

**System Trader  
Success Presents:**

# **FIVE SIMPLE TRADING STRATEGIES THAT WORK!**



**System Trader  
SUCCESS**

# CONTENTS

Welcome!.....3  
Testing A Euro Currency Scalping Strategy .....1  
RSI And How To Profit From It .....30  
Better Breakout Trading Model .....36  
Simple Shorting Strategy .....43  
Using Fear To Time The Market .....50  
Make It Happen! .....57

# Welcome!

There are a lot of bad trading ideas on the internet but, there are some good ones as well! In this ebook I want to show you five strategies that are great starting points for complete trading systems.

Take these ideas and run with them. I've personally developed two profitable real-life trading systems from the ideas in this eBook. You can do the same with a little work.

The most straightforward system just might be the Better Breakout Trading Model. This is the basis for a trading system I've been trading live since 2012. That's right! A system I trade with my own money I'm giving to you for free. The strategy I trade is a slight modification, but not by much. Check it out and it

And that's the point of this ebook.

Each strategy in this is not a complete system. It is my belief that you should experiment with each of the five strategies. Test different stops, exits and filters to make it your own. Trading is such a personal endeavor. What one person will call a great system, another person will say it's not for them.

So, thanks for downloading this eBook and study it with care because the ideas in this eBook really do work!





**Empowering the retail trader to become  
successful system traders.**

My name is Jeff and I've been programming for over 20 years. I have been using TradeStation's EasyLanguage for well over 9 years, and I will be personally sharing my thoughts and experiences in developing winning systems.

I started my website, System Trader Success back in 2009 but, it was called something else. At the time I would post my trading research and strategy code examples. I got a lot of great feedback and the site grew. By 2011, I changed the name of the site to what it is today.

I publish fresh system trading tips and strategies to System Trader Success every Monday morning (5:00am Central). Often these articles of downloadable code!

Every article is designed to provide you with very practical advice on building, testing, and trading automated trading systems. Many of the articles have ideas that you can implement in your trading right away.

From time to time, I'll send you a "must read" articles or research that I think you should know about. I do a ton of research to keep my articles fresh and relevant... so you might as well take advantage of all the reading I have to do.

I'll also send you emails about any new courses, software and other cool premium resources that I think will help you become successful at system trading...but only once I've vetted them.

In short, I wish to help you become successful at system trading. That's what System Trader Success is all about!

Truly,  
Jeff Swanson  
System Trader Success

A handwritten signature in blue ink that reads 'Jeff Swanson'.



# Testing A Euro Currency Scalping Strategy

Scalping is something that intrigues many system traders. The challenge at taking small, consistent trades from the market daily while risking very little is appealing. With scalping, it's generally accepted you are trading from a small timeframe, probably 5-minutes or less. The idea is to open a position and capture only a few ticks of profit. The appeal is since we are trading from such a small timeframe, your risk is small thus, you can trade with a small account. Often you will have setups that produce high win rates and occur more frequently

## Testing A Euro Currency Scalping Strategy

than setups on a higher timeframe such as hourly or daily. There tends to be a higher frequency of trading opportunities with scalping which can potentially lead to large accumulated profits vs. your starting equity.

In my opinion, scalping for the retail trader is very difficult to do. One of the biggest barriers is the transaction cost in both commissions and slippages. Scalping means smaller profit per trade yet, as you drill down to smaller and smaller timeframes your costs remain fixed. Thus, the negative impact of commissions and slippages grows taking a bigger percentage of your profits. A single tick of slippage is hardly noticed when you are holding a trade for several days with an average profit of \$600 per trade. However, on a scalping system that single tick is the difference between life and death. Then throw in latency, computer issues, internet issues and your margin for error is small. Again, on larger timeframes you can exit a trade now or in a few seconds and it won't matter that much. Not so in the scalping world where everything is hyper-sensitive and your margin for error is tiny.

With all this in mind, I thought it would be interesting to look at a scalping trading model for the Euro currency futures. I ran across a very simple scalping strategy at the website One Step Removed. The author is Shaun and he stumbled upon a scalping strategy when conducting research on another trading model. Shaun's concept and testing was performed on the EURUSD Forex pair. Shaun also points out in his article that his strategy will not be profitable if you have execution slippage of more than 2 pips.

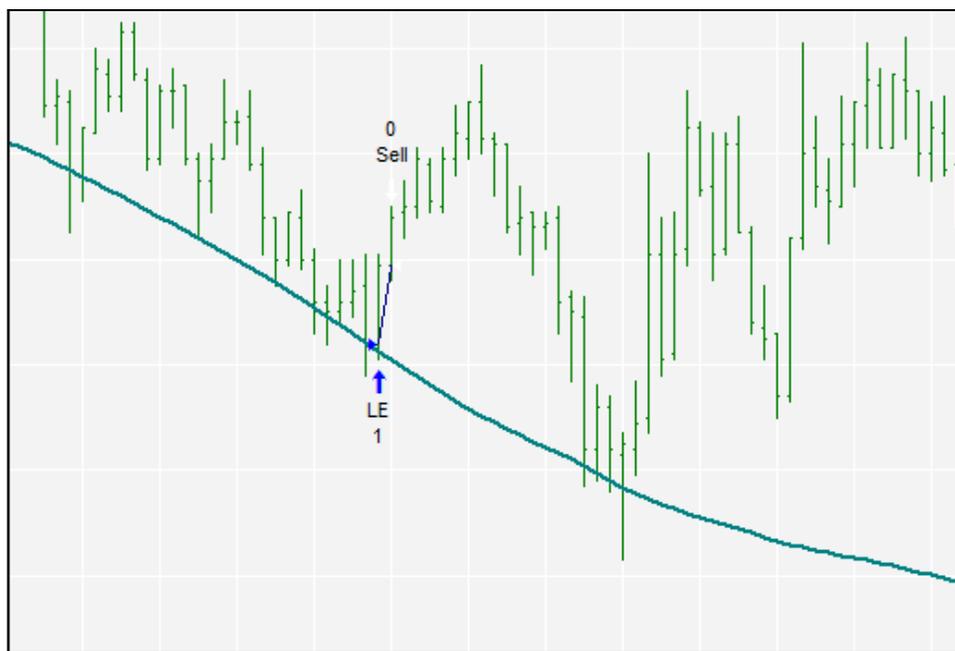
I found the strategy simple in nature and thought we would have a look at it. I will be coding this strategy in EasyLanguage and will test it on the Euro currency futures. The strategy code is available at the very bottom of this article.

## Testing A Euro Currency Scalping Strategy

### Extreme Price Moves

Shaun noticed that extreme price moves as defined by 1% distance from a 200-period simple moving average (SMA) occurred very rarely. Going with the premise that price will soon retreat from such an extreme, this might be a potential location to open a trade. In short, Shaun's Simple Scalping System (SSS) is a mean reverting strategy that utilizes a SMA envelope. When price closes beyond the envelope a trade is opened. The trade is closed when price returns to the envelope.

Below is an image of the system with a trade example. Notice there are times when price touches the lower bands and no trade is entered. Price must close below the band to trigger a trade.



### Chart Setup and Trading Rules

Chart:

- EURUSD 5 minute
- SMA Period: 200
- Moving Average Envelope: 1.0% of the SMA

### Entry rules

- If the price crosses and closes below the lower envelope, then buy at market.
- If the price crosses and closes above the upper envelope, then sell short at market.

## Testing A Euro Currency Scalping Strategy

### Exit rules

- If the price crosses and closes above the lower envelope, then exit long at market.
- If the price crosses and closes below the upper envelope, then exit short at market.

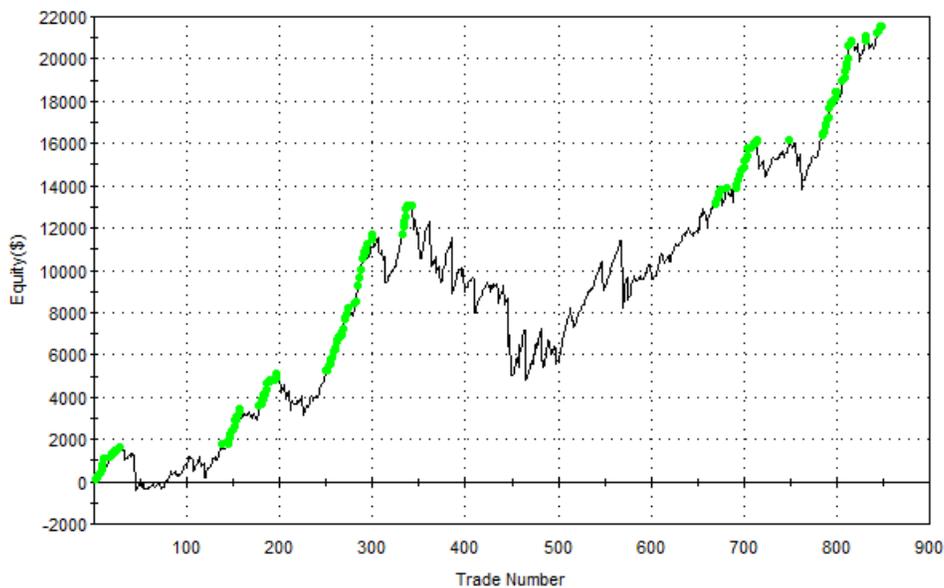
For the following backtests in this article I will be starting with a \$10,000 trading account and testing over the dates May 2001 - December 31, 2011.

### The Effect of Slippage and Commissions

To demonstrate the insidious effect that commissions and slippage have on a scalping trading model, for my first backtest I deducted nothing for slippage and commissions. I then added commissions and slippage and ran the backtest again so you can see how it impacts the equity curve. You just might be surprised at how damaging commissions and slippage can be. The first equity graph below does not take into account slippage and commissions.

