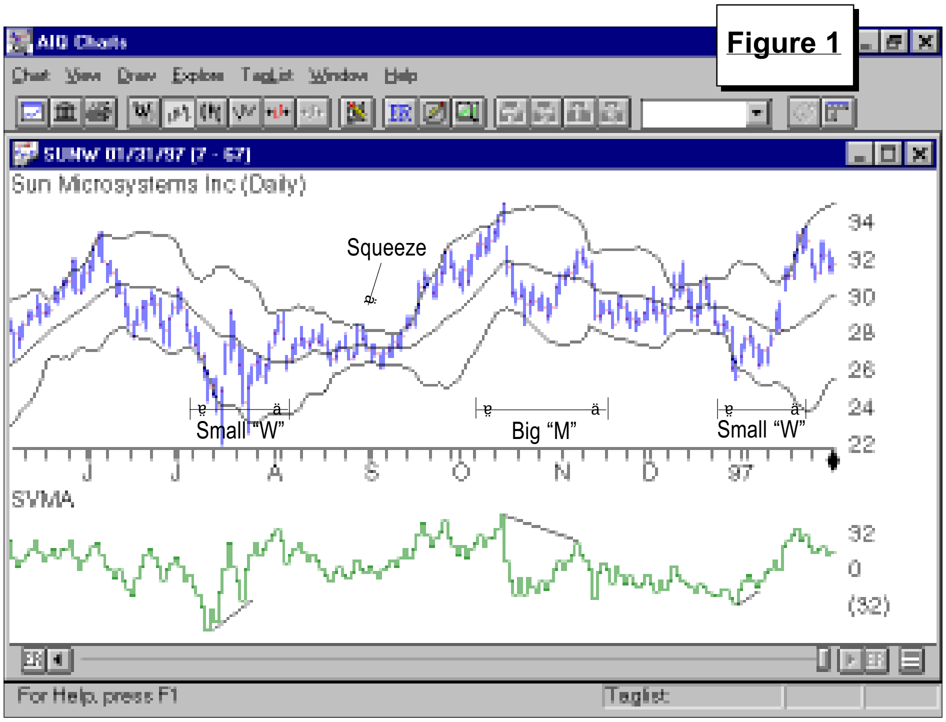
TRADING TECHNIQUES *continued . . .*

JB: Well, I distinguish between trading bands and indicators. Bands, whether they be Bollinger Bands, AIQ Bands, or percentage bands, provide a useful definition of what is high or low at any given point on a relative basis. With that in mind, we'll check the action of the indicators to determine whether that relative highness/lowness of the security is confirmed. For example, if we were to rally up to an upper band but the indicator we have chosen was below the middle of its normal distribution, that would be an unconfirmed event with bearish implications.

DV: *Do you use different bands for different types of analysis?*

JB: Yes. I find different bands are good for different purposes. For example, I find Bollinger Bands are very useful for identifying short term "M" and "W" tops and bottoms, especially when the first part of the formation is occurring outside the band and the second part is occurring inside the band. In the case of a "W" bottom, the bands allow you to correctly diagnose a bottom even if the second part of the formation is lower than its previous low. If you are outside the lower band on the first probe down and the second probe down occurs inside the band, then by definition you have a price divergence "W" bottom on a relative basis, even though prices may have achieved a new low on an absolute level.

Figure 1



Several good examples are found in Sun Microsystems (SUNW). We see in **Figure 1** that on July 16 to July 24 and again on December 31 to January 10, SUNW had a downward move that was sharp enough to penetrate the lower band. The stock rallied and then the second move down occured within the bands. Both patterns were nicely confirmed by the Split Volume Moving Average indicator. There was a squeeze in early September which typically leads to high volatility. In October, there was an "M" topping pattern that occured over a longer time period than the "W" bottoms.

Moving back in time, an "M" top occured in December 1995 and then a shorter term "W" bottom occured in January 1996 (see **Figure 2**). Using Candlestick charting, big black candles marked the downward move in mid-December and big white candlesticks marked the upward reversals.

