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TESTING EDS MECHANICAL TRADING MODELS

HOW DID OUR EDS MODELS PERFORM IN 2000? RESULTS ARE 'IMPRESSIVE'

By David Vomund

Since AIQ's Expert Design Studio (EDS) was released, we've created and published several trading strategies in the *Opening Bell*. As we complete more tests, these strategies become more effective. Of the strategies that we've published, some are for trading long and some are for trading short. Some buy into strength while others buy into weakness. Let's see how these models have performed in 2000.

Divergence Model April 1998

One of our first Expert Design Studio (EDS) models was published in the April 1998 *Opening Bell*. This model looks for positive divergences in OBVpct and Money Flow.

In addition it requires the seven day RSI to be greater than 50, the MACD to be above its signal line, and Money Flow RSI to be above 70.

This model was created shortly after we released EDS and we've

DAVID VOMUND

since created more powerful models, but this strategy continues to have respectable returns.

In 2000 there were 128 trades with an average gain

per trade of 0.27% with a 14 calendar day holding period. This compares to an average gain per trade in the S&P 500 of negative 0.28%.

Short Selling Model December 1998

In the December 1998 issue of the *Opening Bell*, we created a short-selling EDS model that looked for

"Despite the bad year, the results of our Growth Model were impressive...64 trades with an average gain per trade of 4.64%. An equivalent trade in the S&P 500 produced a return of 0.16%."

stocks in an overall downtrend that were rallying over the short-term. Specifically, we searched for stocks that had a Directional Movement indicator less than negative 25 and Volume Accumulation Percent less than negative 20. We also required the stocks to have crossed above the lower exponentially smoothed moving average.

In the *Opening Bell* article, we ran the EDS model on a list of the S&P 500 stocks and we discussed using several different sell strategies. The quickest sell strategy used a fixed 10-day holding period.

Using the fixed 10-day holding period, we are pleased to say that in 2000 the short selections outperformed an equivalent short trade in the S&P 500. There were 37 trades and the average short position made 0.34%. An equivalent trade in the S&P 500 would have lost 0.11% (**Table 1**).

**Growth Model
March 1999**

In March 1999 we ran a timely article that contained an EDS model for growth investors. Growth investors buy into strength rather than trying to pick

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Table 1

Short Selling Model

allworks		Winners	Losers	Neutral
		=====	=====	=====
Start test date:	12/29/99			
End test date:	12/29/00			
Number of trades in test:	37	20	17	0
Average periods per trade:	14	14	14	0
Maximum Profit/Loss:		17.60%	(26.11)%	
Average Drawdown:	(5.30)%	(1.74)%	(9.50)%	
Average Profit/Loss:	0.34%	7.29%	(7.84)%	
Average SPX Profit/Loss:	(0.11)%	1.22%	(1.68)%	
Probability:		54.05%	45.95%	
Average Annual ROI:	8.58%	185.45%	(195.28)%	
Annual SPX (Buy & Hold):	(9.73)%			
Reward/Risk Ratio:	1.09			

lows. The theory is that what is high often goes higher. Therefore, the key component in our model was that the stock must be above its 28-day Exponentially Smoothed Moving Average for all of the last 60 days.

Only stocks that experience a strong rally can accomplish this.

Having a stock remain above its 28-day moving average for 60 days backtested well, but in the original article we added the criteria that the stock must be below its upper AIQ Trading Band. This eliminated stocks that had run too far. In addition, we added a rule stating that the Volume Accumulation Percent indicator must be above 30. We used a fixed 30-day holding period.

The article was well timed because 1999 was an outstanding

year for growth investing. In 2000 many growth models turned sour, however. So how did this model fare in 2000? In **Table 2** we ran the model on a database of about 1400 stocks. Despite the bad year,

the results of our Growth Model were impressive. There were 64 trades with an average gain per trade of 4.64%. An equivalent

trade in the S&P 500 produced a return of 0.16%.

As we noted in the original article, the pattern is so aggressive that many growth investors may be too timid to buy stocks on this basis.