#### No Commissions or Slippage

Equity Curve Line - @EC 5 min.(05/13/01 23:10 - 12/30/11 16:00)

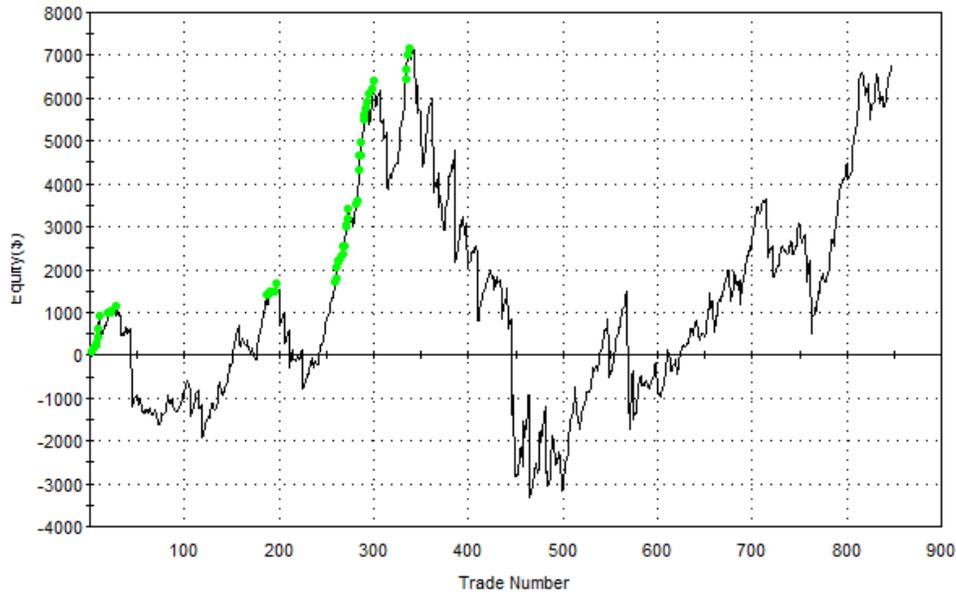


## Testing A Euro Currency Scalping Strategy

The next two charts below do take into account both slippage and commissions. The first chart uses 1 tick of slippage while the second chart uses 2 ticks of slippage.

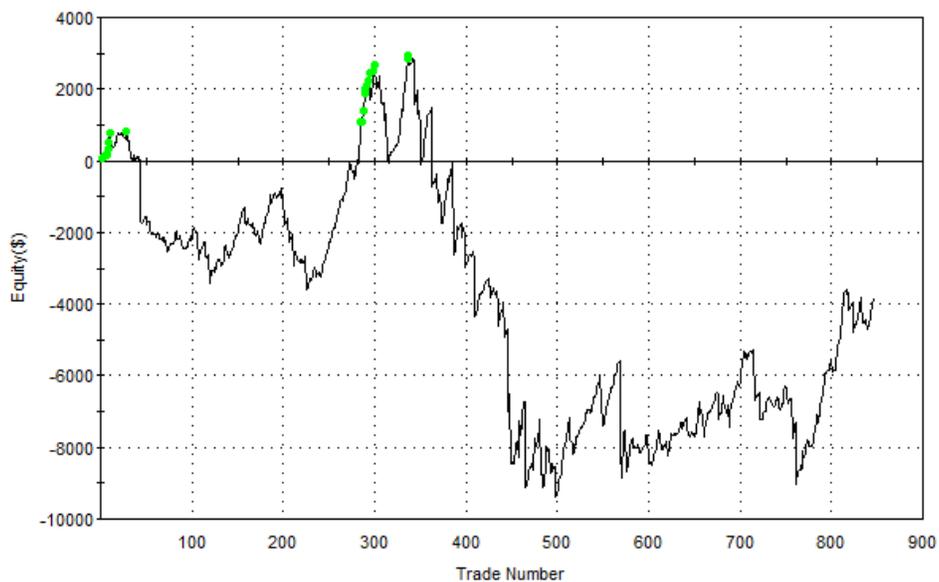
### \$5 Commissions and 1 Tick Slippage Per Round Trip

Equity Curve Line - @EC 5 min.(05/13/01 23:10 - 12/30/11 16:00)



### \$5 Commissions and 2 Ticks Slippage Per Round Trip

Equity Curve Line - @EC 5 min.(05/13/01 23:10 - 12/30/11 16:00)



Looking at the first chart you see an overall winning system generating about \$22,000 in profit. The visual difference between the graphs is even more dramatic if they were all plotted with the same scale. Nonetheless, the final equity graph is radically different from the first equity graph. Looking at the first equity graph, a complete novice might think he

## Testing A Euro Currency Scalping Strategy

found a winner and trade his hard earned capital only to discover a falling equity curve. But why? Not taking into account slippage and commissions, particularly with intraday trading, is a huge mistake.

### The Baseline System

For the remainder of my testing I will be deducting \$5 commissions and 1-tick of slippage. Our baseline, which is depicted in the middle equity chart above, will provide us with a benchmark to compare modified versions of the system. The baseline results are below.

## Baseline Performance

|                  | All Trades    | Long Trades   | Short Trades  |
|------------------|---------------|---------------|---------------|
| Total Net Profit | \$6,735.00    | \$11,207.50   | (\$4,472.50)  |
| Gross Profit     | \$75,000.00   | \$40,585.00   | \$34,415.00   |
| Gross Loss       | (\$68,265.00) | (\$29,377.50) | (\$38,887.50) |
| Profit Factor    | 1.10          | 1.38          | 0.88          |

The first thing I notice when looking at the performance report is how poorly the short side performs. I'm not a big fan of trade symmetry. That is, I don't think it's necessarily a good idea to have both long and short signals as mirror opposite of each other. Our baseline system does just that. We may be seeing a positive result on the long side because the Euro contract has a long side bias over the historical test. We'll look at that more later. For now, I'm going to focus on the long side only.

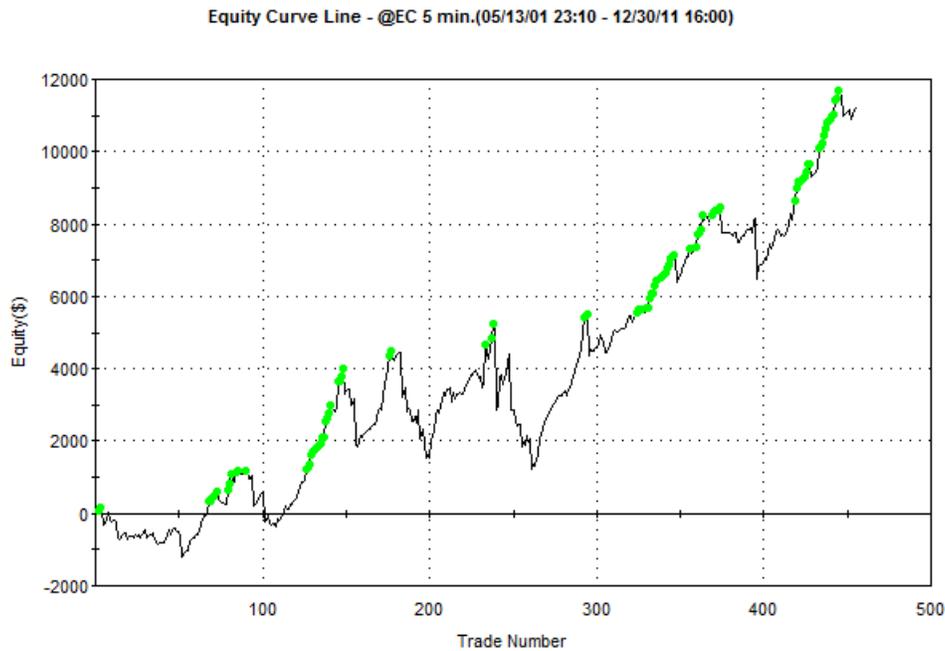
Here are the results with long side only:

## Performance Long Only

|                       | Baseline |
|-----------------------|----------|
| Net Profit            | \$11,207 |
| Profit Factor         | 1.38     |
| Total Trades          | 456      |
| % Winners             | 71%      |
| Avg. Trade Net Profit | \$24.58  |
| Annual Rate of Return | 7.07%    |

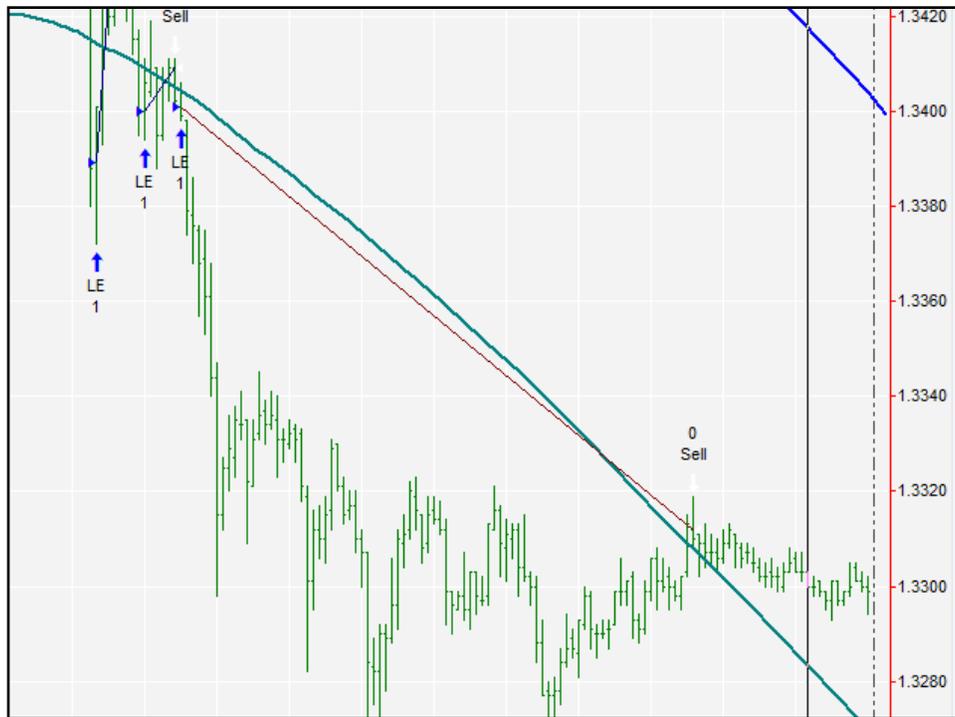
## Testing A Euro Currency Scalping Strategy

|                         |         |
|-------------------------|---------|
| Sharpe Ratio            | 0.27    |
| Max Drawdown (Intraday) | \$4,632 |
| Expectancy              | 0.11    |
| Expectancy Score        | 4.77    |

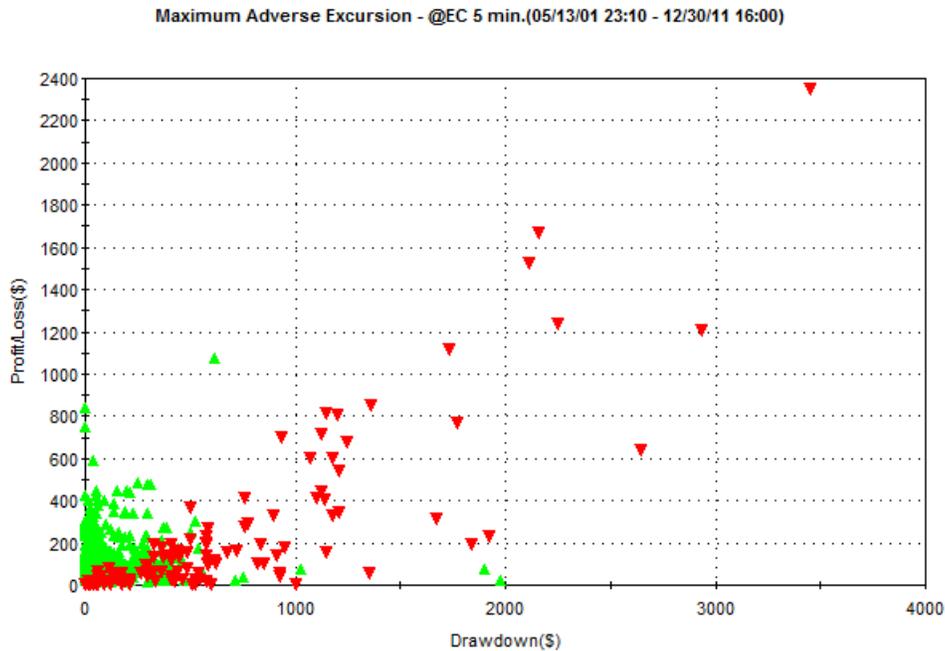


If you will recall from the trading rules there are no stops. A trade is exited only when price returns to the SMA envelope. This dynamic exit can produce some frightening drawdowns, as pictured below.