For the identification of intermediate term overbought/oversold levels, bands such as the AIQ Bands or Bomar Bands which contain some percentage of market action over a given period are very useful. For cycle identification, J.M. Hurst's hand drawn nested bands are very useful.

DV: *What indicators do you prefer in conjunction with the band analysis?*

JB: My favorite indicators all have one thing in common—volume. When we analyze a stock from a technical perspective, we have a relatively limited data set. You have a reference to time, you have the price at the beginning and end of the time period, and you have the highest and lowest price recorded during that time period. The problem is that these variables are used in basic trend analysis, momentum analysis, and the creation of moving averages. People might choose to concentrate on the RSI, Stochastics, Directional Movement, and the MACD. They think they have three or four different indicators and are deploying a weight of evidence approach but the fact is that only a couple of those indicators are usefully differentiated from one another.

In our analysis we look for indicators that are not strongly collinear to the price based analysis. That's where volume comes in. It is a

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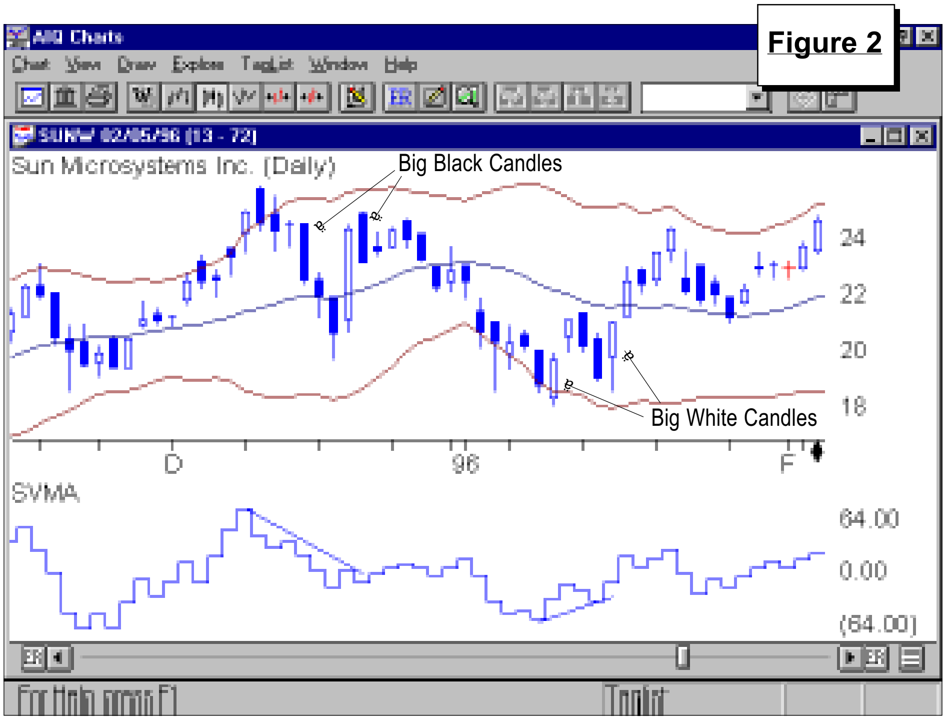
TRADING TECHNIQUES *continued . . .*



variable independent of price action. Therefore, we look at things like Positive Volume Index, On Balance Volume, and Money Flow.

DV: *The AIQ software provides both a Positive Volume Index (PVI) and a Negative Volume Index (NVI). One indicator measures price activity on heavy volume days while the other measures volume on light volume days. I find it hard to justify the validity of both indicators. When both indicators are rising for a stock, the only thing this tells me is that the stock is going up. How do you use these indicators?*

JB: I agree. In my work and the work of colleagues that I really respect, we found the PVI is a good confirming indicator whereas I have never been able to find much use for the NVI. If you have tagged the upper band accompanied by very positive PVI, there really isn't any reason to sell.