Candlestick Short Selling Model - November 1999

Our backtest of all the pre-built EDS rules showed that some

“Individual returns will vary depending on the database of stocks. Yet, we can see that we have developed and published some highly effective Expert Design Studio models.”

TESTING EDS MECHANICAL TRADING MODELS *continued . . .*

of the least effective rules for trading long included some bearish rules that utilized Candlestick chart patterns. We used some of the least effective rules for trading long to create an effective model for short selling.

Our short-selling model consisted of only two rules. The stock must have a Harami Candlestick chart pattern and its RSI AIQ indicator must have risen above 30 sometime in the last two days.

While most of our models performed well in 2000, the one exception was this short-selling model. Using a database of the S&P 500 stocks and a sell strategy of 85% principal protect and 95% profit protect above 15%, the average short position lost 3.6% (i.e. the stock went up). There were 93 trades.

It is interesting to note that this short-selling strategy performed well in 1999 during a bullish market but then underperformed in 2000 during a bearish market.

Table 2

Growth Model				
allworks6				
Start test date:	12/29/99			
End test date:	12/29/00			
		Winners	Losers	Neutral
		=====	=====	=====
Number of trades in test:	64	32	32	0
Average periods per trade:	41	41	42	0
Maximum Profit/Loss:		235.91%	(66.10)%	
Average Drawdown:	(17.21)%	(6.64)%	(27.78)%	
Average Profit/Loss:	4.64%	29.78%	(20.51)%	
Average SPX Profit/Loss:	0.16%	(0.95)%	1.28%	
Probability:		50.00%	50.00%	
Average Annual ROI:	40.40%	264.11%	(175.59)%	
Annual SPX (Buy & Hold):	(9.73)%			
Reward/Risk Ratio:	1.45			

Day Trading Model December 1999

AIQ user Wesley Nevels created this model designed for active trading. He designed the model to look for stocks that

might have a one-day jump.

The model has several rules. First, the stock must have a volume spike. Next, the Stochastic, Positive Volume Index, and Negative Volume Index must be in a 5-day uptrend. The Volume Accumulation Percent indicator must be above 5 and the 28-period ESA must be above the 200-period moving average.

Since Mr. Nevels is looking for stocks that might have a one-day pop he uses the model with a fixed one-day holding period. Using this criteria, this model performed exceptionally well in 2000. In **Table 3** we see there were 262 trades with an average gain per trade of 1.53%. This compares to an equivalent trade in the S&P 500 of negative 0.07%. Since this system buys stocks when the market is bullish and because each stock is only held for one day, its average annual return on investment is a very high 375%.

Mr. Nevels uses this model to

Table 3

Day Trading Model				
buy				
Start test date:	12/29/99			
End test date:	12/28/00			
		Winners	Losers	Neutral
		=====	=====	=====
Number of trades in test:	262	127	119	16
Average periods per trade:	1	1	1	1
Maximum Profit/Loss:		112.50%	(32.65)%	
Average Drawdown:	(1.55)%	(0.02)%	(3.38)%	
Average Profit/Loss:	1.53%	6.70%	(3.79)%	
Average SPX Profit/Loss:	(0.07)%	(0.01)%	(0.15)%	
Probability:		48.47%	45.42%	
Average Annual ROI:	374.68%	1688.98%	(899.71)%	
Annual SPX (Buy & Hold):	(8.81)%			
Reward/Risk Ratio:	1.89			

Testing EDS Models continued on page 4

alert himself to trading opportunities, but he doesn't act on each selection. In addition, he uses real-time timing techniques to help determine when to buy and when to sell. He typically holds the stocks for 2 to 3 days.

**Citizen Kane Models
April 2000**

In our testing of all the pre-built rules, we found the most effective rule stated that the stock must have corrected by at least 30% sometime between 10 and 50 days ago. In addition to this rule, we added two rules using the Volume Accumulation Percent (VaPct) indicator.

The first rule states that the VaPct indicator must have a value greater than zero. The second rule states that the 45-day slope of VaPct must be positive. We called this model Citizen Kane.