## Testing A Euro Currency Scalping Strategy



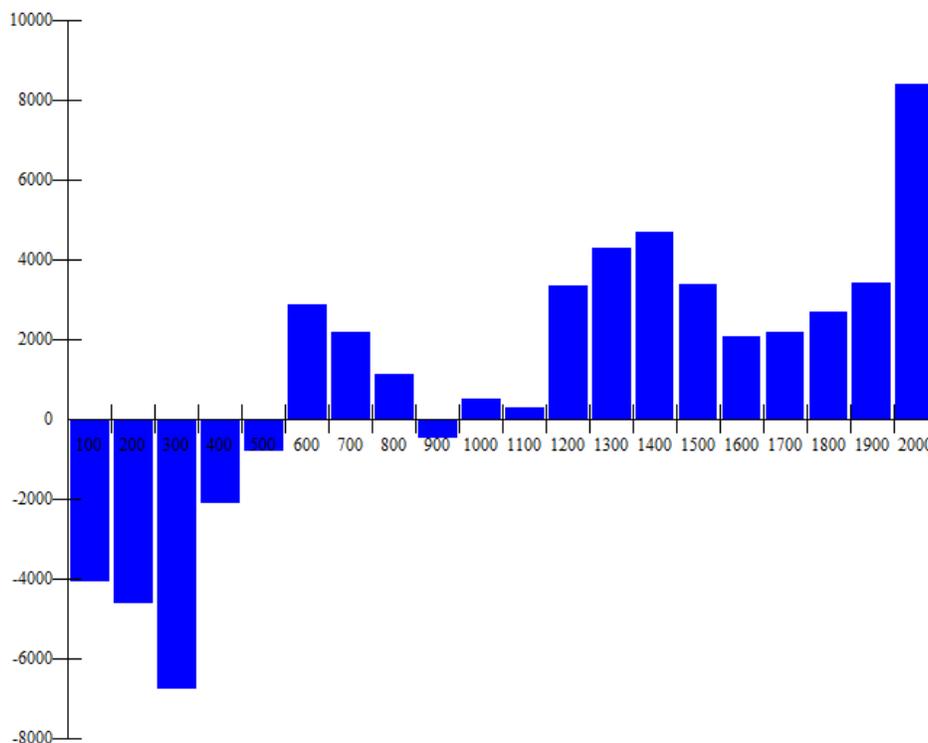
Another way to look at this is with a Maximum Adverse Excursion (MAE) chart, pictured below.



Each point on the chart represents a trade. Its color represents profitable (green) or unprofitable (red) P&L for the given trade. The y-axis is the P&L and the x-axis is the drawdown (the adverse excursion). Notice that many of the trades that experience a 1000 or larger drawdown end up being red points on the chart. These are very expensive drawdowns that turn into large losers. Somewhere between \$600 and \$1,000 might be a good place to put

## Testing A Euro Currency Scalping Strategy

a hard stop to limit those large losses. Using TradeStation's optimize feature we can analyze the behavior of different stop values. Below is a bar graph depicting the stop value in dollars vs. the net profit.



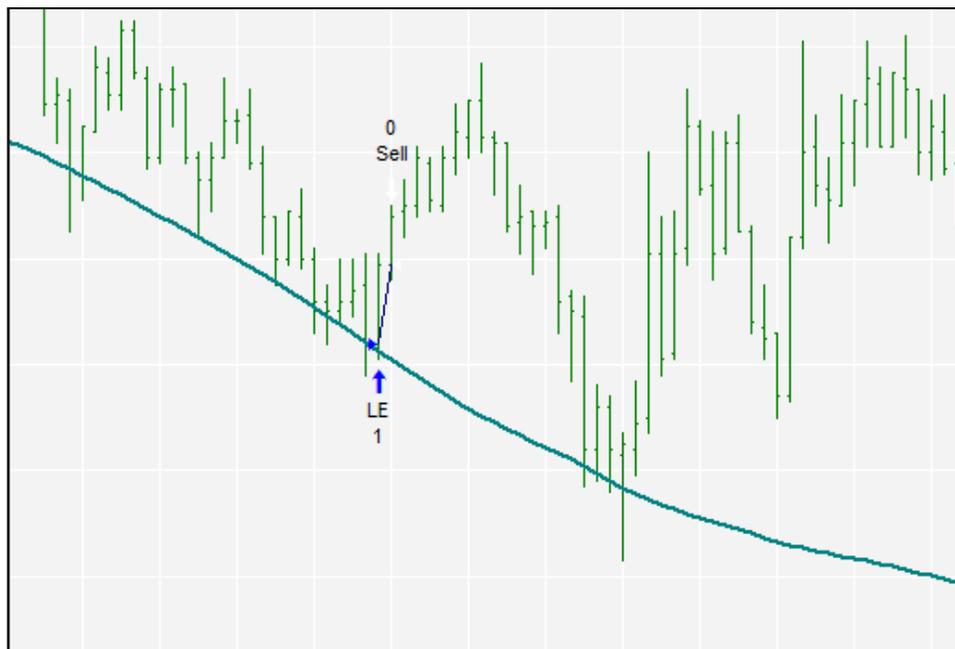
Looking at this we can see adding a stop value really hurts our performance. Stop values up through \$2,000 really push our net profit down. Can anyone really trade a scalping system that might require a \$2,000 or more catastrophic stop loss? This makes me wonder if we need to find an additional filter to help reduce unprofitable trades. Instead of simply applying a hard stop we might want to test trading only during certain hours, trading only during a bull market or adding a volatility filter. These are all good ideas and we'll continue to explore this trading model in the next section.

## Part 2

This is a second part of examining a scalping strategy for the Euro currency futures. In the first part of this article, Testing A Euro Currency Futures Scalping Strategy, we introduced a simple shorting concept. As a quick review here is what we started with. The strategy is based upon a 1% price envelope below the current price on a 5-minute chart. When price closes beyond the envelope a long trade is opened. The trade is closed when price returns to the envelope. Below is an image of the system with a trade example. Notice there are times

## Testing A Euro Currency Scalping Strategy

when price touches the lower bands and no trade is entered. Price must close below the band to trigger a trade.



We concluded the first article with a look at adding a hard stop value. The original trading rules had none. Exits were all based upon price returning inside the 1% envelope. We discovered stops drastically hurt the system. In this article we will continue to look at other stop methods and filters to improve performance.

### Testing Stops

I spent the next few hours testing various stop loss methods. This included hard stop losses that don't move and trailing stop losses that advance when the trade moves in your favor. I used dynamic stop losses based upon volatility and even more exotic stops such as the ATR Square Root trailing stop and the Noise Tolerant Money Management Stop. None of these stops produced the desirable results I was looking for, which was a smoother looking equity curve with a higher average profit per trade.

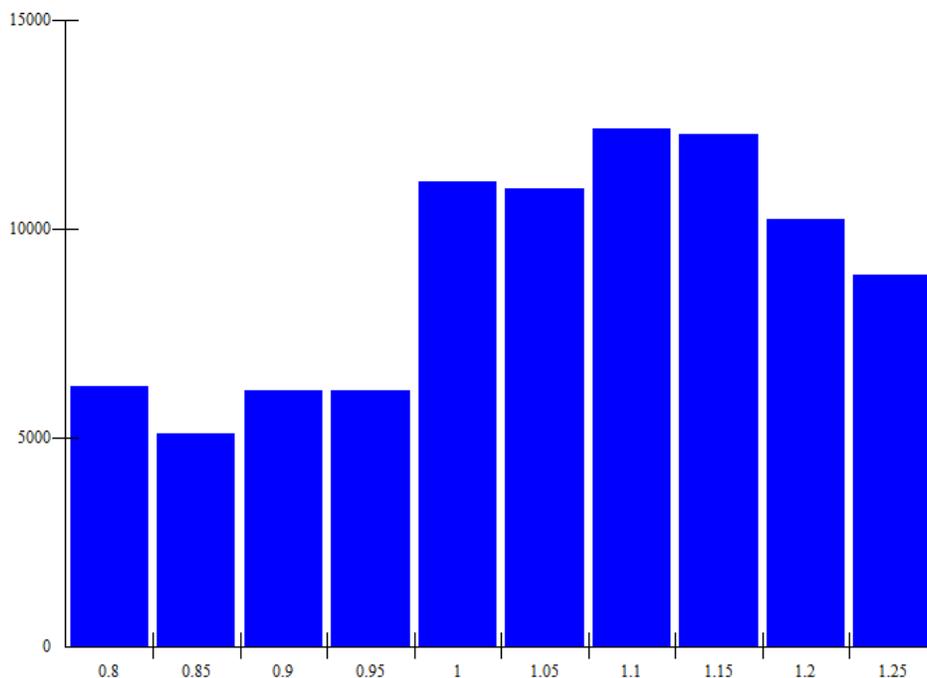
Since these were not working out, I decided to look at the two important values of our baseline system. Those would be the 200-period SMA average and the 1% envelope. I wanted to see how robust these values were. That is, if I change the values slightly will it dramatically change the results of the system? Furthermore, what does the performance of the system look like over a wide range of potential values. The first value to look at is the 1% envelope value around our 200-period SMA.