NVI is probably a case of an indicator whose time has passed. Much like the odd lot short index, it is an indicator that once was incredibly accurate, but is no longer of any use. In the case of the odd lot index, we didn't have a replacement but the PVI works very well indeed.

DV: *You are an AIQ user. Which parts of the program are part of your trading process?*

JB: I look at the reports for ideas and am very heavily involved with group analysis.

DV: *Which industry group structure do you use?*

JB: I have created my own industry group structure based on a blend of fundamental and technical ideas. This structure was created because the existing structures modeled the modern stock market rather poorly. That is, business and industry had evolved but most of the existing structures have not. Our structure contains 15 sectors and 130 groups. Many groups are very modern. For example, there is a media sector and within this sector is a studios group. It is a simple but focused configuration.

DV: *You say that you are combining fundamentals with technicals in the creation of this industry group structure. Are you using MatchMaker for the technical part?*

JB: That's right. I'll test the correlations of the stocks within each industry group to the industry group index. Both a one and a two year correlation test are used. Because I'm trying to capture a broader data set and want a lot of stocks in the structure, I use a much lower correlation test than AIQ employs for its Pyramid structure. Whereas you use a correlation threshold of 500, I'll go as low as 200 for a very diffused group. This is very time consuming and would be impossible if it were not for MatchMaker.

DV: *How do you use TradingExpert to spot group rotation?*

JB: I use some of the reporting features in TradingExpert and have created some models of my own. What is great about AIQ is that you can now export the group data files using your utility package. I import this data to spreadsheets and other analytical programs and then massage the data to fit my needs. The momentum of groups is very important so in my own program I sort the groups in terms of their changing momentum. Rather than buying into a trend, I'll typically identify groups that have been out of favor but whose momentum is turning strong.

I particularly like AIQ's Group Analysis Report. When I use this report, I'm interested in groups that are on the move. These groups have been low in the report but are beginning to accelerate upward. They are most easily identified by a large positive Delta Trend Score reading. It is especially attractive if they accelerate up in the list when the action is relative rather than absolute. In other words, if a group that was near the bottom of the list is now starting to rise in the list at the same time that the market is rising, that suggests there is genuine money flowing toward this group.

DV: *After you pick an attractive group, how do you know what stock in the group to purchase?*

JB: Sometimes I'll buy the strongest of the stocks in that group. If I want to narrow it down further,

Trading Techniques continued on page 4

TRADING TECHNIQUES *continued . . .*

then I'll use the Positive Volume Index indicator as well as Money Flow to narrow down the selections.

DV: *Are you in favor of a mechanical or "black box" trading approach or do you believe human judgment should play a factor?*

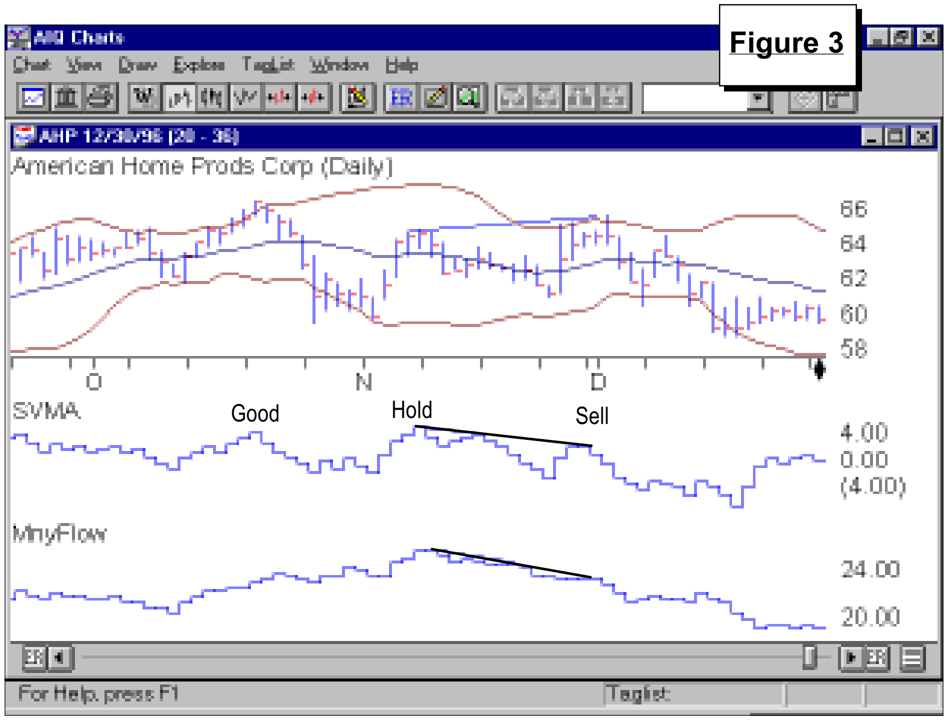
JB: I have spent the past year working on a pure mechanical approach to stock selection and believe I'm almost there. The less that emotions play a factor in trading the better. Emotions really come into play when it comes to selling a stock. I remember a conversation with Jerry (Dr. J.D.) Smith. He said that when he went away, Dee Dee (his wife) would go through the portfolio and immediately sell the stocks that violated their rules, with a total disregard to profits. Since Jerry bought the stock, he had an emotional attachment which influenced his sell decision. Dee Dee, on the other hand, was able to make the sell decision in a clearer manner.