In the April 2000 article, we then created a "Best of Kane" model which attempted to select the best stocks that passed the Citizen Kane model. In addition to the rules used in the Citizen Kane model, the Best of Kane model requires each stock to have an RSI indicator to be less than 30 and a positive divergence in the OBVpct indicator.

We ran the Best of Kane model on a list of the S&P 500 stocks using a 10-day holding period, and there were 18 trades and an average gain per trade of 1.06%. This underperformed an equiva-

Best of Kane Model				
vomund BestofKane				
Start test date:	12/29/99			
End test date:	12/29/00			
		Winners	Losers	Neutral
		=====	=====	=====
Number of trades in test:	18	7	11	0
Average periods per trade:	14	14	14	0
Maximum Profit/Loss:		35.95%	(14.22)%	
Average Drawdown:	(8.94)%	(1.97)%	(13.38)%	
Average Profit/Loss:	1.06%	17.99%	(9.71)%	
Average SPX Profit/Loss:	2.06%	5.47%	(0.11)%	
Probability:		38.89%	61.11%	
Average Annual ROI:	26.74%	468.93%	(239.12)%	
Annual SPX (Buy & Hold):	(9.73)%			
Reward/Risk Ratio:	1.18			

Table 4

lent trade in the S&P 500 of 2.06%.

This model buys into market weakness so most of its trades come near market lows. That helps its average annual return on investment, which was 26.74% (**Table 4**).

Conclusion

In all of the above tests, commissions and slippage were not factored in. Individual returns will vary depending on the database of stocks. Yet, we can see that we have developed and published some highly effective Expert Design Studio models.

The EDS models covered in this article can be downloaded

from AIQ's web page. Simply go to www.aiq.com and click on *Educational Products*. Then click on *Opening Bell*. The models are on the lower right portion of the screen.

If you would like back issues of the *Opening Bell*, you can purchase a collection of the 1999 and 2000 issues for \$75. To order the collection, call your AIQ sales representative at 800-332-2999. ■

David Vomund publishes VIS Alert, a weekly investment newsletter. For a sample copy of the newsletter, call (775) 831-1544 or go to www.visalert.com.

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The information in this newsletter is believed to be reliable but accuracy cannot be guaranteed. Past performance does not guarantee future results.

Year-End Index of 2000 Articles

Opening Bell subscribers may obtain a free Index of 2000 *Opening Bell* articles by calling AIQ at 1-800-332-2999.

S&P 500 Changes

Changes to the S&P 500 Index and Industry Groups:

Univision Communications (UVN) is replacing Union Carbide (UK). UVN is added to the Broadcasting-Television, Radio, Cable (BROADCASTAS) group.

RECOGNIZING TREND COMPLETION

'DETAILING' CAN HELP YOU IDENTIFY WHEN AN UPTREND OR DOWNTREND HAS ENDED

By Bobby Florez

One of the most persistent and damaging of problems for a trader is trying to pick the bottom of a downtrending stock or market or the top of an uptrending one. Many traders fail to understand when a trend has ended or is about to end.

To help identify trend reversals, traders need to keep a record of the swings in every uptrend or downtrend. This can be done through a process called "detailing." This process requires that the trader record the variables of every swing within the overall trend.

Here is how "detailing" works. In a downtrend, there will be a series of upswings and downswings occurring between the trend's high and low. Traders should keep a record of the dimensions of these swings. The same holds true for an uptrending market.

The reason it is important to record these variables is because they are likely to repeat. And when these variables attempt to repeat, you will have an objective view of change in the behavior of a stock or market.

Example 1: Verizon Communications

Let's clarify this process with an example using Verizon Communications (VO) (**Figure 1**). In this example, several important swings are detailed. Because they are detailed, recognition of the



various swings within the overall trend becomes remarkably clear.

As you can see in the daily bar chart of Verizon in Figure 1, the stock began its uptrend in October 2000 from an extended base of almost two months. The

upswing of 52.19, an alternating downswing began. This downswing lasted seven days and declined seven points from the high of the upswing. It is important to remember these numbers and the easiest way is to record

them on the chart. That way, they stand out. These price and swing variables are detailed by duly posting their numbers at the top and at the bottom of every up and downswing.