### Testing 1% Envelope

Using TradeStation's optimization feature I was able to test the values neighboring the 1% envelope value. The bar graph below depicts the results. The X-axis is the percentage value

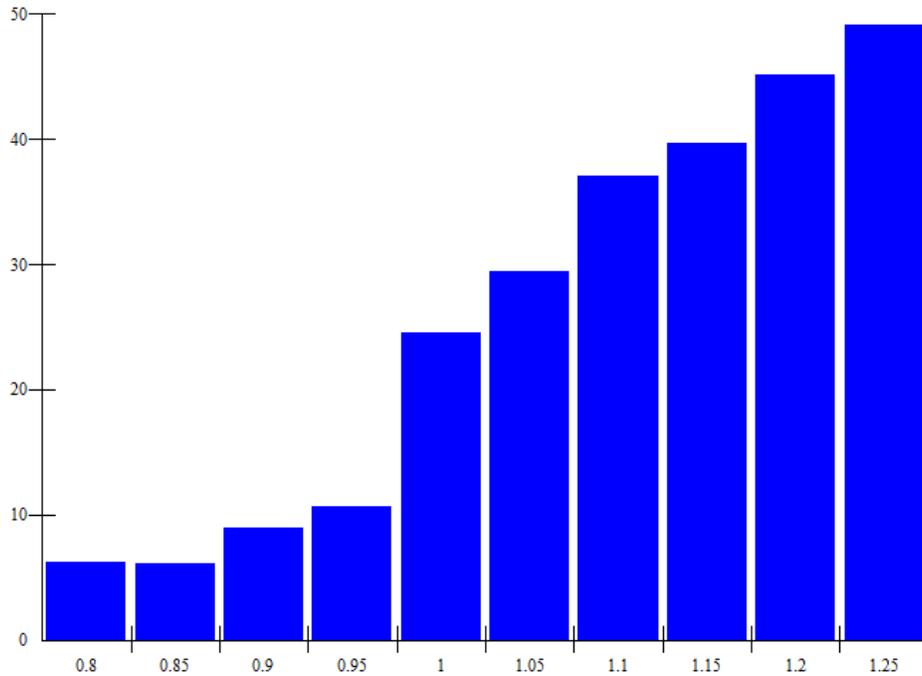
## Testing A Euro Currency Scalping Strategy

for the envelope and the Y-axis is net profit. Our default 1% value is clearly not an optimal value. In fact, it's on the left-hand edge of a stable range found between 1.00 and 1.15. The median value within this range is about 1.58. Overall, each of the tested values produces a positive result and we do have a stable region. Moving our value more towards the center of this stable region may be a good idea in our final system. I like to see neighboring values produce similar results. Currently at 1.00% we have a sharp drop off in profit at the 0.95% value.

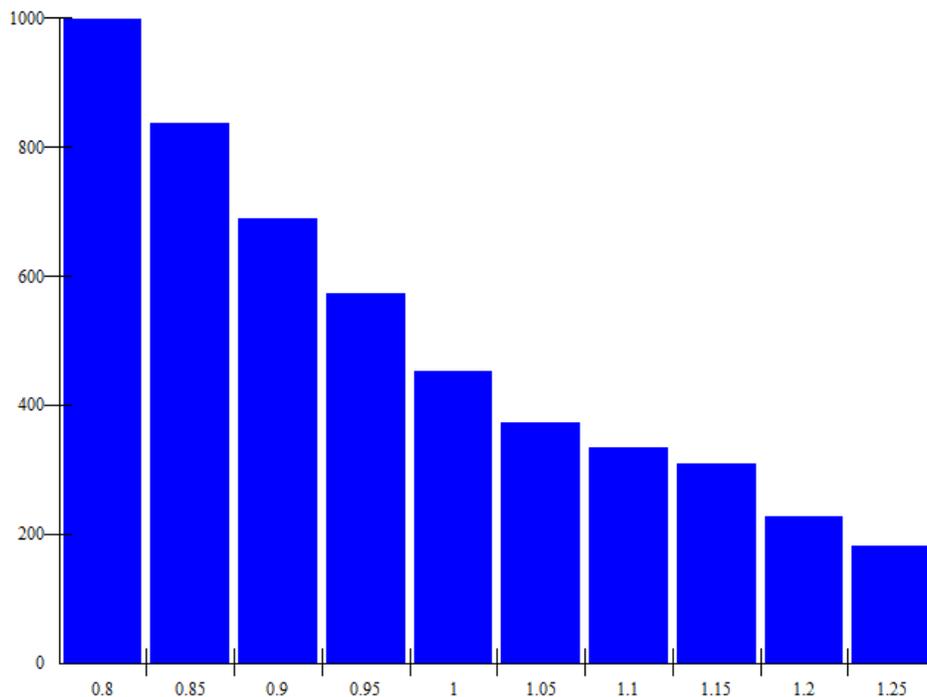


Let's look at the average profit per trade vs. the envelope value. The graph below depicts the average profit per trade.

## Testing A Euro Currency Scalping Strategy



Looking at the graph above, we can see the average profit per trade increases as we demand higher percentage distance from our SMA. This makes sense, but this comes at a cost as seen in the graph below which depicts the number of trades vs. the stretch percentage. In short, as we increase the envelope we generate more dollars per trade but generate fewer trades. This is the trade off we must determine.

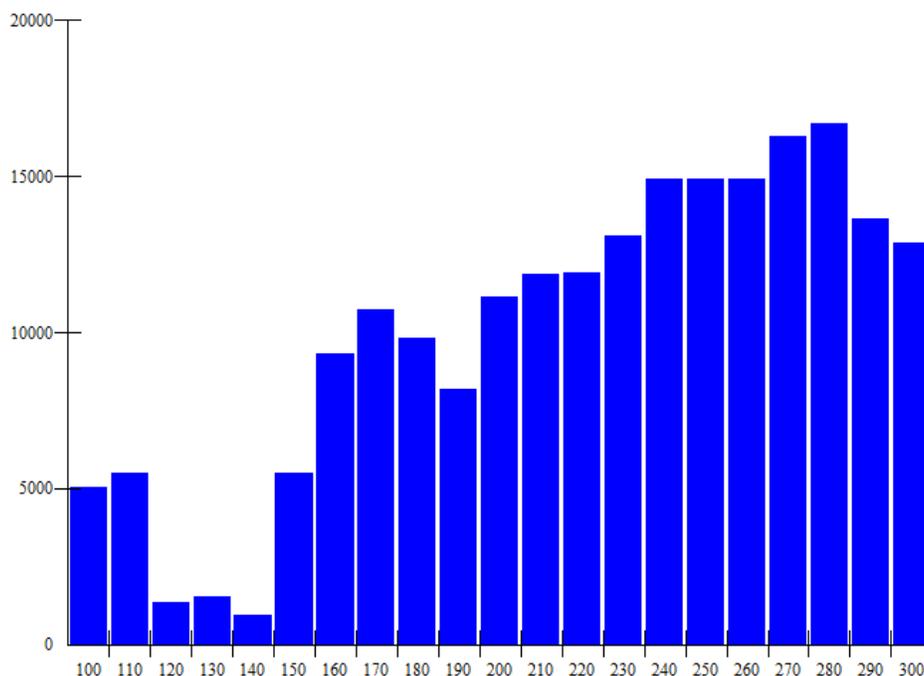


## Testing A Euro Currency Scalping Strategy

Overall, the percentage envelope value does not look optimized and we may have an opportunity to modify it later based upon the net profit stable range.

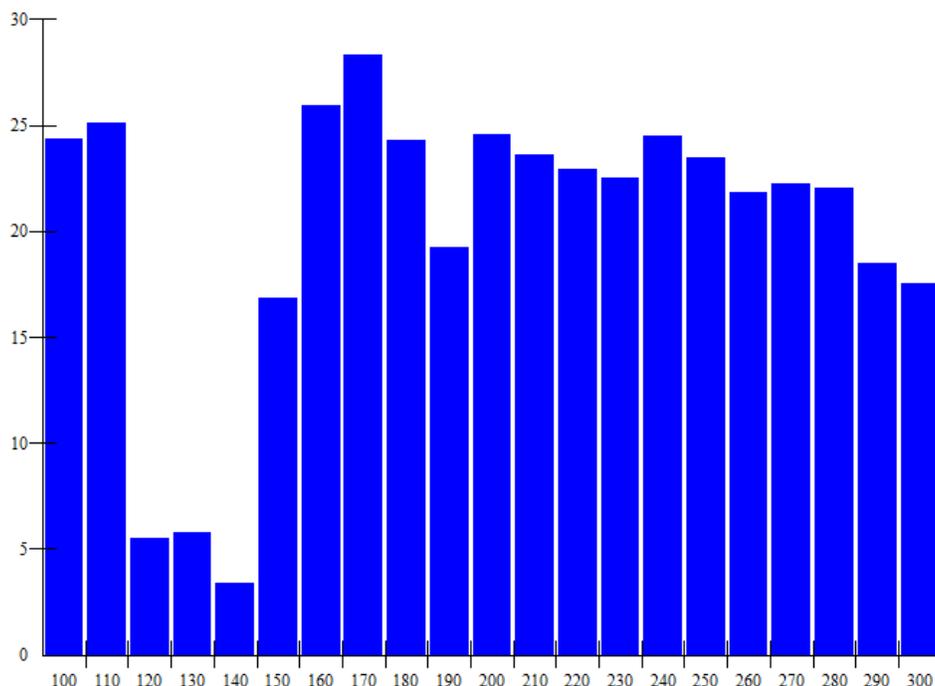
### Testing Look-back Period

Using TradeStation's optimization feature I tested the look-back period of our simple moving average. The bar graph below depicts the results. The X-axis is the look-back period for the SMA and the Y-axis is net profit.



Here we can see our default value of 200 is far from optimal. In fact, as we continue to increase the look-back period we get more and more net profit until we reach the value of 290. But at what cost are we achieving this net profit? I also like to look at another metric which is the average profit we are making per trade. This is depicted in the graph below where the Y-axis is the average profit per trade.