There are actually three distinct and separate phases of the trading process and it may not be best for one person to handle all three phases. It may be best for a portfolio management team which consists of one person that determines what and when to buy, one person that takes care of losers, and another person that takes care of winners. As long as they know the overall philosophy of the portfolio, they can work together hand in hand better than any single individual might be able to do. Of course, the real trick is to incorporate all three aspects into a single process that an individual can execute. Simply identifying the problem of emotions coloring trading helps a lot.

DV: *How do you know when to sell?*

JB: We'll keep an eye out for non-confirmations. If a stock makes an unconfirmed high, especially if we have a large profit, then we'll cut the position in half. A good example is found in **Figure 3**. American Home Products (AHP) rallied in early

Figure 3



November, sold off, and then rallied to the upper band in late November. At the same time that the stock made a pattern of higher highs, the Split Volume Moving Average (SVMA) and Money Flow indicactors were moving lower (see trendlines). If the divergences and non-confirmations continue, then we'll bail out of the rest of the issue.

Industry group strength is also a factor. If a stock is moving without its group, then we'll tighten the stops. The odds of being profitable are greatly reduced if you do not have a group backing you. In terms of contributions the market comes first, groups come second, and stocks third. It is very important to remember this. Some people can be successful identifying winning stocks outside of this framework but it is very hard. The odds are with me when we have a confirmed buy signal from TradingExpert, a strong group, and a strong stock.

DV: *You gained fame as a technical analyst on FNN and now you appear once a week on CNBC. As someone who stands in front of the cameras, in what ways do you believe these financial channels help traders and in what ways do they hurt traders?*

JB: To the extent that traders can find useful input into their trading processes, then the network can be a great aid. The financial networks can also be detrimental, however, if the viewing audience allows the show to distract them from their own analysis.

DV: *What advantages do individual investors have over professionals?*

JB: Whereas the professional is constrained by securities laws and regulations, the individual is free to trade as he pleases. This flexibility to grow and follow things to their logical conclusion is a tremendous advantage. The life as a professional money manager is in many ways a process of wrestling with constraints. The tools available today have also virtually leveled the playing field as far as information and technology goes. Anyone can get live quotes and sophisticated software that was not available even to institutional investors a couple of years ago.

DV: *What common mistakes do people new to technical analysis and trading often make?*

Trading Techniques continued on page 5

AIQ REPORTS

TESTING THE TIME FRAME USED IN THE PRICE VOLUME DIVERGENCE REPORT

By David Vomund

Starting in October 1995, we began testing TradingExpert's new Price Volume Divergence report. In a series of articles, we published results of a test in which we ran the report at the start of every month and examined the performance of the stocks that appeared at the top of both the positive Divergence section and the negative Divergence section of the report for the remainder of the month, at which time a new report was generated.