After Verizon's minor downswing of 7/7 (7 days and 7 points), it began an upswing of 11 days and 12.69 points and achieved an inter-day high of 57.88. When this upswing ended, the price of 57.88 was posted above the highest bar.

A complete set of postings of up and downswings is found in

"To help identify trend reversals, keep a record of the swings in every uptrend or downtrend... The reason it is important to record these variables is because they are likely to repeat."

uptrend is defined by higher upswings and higher downswings. Understanding the nature of these higher upswings and higher downswings provides the key to the successfulness of a trend or to the failure of a trend.

Notice that in early October, after the stock hit an inter-day

Recognizing Trend Completion continued on page 6

RECOGNIZING TREND COMPLETION *continued* . . .

than 25 points.

Each point in the E-mini Nasdaq is worth \$20. So during this near two hour long decline, it never rallied more than 12 minutes nor more than \$500 per contract until 12:52 PM. Then it rallied for 28 minutes and 35 points (\$700).

This rally clearly changed the corrective character of the swings during the prevailing downtrend. It alerted the day trader that a potential shift in trending activity was in the offing.

And indeed, the trend did change but not into an immediate uptrend. The E-mini Nasdaq instead retraced and tested its previous bottom at 2553. A lateral trend had formed.

A lateral trend merely swings up to the high of previous upswings and then stops and reverses. Then it begins to downswing toward the price levels of

previous downswings, and then reverses from there as well.

In this case, the E-mini Nasdaq, after it altered the character of the prevailing trend's time/price variables, retraced and formed a double bottom, which is a variation of a lateral trend. Thereafter, it began a volatile uptrend of 16/99. This uptrend lasted an hour and four minutes and rallied to \$2,649 before failing.

In Summary

It is important to pay attention to the action of a trend's corrective upswings and downswings. They are the key to reading future trending action. If you don't keep a record of these "details" it is more than likely that you will fail to recognize when trends are about to change. ■

Mr. Florez offers free training online at www.synchromics.com.

MARKET REVIEW

February was a tough month for the market. The S&P 500 lost 9.3% and the Nasdaq lost 22.4%. Heading into the month, the AIQ timing model was on a sell and it registered several additional sell signals during the month -- a 99 on Feb. 9, a 95 on Feb. 14, and a 98 on Feb. 16. The model finally switched to a buy signal when it registered a 98 up on Feb. 23.

During the bull market of the 1990s we often heard that AIQ's buy signals were much more effective than its sell signals. With the current bear market, the opposite is true. The Feb. 23 buy signal would normally represent a powerful signal because it came at a time when there was a high percentage of stocks giving unconfirmed buys. This is no ordinary market, however, and prices continued to fall. By month's end the buy signal was still not confirmed by the Phase indicator. ■

STOCK DATA MAINTENANCE

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

Stock	Ticker	Split	Approx. Date	Stock	Ticker	Split	Approx. Date
American General	AGC	2:1	03/02/01	MetroBanCorp	METB	5%	03/13/01
Jack Henry & Assoc.	JKHY	2:1	03/05/01	Bank of Montreal	BMO	2:1	03/15/01
Cytec Corp.	CYTC	3:1	03/05/01	AFLAC Inc.	AFL	2:1	03/19/01
Frontier Air	FRNT	3:2	03/06/01	Krispy Kreme Donuts	KREM	2:1	03/20/01
Molex Inc.	MOLX	5:4	03/07/01	Loews Corp.	LTR	2:1	03/21/01
ChoicePoint	CPS	3:2	03/08/01				

Trading Suspended:

Advest Group (ADV), Bindley Western Ind. (BDY), Coastal Corp. (CGP), Falcon R&B Corp. (FLC), Imperial Bancorp (IMP), SDL Inc. (SDLI), Sunbeam Corp (SOC), Union Carbide (UK), Wall Street Deli (WSDI)

Name/Ticker Changes:

Consolidated Products (COP) to Steak N Shake (SNS)
E Trade Group (EGRP) to E Trade Group (ET)
El Paso Energy (EPG) to El Paso Corp (EPG)