## Testing A Euro Currency Scalping Strategy



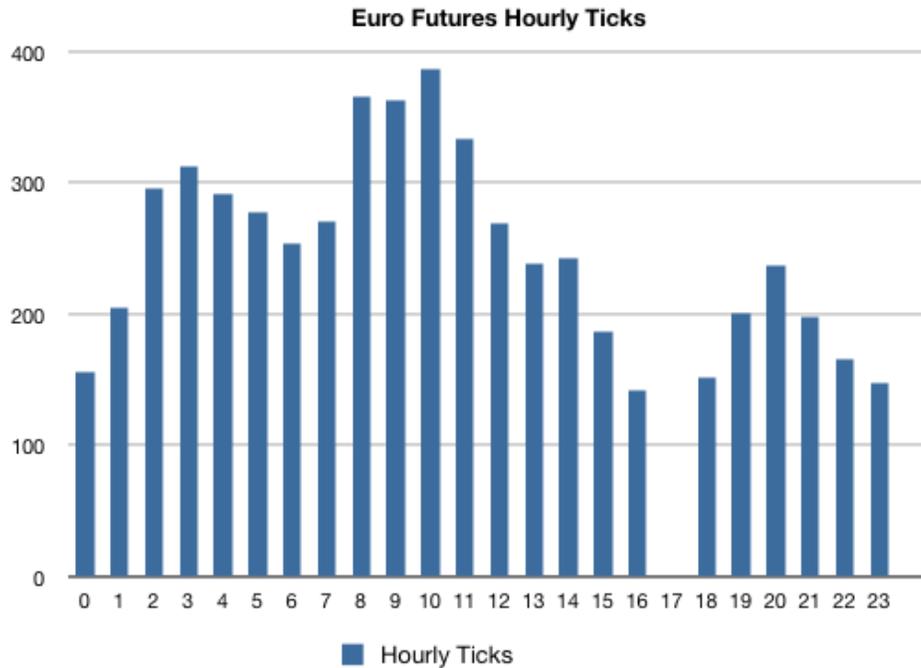
Looking at the results from this perspective we can see as we increase the look-back period from our default value of 200 we are generating slightly less profit per trade. In some systems, such as a longer term swing system, this might not be a big deal. However, given this is a scalping system with a very slim profit margin per trade I would feel a bit uncomfortable reducing our average profit per trade. Overall, I'm inclined not to move the default value of 200.

### Time Filter

The default system would be actively trading whenever the market was open. To me this is probably not a good idea since the market will have various characteristics throughout the trading day. For example, during the European open it may be very volatile and actively traded while during the U.S. afternoon it will most likely be less volatile and not as actively traded. So, the next item to test is time.

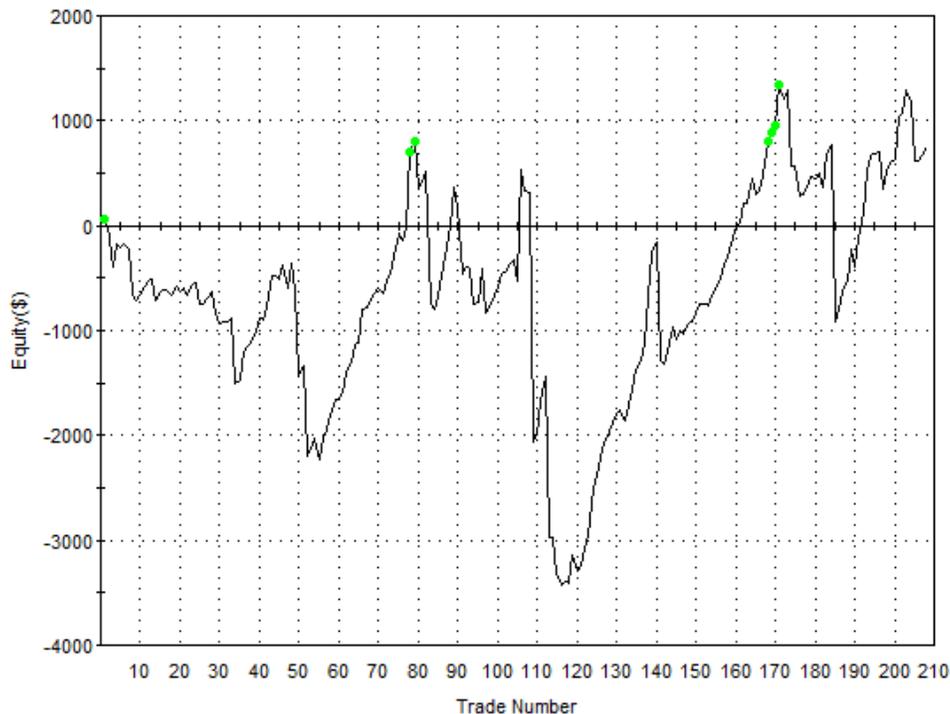
My first attempt was to trade the system when the Euro market was most active. Based on a previous study I was able to generate the following graph which depicts the number of ticks the Euro moves per hour. On the X-axis is the hour of the day and on the Y-axis the number of ticks moved. All times are in Central Standard Time.

## Testing A Euro Currency Scalping Strategy



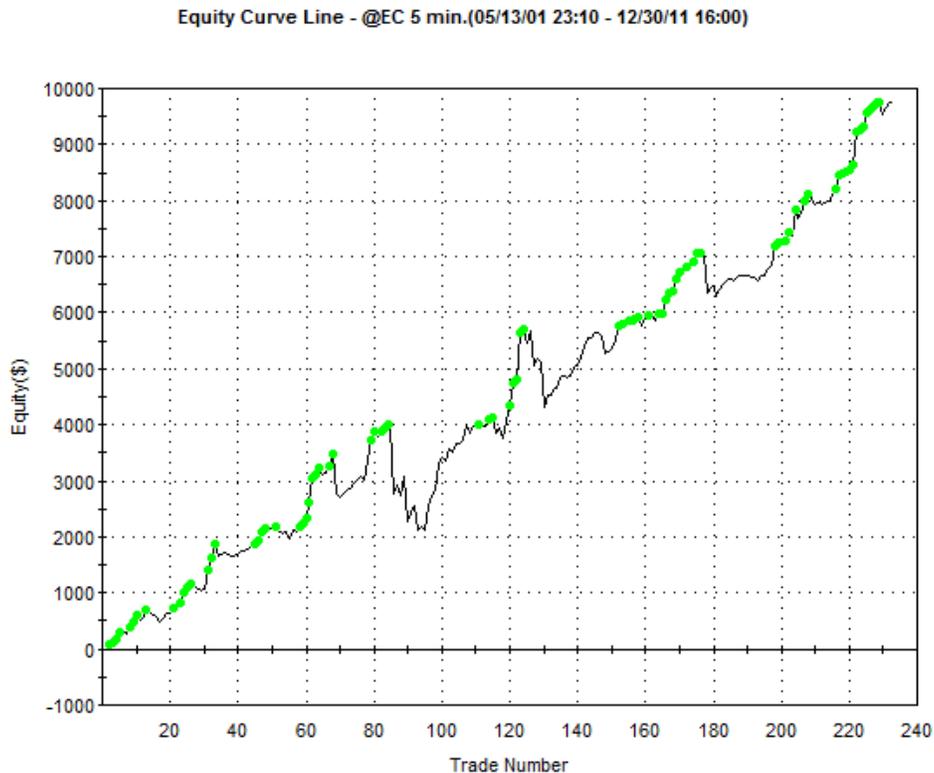
From here we can see there are two major spikes of activity for the Euro. Not surprisingly they revolve around the 0200 European open and the 0830 U.S. open. It was these times I decided to test first. To me it looks like from 0200 to 1100 would be a nice active time to trade. The equity curve is below.

Equity Curve Line - @EC 5 min.(05/13/01 23:10 - 12/30/11 16:00)



## Testing A Euro Currency Scalping Strategy

Not so hot. I then began to think that the scalping system is a mean reversion system and may do better outside of the most active trading hours. So I then looked at trading only after 1100 through 2300. The equity curve is below.



A world of difference! Look at the dramatic difference between the two equity curves based entirely on the hours of the day you trade. Below is a table comparing the results of our baseline system, trading the active hours and trading the quiet hours. Remember, the time filter is simply applied to the baseline system. No other changes have been made to the system.

## EC SCALPING SYSTEM PERFORMANCE

## Performance With Time Filter

|                         | Baseline | Active Hours | Quiet Hours |
|-------------------------|----------|--------------|-------------|
| Net Profit              | \$11,207 | \$747        | \$9,748     |
| Profit Factor           | 1.38     | 1.04         | 2.01        |
| Total Trades            | 456      | 208          | 233         |
| % Winners               | 71%      | 71%          | 70%         |
| Avg. Trade Net Profit   | \$24.58  | \$3.59       | \$41.83     |
| Annual Rate of Return   | 7.07%    | 0.68%        | 6.04%       |
| Max Drawdown (Intraday) | \$4,632  | \$5,205      | \$3,018     |
| Expectancy              | 0.11     | 0.01         | 0.30        |
| Expectancy Score        | 4.77     | 0.22         | 6.56        |

We can see from here that trading the quiet hours produces a substantial improvement in profit factor, average profit per trade and expectancy score when compared to the baseline system. We also reduce our maximum intraday drawdown but we do sacrifice some profit and our annual rate of return.

### Conclusion

At this time the biggest thing we learned was the hours of the day seem to really impact the performance of the system. The tradable hours may be refined even further. Furthermore, we demonstrated that both the look-back period and the envelope percentage are not optimized values. In fact, we might have room to increase the value of the envelope percentage.

Are we finished? Not yet! We still have more to test including observing the performance on the out-of-sample data and using TradeStation's Walk Forward Optimizer (WFO). So, keep an eye out for the next article.

## Part 3

In the previous section we discovered a time based filter really improved the performance of the system. By eliminating the unproductive times to trade nearly all aspects of the system were improved with only the smallest cost of annual return. In this article I want to look at another filter which will really help to improve performance.

Early in this series we tested the idea of implementing a bull or bear market regime filter. In the end, this did not help too much and the filter was abandoned. Another method I like to

## Testing A Euro Currency Scalping Strategy

use to divide the market is volatility. Markets naturally cycle between low volatility and high volatility. Maybe our trading system performs better in high volatility markets. Or maybe it performs better in low volatility markets. Or perhaps it performs best away from volatility extremes. To test this idea I'm going to measure volatility based upon the price action on a daily bar chart and use TradeStation's optimize feature to gage our systems performance over different market volatility conditions.

### The Volatility Filter

To accomplish our volatility test I first need to capture the volatility on the daily chart. Remember, we are trading on a 1-minute chart so how do we do this? Well, in TradeStation there are built-in EasyLanguage functions which can grab the daily price elements such as open, high, low and close from the daily timeframe. However, I'm going to show a technique that requires adding the daily price data into our existing 1-minute chart. I'm doing this because this is a valuable skill - inserting different timeframes into a single chart. Knowing how to do this allows you to build trading systems that can access various timeframes within a single chart. This will allow you to generate signals on a daily chart and trade on a 5-minute chart, for example. To learn how to insert another timeframe into a single chart, please read this article, "Access Two Timeframes In EasyLanguage".