In the 1995 articles, we tested the report using its default parameters and then tested the report by changing the settings.

In review, the Price Volume Divergence report uses two accumulation/distribution indicators to check for divergences. These indicators, On Balance Volume and Money Flow, were chosen because both use price and volume in their calculations and they don't necessarily move in the same direction as the stock. Default settings for the report place an equal weight on each indicator.

The default time period used in the divergence screening is 15 trading days. A positive divergence exists when a stock falls over a 15 day time period but either On Balance Volume or Money Flow or both rises over those 15 days. The opposite is true for a negative divergence. This report has proved to be valuable because indicators tend to lead price.

In our 1995 testing, we changed the default indicator settings, testing the report using only On Balance Volume (100% weighting) and then using only Money Flow (100% weighting). However, during our testing we did not change the default time frame used in the divergence calculation. We'll examine that issue in this article.

> ***Traders with an average holding period of less than one month will want to shorten the divergence time period (to 7 days), while intermediate traders should stay with the 15 day default time period.***

Our earlier studies found nice results using the default parameters for the report. However, many people think the time period used in the divergence (i.e. 15 days) is too long. Would the results improve if we looked at a shorter time period?

To answer this question, we brought our 1995 study up to date and then tested the report using a divergence time period of 7 days, half as long as the default time period. For the study, we ran the Price Volume Divergence report on the Standard & Poor's 500 stocks at the beginning of each month going back to January 1992. The top five stocks that appeared under the positive divergence and the negative divergence sections were examined for price performance for the remainder of the month, at which time a new report was generated.

Table 1 gives the monthly results. The table lists the monthly return for the S&P 500 index, and the average return for the top five stocks that appear in the positive and negative divergence sections using a screening of 7 days and a screening of 15 days. The 15 day screening results were taken from our 1995 study.

Since the S&P 500 stocks change over time, the database used in our current 7 day time period is slightly

AIQ Reports continued on page 6

TRADING TECHNIQUES *continued . . .*

JB: I'm not sure about all mistakes but the majority will revolve around the same problems. One problem is that people don't understand the tools they are using. We talked earlier about avoiding the trap of using a set of multi-collinear indicators. People who don't understand how each indicator works won't know that they are duplicating their efforts. If they don't understand the indicators — both how they work and how they are calculated — and they try to perform challenging tasks, they have no way of anticipating when or why their tools can fail them. By learning how to use the indicators, not only will you be able to employ them successfully but you will be able to anticipate when the indicator will turn on you and stab you in the back. This does not mean that you have to learn every indicator. Time and again I find people using more tools than they can process intelligently.

The second problem is emotions. Unless you can master your emotions completely, which few of us can, you must have a system and the discipline to use it. This is the area that I spend more time on than any other. We are close to completing our new trading system and I'm thinking of hiring someone to perform the executions. After all, like Jerry and Dee Dee, I like to vacation too!

DV: *Thank you for the interview and we look forward to seeing you at our March seminar in Dallas.* ■

AIQ REPORTS *continued* . . .

different from the data that was used for the 15 day time period. Therefore, we caution against comparing the average return for the 7 day results to the 15 day results. Instead , we'll focus on the spread between the positive and negative divergence stocks, comparing the spread for the 7 day screening to the 15 day screening.