The following code is executed when the Euro session ends. It simply computes the closing day's range and then computes the 12-day average of the daily ranges. This average value will be our volatility score which will determine if we take trades or not.

```
If (Time = SessionEndTime(1,1) ) Then
Begin
    // Compute the daily range and average
    ocRange = ( HighD(0) - lowD(0) ) * PriceScale;
    ocRangeAvg = Average( ocRange, 12 );
    volFilter = ocRangeAvg < vol and ocRangeAvg > vol-10;
End;
```

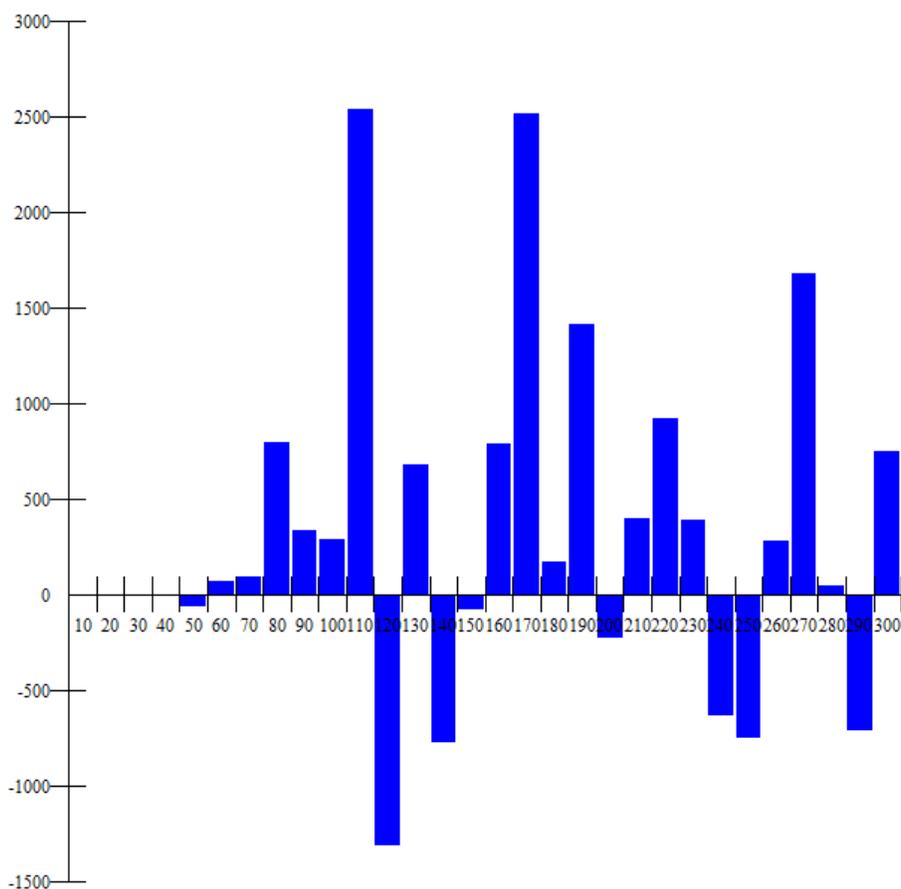
We then set a Boolean flag, volFilter, based upon a specific volatility range. That is, if the volatility is between a specific range of values, we set our flag indicating it's OK (true) to take trades in the current market environment.

Using TradeStation's optimization feature I'm going to execute the trading system over the historical data 20 times. For each iteration the volatility filter will be altered to produce a specific 10 "point" range where trades will be taken. The first iteration will test the volatility range between 10-20, the next between 20-30 and so on. This will give us an idea if volatility plays a part in the success of the system.

Please note, I'm applying the volatility filter to the baseline system - not the system with the time filter. I want to independently test the volatility filter to see how it alone affects the performance of the system. At this time, I don't want to stack filters on top of each other.

## Testing A Euro Currency Scalping Strategy

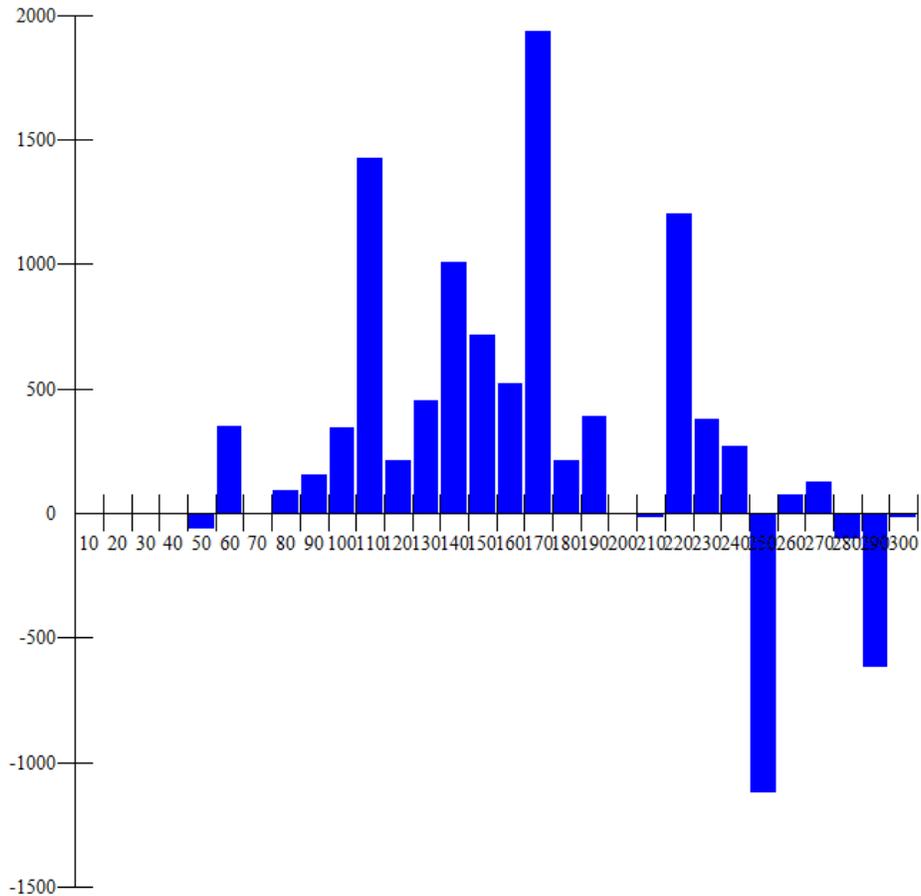
Below are the results of the volatility study. The x-axis contains the volatility range as measured by our calculation explained above. The x-axis contains the net profit in dollars.



This looks a bit sloppy. The point is to notice any region(s) where no profits occur or regions where profits tend to occur. I clearly see a region near the low end of the values, below 60, where there are very few or no trades taking place. If you spend some time looking you will see the net profit tends to taper off when you get into the high values above 190. The two largest spikes occur at 110 and 170. There seems to be a cluster of more positive net profit bars around the middle, but it's not overly clear. Overall, I think this suggests that our system may best perform when volatility is not at extreme lows or at extreme highs.

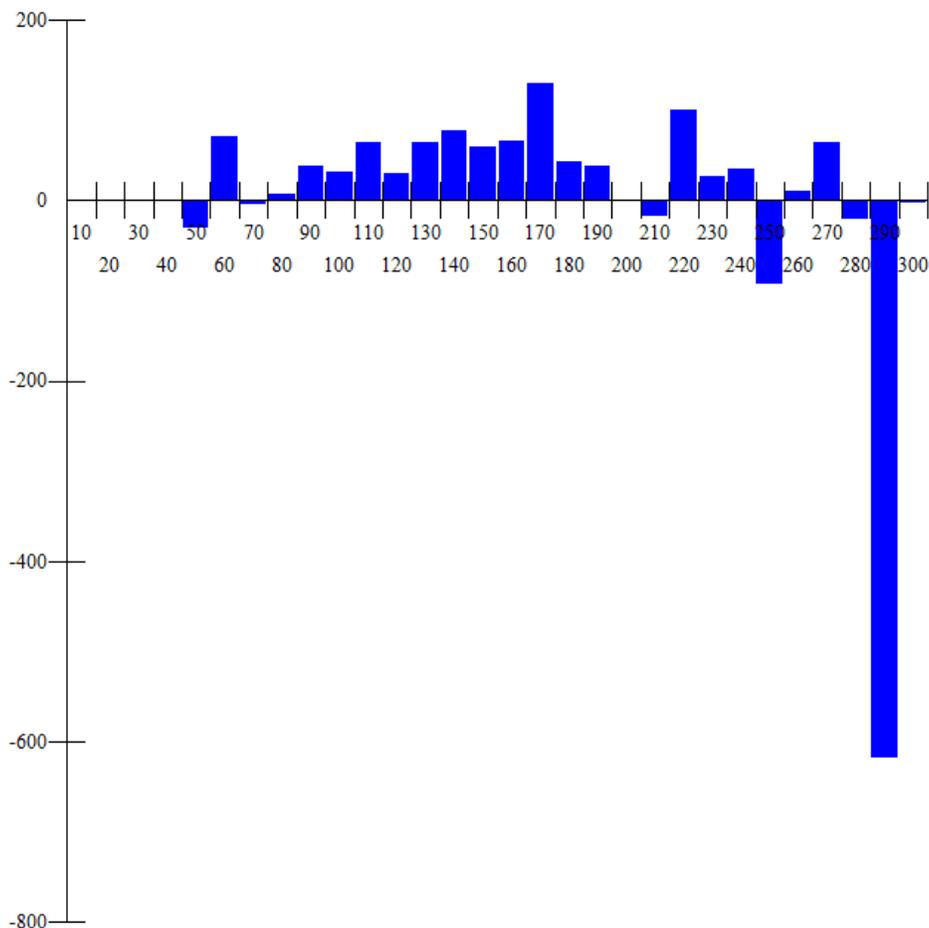
At this point I'm going to add the time filter to see if we can get a better picture of what's going on. Here is the bar graph with the same optimization.

## Testing A Euro Currency Scalping Strategy



This is much clearer. You can better see that values between 50 and 240 produce the bulk of the net profits. In particular, values above 240 produce some very large losses. Let's look at it another way. Below is a bar graph depicting the results in average net profits per trade.

## Testing A Euro Currency Scalping Strategy



We can see about the same picture. Clearly there is a lot of losses at the very high end of our volatility. Again, the bulk of our profitable trades seems to be between 60 and 240. To test how this will affect the performance of our system let's adjust our volatility filter to only take trades when volatility is between 60 and 240. The results of this test vs. the baseline system are below.

## EC Scalping System Independent Filters

|                       | Baseline | Quiet Hours | Vol Filter |
|-----------------------|----------|-------------|------------|
| Net Profit            | \$11,207 | \$9,748     | \$8,348    |
| Profit Factor         | 1.38     | 2.01        | 1.43       |
| Total Trades          | 456      | 233         | 328        |
| % Winners             | 71%      | 70%         | 70%        |
| Avg. Trade Net Profit | \$24.58  | \$41.83     | \$25.45    |

## Testing A Euro Currency Scalping Strategy

|                         |         |         |         |
|-------------------------|---------|---------|---------|
| Annual Rate of Return   | 7.07%   | 6.04%   | 5.71%   |
| Max Drawdown (Intraday) | \$4,632 | \$3,018 | \$2,910 |
| Expectancy              | 0.11    | 0.30    | 0.13    |
| Expectancy Score        | 4.77    | 6.56    | 3.95    |

We can see this does improve the results vs. the baseline system ever so slightly. I'm looking primarily at the Profit Factor and Average Trade Net Profit. It certainly does not have nearly as much impact as the time-based filter. What would happen if we combine the two?

### Combining The Two Filters

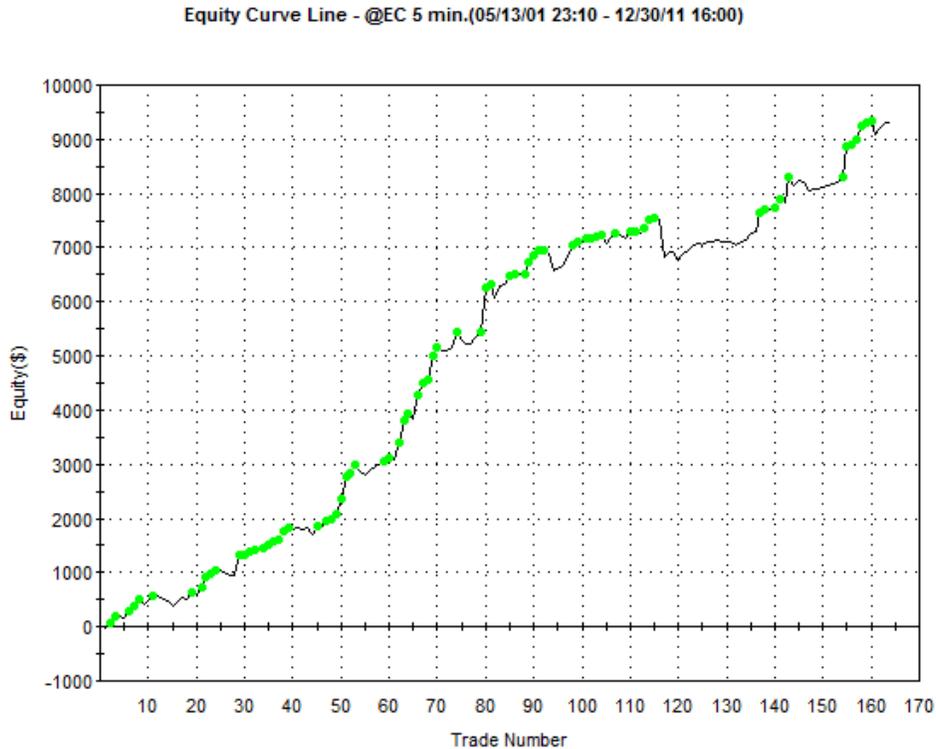
Now we can take the time-based filter and combine it with our newly created volatility filter. Doing that generates the following results:

## EC Scalping System Filters

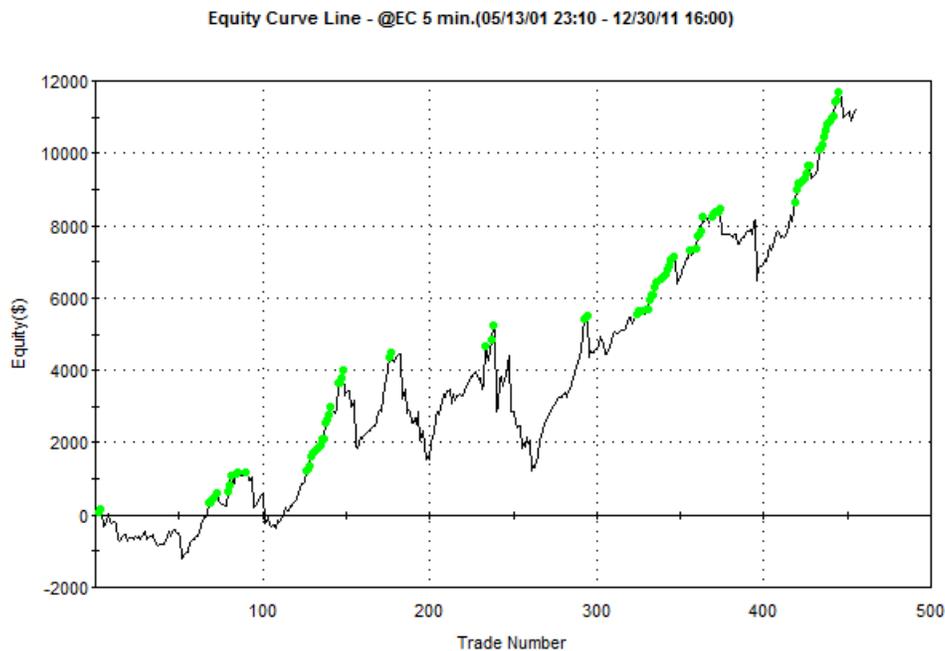
|                         | Baseline | Quiet Hours | Vol Filter | Quiet Hours & Vol Filter |
|-------------------------|----------|-------------|------------|--------------------------|
| Net Profit              | \$11,207 | \$9,748     | \$8,348    | \$9,305                  |
| Profit Factor           | 1.38     | 2.01        | 1.43       | 3.44                     |
| Total Trades            | 456      | 233         | 328        | 164                      |
| % Winners               | 71%      | 70%         | 70%        | 70%                      |
| Avg. Trade Net Profit   | \$24.58  | \$41.83     | \$25.45    | \$56.74                  |
| Annual Rate of Return   | 7.07%    | 6.04%       | 5.71%      | 6.19%                    |
| Max Drawdown (Intraday) | \$4,632  | \$3,018     | \$2,910    | \$1,975                  |
| Expectancy              | 0.11     | 0.30        | 0.13       | 0.74                     |
| Expectancy Score        | 4.77     | 6.56        | 3.95       | 11.48                    |

The combined system (far right column) does very well vs. the baseline system. Again, I'm looking at the Profit Factor and Average Trade Net Profit. Our average trade net profit has more than doubled and we significantly reduced the total trades taken. This tells me we have removed unproductive or losing trades. We are not making a comfortable amount per trade, unlike the baseline system which was a very small margin of \$24.58 per trade. Combining the two filters reduces drawdown and that can clearly be seen in the equity graph below.

## Testing A Euro Currency Scalping Strategy



For a reminder this is what our baseline system equity curve looked like.



### Conclusion

We are clearly moving forward nicely. So far, all our work has produced two changes to the original system.

1. Only trade during the quiet market hours of 1100 - 2400 Central.

2. Only trade when the market is absent of volatility extremes.

It's a lot of work for only a few lines of code. In the next article we are going to explore adding a stop loss value and testing the system on our out-of-sample data.

### Part 4

This is part four in our series on creating a Euro futures scalping strategy. In the last section, we combined a volatility filter along with a time-based filter to remove unproductive trades. We found that trading during “quiet” hours of the day while avoiding both extreme low/high volatility days produced the best results. In this article I would like to nail down a stop value and then combine the rules into our strategy.

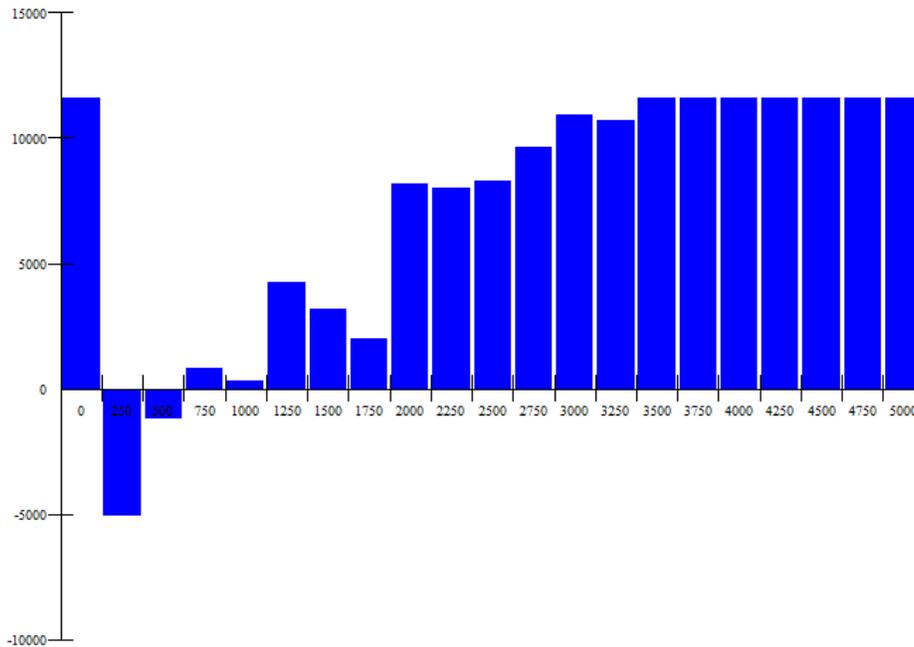
#### Testing Stop Value

First, I'm going to revert back to our baseline system and re-test several different stops. I briefly looked at them during the first article but did not provide any details. As I'm testing the stop values I'm going to be testing how well they perform and how robust they are. How am I going to test their robustness? I'm going to vary their input parameters to see how it affects the stop method's performance. A robust rule will perform well under different input values. From there we can move on to testing the system on our OOS data.

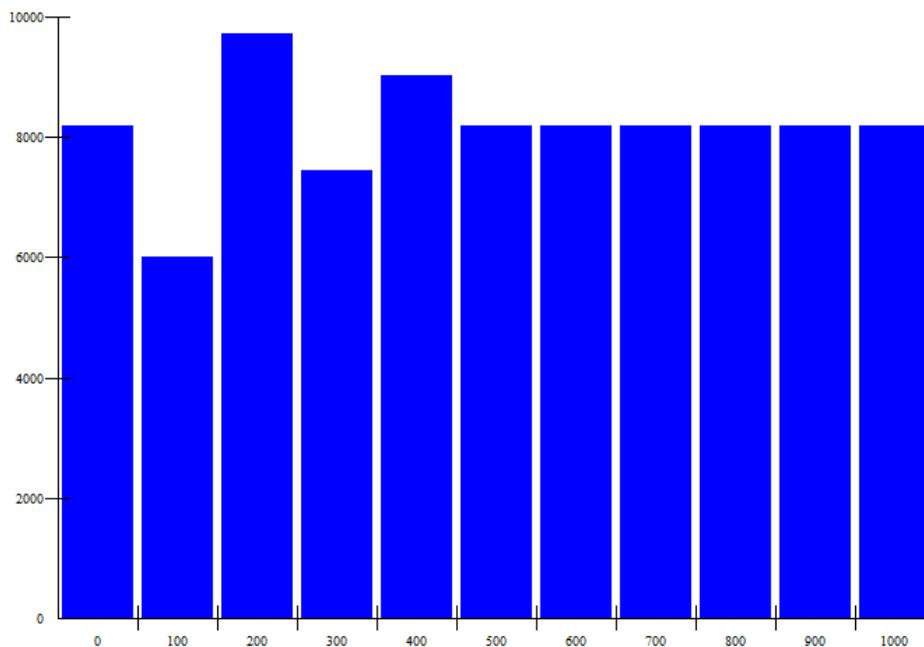
- Hard stop
- ATR
- ATR Square Root
- Noise Tolerant Money Management Stop

The first stop to test is a simple hard stop. I'm going to use TradeStation's optimization feature to test hard stops from \$0 to \$5,000 in increments of \$250. The results are below with the stop value in dollars on the x-axis and the net profit generated by the system on the y-axis.