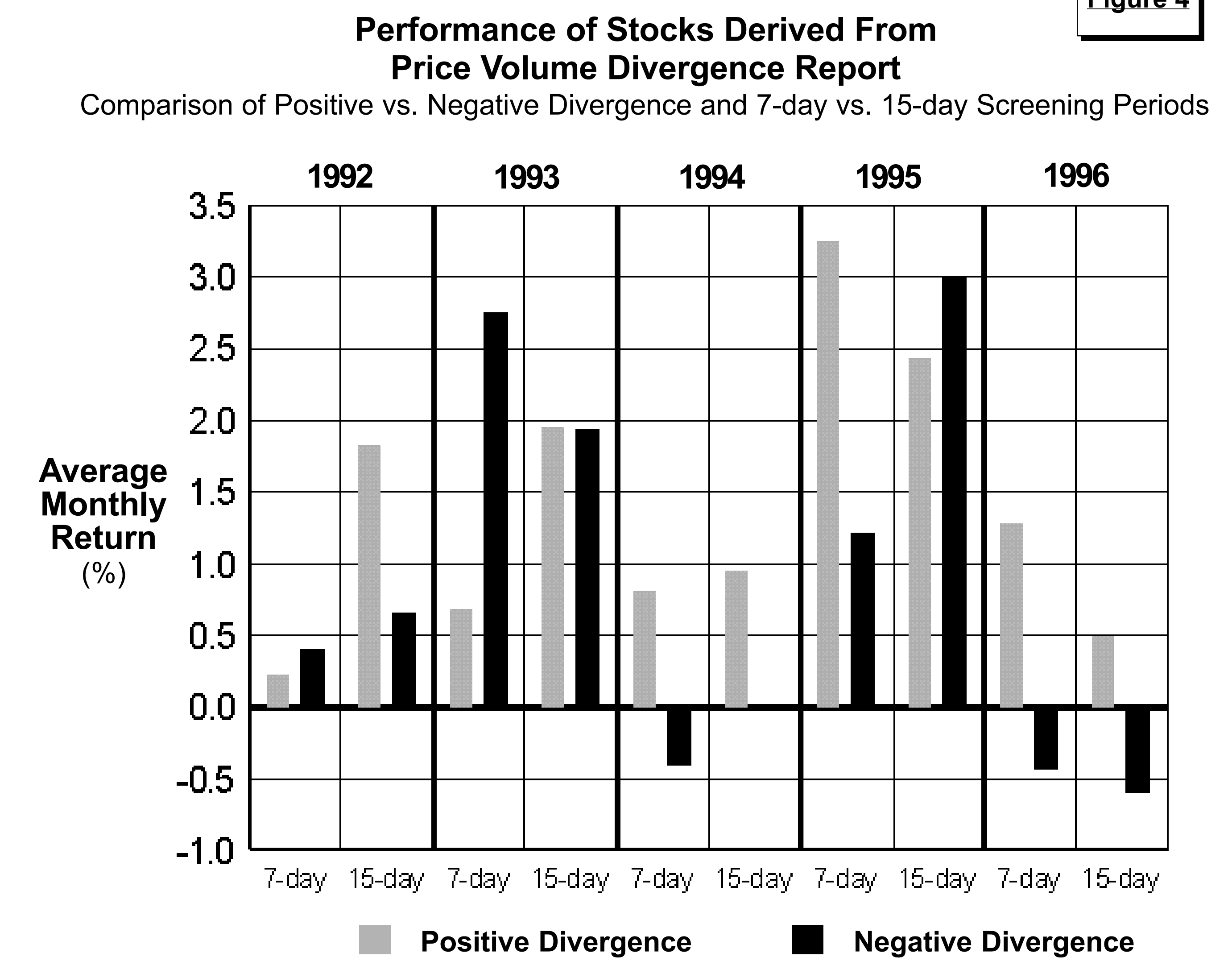
At the bottom of Table 1, we see that both report settings reveal that the stocks that had positive divergences on average outperformed the stocks that were showing negative divergences. Using a 7 day time period with equal weight placed on On Balance Volume and Money Flow, the average stocks in the positive divergence section had a monthly return of 1.24% while the average stock in the negative divergence section had a monthly return of 0.70%. When the report is set to a 15 day time period (its default parameter), the average monthly return on the positive divergence stocks is 1.53% while the average return on the negative divergence stocks is 0.99%.

Table 1

Performance of Stocks Derived From Price Volume Divergence Report

	— — 7 day divergence — —		— — 15 day divergence — —	
	Positive Div. Stocks (%)	Negative Div. Stocks (%)	Positive Div. Stocks (%)	Negative Div. Stocks (%)
1992	0.22	0.40	1.82	0.65
1993	0.68	2.75	1.95	1.94
1994	0.81	-0.41	0.95	-0.03
1995	3.24	1.21	2.43	3.00
1996	1.27	-0.44	0.49	-0.60

Figure 4



AIQ REPORTS *continued . . .*

Looking at the spread between these two numbers, we see the average monthly difference between the positive divergence and negative divergence stocks under both time periods is 0.54%. Therefore, the stocks that appeared under the positive section outperformed those in the negative section by an average of 0.54% per month. Does that mean that the time period used in the report is not important? Not so fast.

We used the data in Table 1 to calculate the average monthly returns for the different years used in the study. This produced interesting results (see **Figure 4**).

Over the life of the study, the spread between the positive divergence and negative divergence stocks using the two different time periods may be the same but the results vary greatly from year to year. The 15 day time period was the best choice in 1992 and 1993. Over the last two years, however, the best results were seen by using a 7 day time period.

With the spread being the same over the life of the study using both a 7 day and a 15 day time period, it is hard to make firm conclusions. Also, our study is based on monthly time periods. Traders with an average holding period of less than one month will want to shorten the divergence time period, while intermediate traders should stay with the 15 day default time period or even lengthen it.

Based on this study, I personally am going to change the report parameters and use a divergence time period of 7 days since it is working better over the more recent time period. We'll re-examine this study at the end of this year to see if we can draw a more firm conclusion. ■

In addition to managed accounts, David Vomund publishes the Stock Alert Newsletter, an advisory for stock investing. To receive a free copy of Stock Alert, phone 702-831-1544.

Table 2

Price Volume Divergence Report Study

Monthly Trading Statistics

		7 day divergence		15 day divergence	
		S&P 500 Index (%)	Positive Div. Stocks (%)	Negative Div. Stocks (%)	Positive Div. Stocks (%)
1992	January	-1.99	-1.43	-4.27	11.68
	February	0.96	1.41	-1.72	4.19
	March	-2.05	-3.01	0.80	-3.88
	April	2.05	-3.29	-2.86	-0.79
	May	1.16	3.18	-2.55	7.09
	June	-1.05	0.35	-4.22	-2.03
	July	2.74	3.85	7.20	5.60
	August	-1.92	-2.95	-4.90	-1.87
	September	0.05	0.75	-2.09	-5.63
	October	0.57	0.48	2.23	-1.70
	November	2.89	2.83	9.09	1.97
	December	1.14	0.48	8.04	7.25
1993	January	1.56	3.61	4.86	11.39
	February	-0.12	-5.93	-0.84	0.46
	March	1.88	4.50	5.78	3.60
	April	-2.25	1.20	9.01	-0.35
	May	3.10	1.51	7.06	3.80
	June	-1.06	1.87	-3.23	3.66
	July	-0.19	-3.19	-1.67	-2.06
	August	3.35	3.56	5.46	1.87
	September	-0.40	-0.21	-2.29	0.24
	October	1.70	7.39	4.67	-2.18
	November	-1.54	-5.79	1.08	2.29
	December	0.99	-0.35	3.05	0.71
1994	January	2.82	4.19	6.32	8.36
	February	-3.17	-3.11	-3.43	-2.91
	March	-4.02	-8.16	-9.04	-6.21
	April	1.17	2.23	-0.48	-4.88
	May	1.47	3.65	-5.51	7.30
	June	-2.49	-8.20	-4.85	-0.38
	July	3.32	3.25	7.84	6.26
	August	2.63	5.33	6.67	-0.17
	September	-2.21	-0.72	1.55	-0.68
	October	1.23	5.82	0.55	3.56
	November	-4.16	-0.88	-4.14	-5.04
	December	2.31	6.27	-0.37	6.21
1995	January	2.40	2.04	1.65	5.39
	February	3.24	4.45	1.02	11.76
	March	3.10	3.50	4.86	3.73
	April	2.70	-2.40	3.04	0.58
	May	3.74	9.76	1.76	0.36
	June	2.11	9.81	5.45	-0.02
	July	2.73	-3.78	1.66	5.55
	August	0.75	8.65	-7.28	3.62
	September	3.28	3.40	-3.67	-1.74

MARKET REVIEW

If the month of January is a barometer for the rest of the year, 1997 will be a good year. The S&P 500 rose just over 6% in January alone.

It was a busy month for AIQ's timing. In early January, the market timing model registered a one day whipsaw sell signal. A sell was registered on January 6 followed by a buy on January 7. Those who use a confirmation technique did not act on the January 6 sell signal since the indicators were continuing to advance. Those that do not wait for confirmation were frustrated by the whipsaw but rewarded for moving back to the long side on January 7 as the market began its advance.

In mid-January, the S&P 500 was able to rally above 758, a level that acted as resistance in late November and late December. That helped to propel prices higher. A week later, the majority of AIQ users saw a sell signal on January 24. This was the result of bad data on January 22. On January 22, the low price for the Dow should be 6756.90. All vendors who report theoretical values for the Dow, including Dial/Data, Interactive Data, and The Wall Street Journal, released bad data on that day. If you have a sell signal on January 24 and are using a data vendor other than Telescan, you should do a *Reload History* on the DJIA ticker going back to January 15. AIQ is on the buy signal from January 7.

People who use Telescan as a data vendor , however, did get a sell on January 24, a signal that lasted the rest of the month. As we reported in the June 1996 *Opening Bell*, Telescan data will sometimes give signals different from Dial/Data or Interactive Data. This is because Telescan reports the real high and low values for the Dow rather than the theoretical values. While the signals are different, the overall accuracy is about the same regardless of the data vendor you use (see the *Opening Bell* article of June 1996). ■

D.V.

MIRAT UPDATE

More AIQ/Mirat Testing Results

In the November 1996 *Opening Bell*, we performed a test which combined the market timing element of the AIQ software with the Mirat market timing software. In our test we bought the S&P 500 the day that both systems went on a buy and sold when one system gave a sell.

David McArthur, an Opening Bell subscriber, performed more tests on the systems and found the best results came from buying the S&P 500 the day both systems are on a buy and selling when both systems are on a sell. Not only does the overall return increase, but the number of trades per year is dramatically reduced.

For more information, contact David McArthur at McArthur Financial Services. P.O. Box 3668, Sequim, WA 98382. ■

STOCK DATA MAINTENANCE

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

Stock	Ticker	Split/Div.	Approx. Date
American Homestar	HSTR	5:4	02/10/97
Conseco Inc	CNC	2:1	02/12/97
Dollar General	DG	5:4	02/13/97
Tyson Foods	TYSNA	3:2	02/17/97
Apogee Enterp.	APOG	2:1	02/17/97
1st Source Corp	SRCE	5:4	02/17/97
ABR Info Svcs.	ABRX	2:1	02/20/97

Stock	Ticker	Split/Div.	Approx. Date
Alberto Culver	ACV	2:1	02/21/97
Elect for Imaging	EFII	2:1	02/21/97
Zygo Corp	ZIGO	2:1	02/27/97
NationsBank	NB	2:1	02/28/97
MasTec Inc.	MASX	3:2	03/03/97
Texas Industries	TXI	2:1	03/03/97

Trading Suspended:

50-Off Stores (FOFF), Addington Resources (ADDR), Bankers Life Holding Corp (BLH), Big B Inc. (BIGB), Boatman's Bancshares Inc. (BOAT), Boston Technologies (BSTN), Duracel Int'l Inc. (DUR), Epitope Inc. (EPT), FlighSafty Int'l (FSI), Infinity Broadcasting (INF), Loctite Corp (LOC)

Name/Ticker Changes:

America West Airlines (AWA) to America West Holdings Corp (AWA)
Atlantic Southeast Airlines (ASAI) to ASA Holdings (ASAI)
Cascade Corp (CASC) to Cascade Corp (CAE), Culp Inc (CULP) to Culp Inc. (CFI)