## Testing A Euro Currency Scalping Strategy



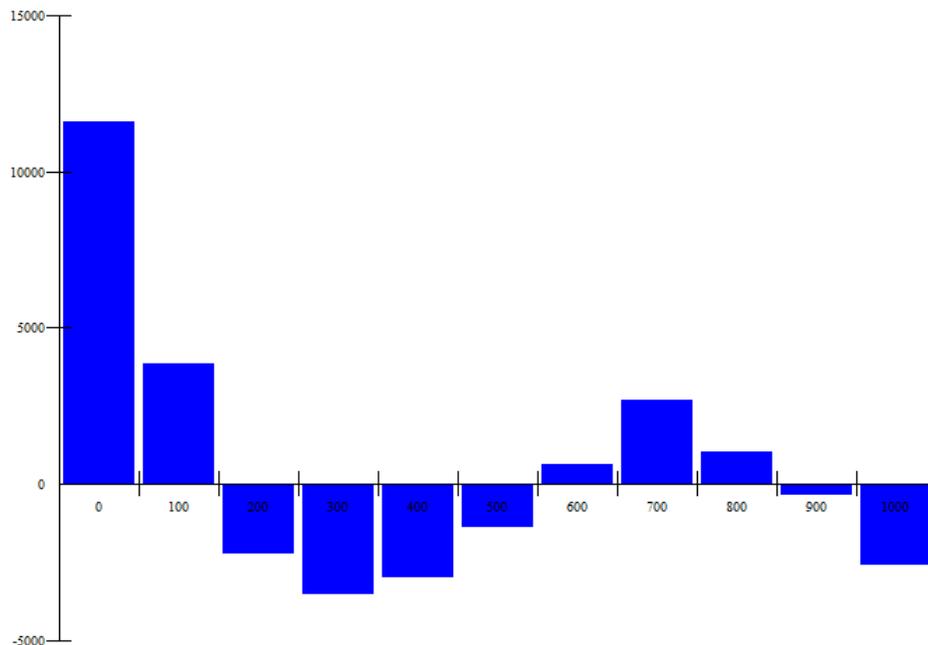
We can see that adding stops to the baseline system really hurts the performance until you get around \$3,000. This is a huge stop for a system that only scalps the market. The next step to test is a break-even stop. In this case I'm testing the threshold value from \$0 to \$1,000 in increments of \$100. The results are below with the threshold value in dollars on the x-axis and the net profit generated by the system on the y-axis.



Well, this type of stop may help our performance we must remember this stop only becomes active after we show positive equity on our trade. That means this stop can't be used alone as

## Testing A Euro Currency Scalping Strategy

a trade can move directly against us and this stop will not even be active. That's not much help. The next stop to test is a dollar trailing stop. In this case I'm testing a stop value from \$0 to \$1,000 in increments of \$100. The results are below with the dollar trailing stop on the x-axis and the net profit generated by the system on the y-axis.

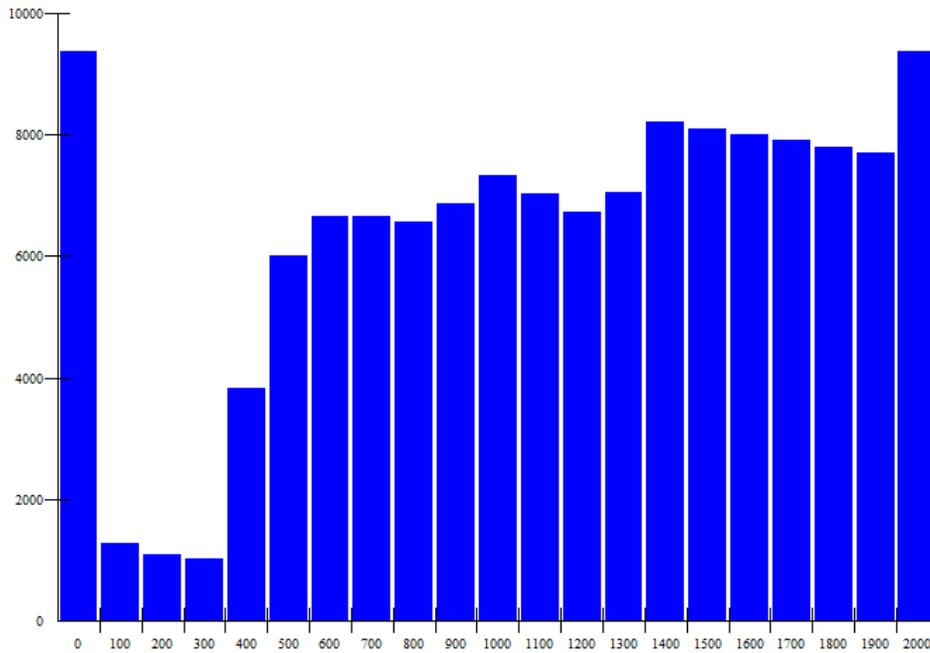


Not much help here as well. I'm noticing a pattern here. Our testing of a stop value on the baseline system does not seem to be producing very helpful results. While it may seem a bit strange, I often will test the stop value first on the baseline in order to discover which stop performs better than others. This is all to help avoid over fitting our system to the historical data. But it's not always possible to do. This is one of those cases. We will be required to test our stop values on the final system.

To test the stop on the final system we are going to use TradeStation's optimization feature, as we did above, and we will be looking for two things. First, is there a stable region where our optimized parameter falls? Second, does the parameter appear robust? In short, we are looking to make sure that the parameter remains profitable over several values. This helps demonstrate robustness in our particular stop we are testing. We also want to be sure not to pick an outlier just because it makes our system performance look much better. We want to pick a mid-point value within a stable range.

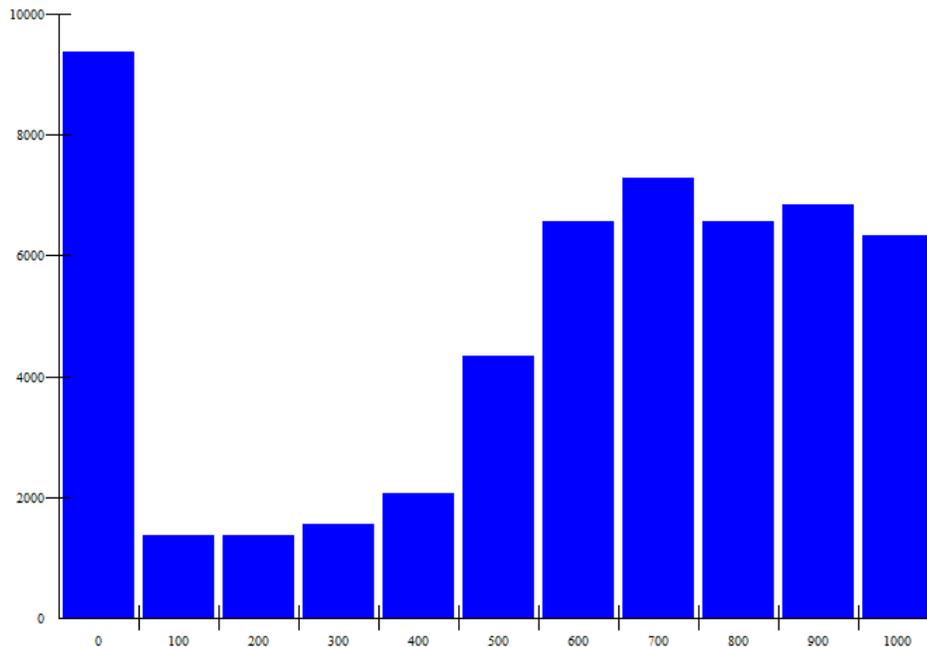
Let's first look again at the hard stop value.

## Testing A Euro Currency Scalping Strategy



This looks a little better. We made the stop loss a little smaller by bringing it down from \$3,000 to \$2,000. If you risk 2% per trade this means we would ideally have a \$100,000 trading account to trade such a system. While this is a step in the right direction it does not seem very realistic.

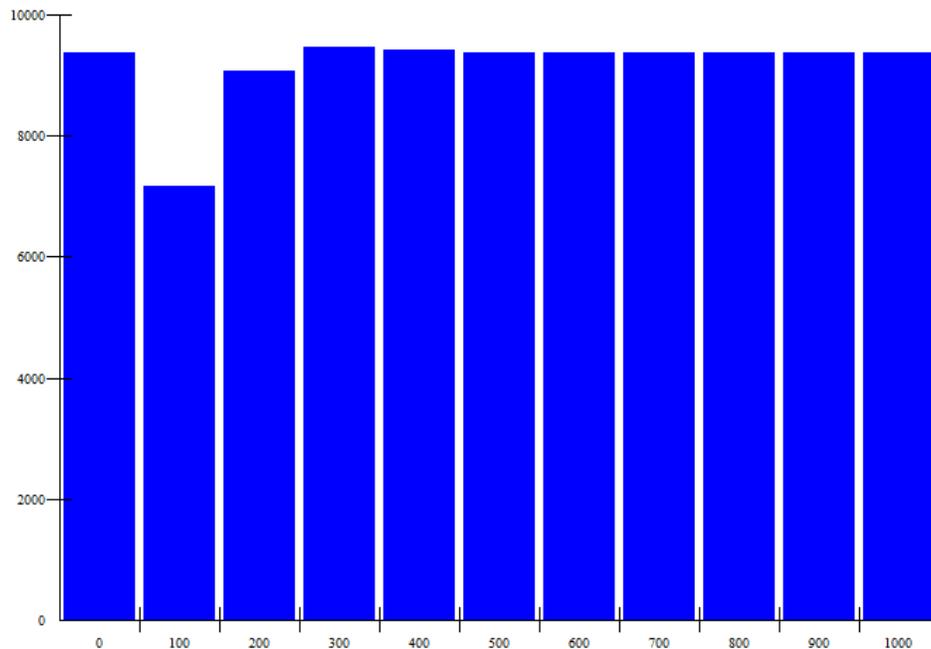
Here is the dollar trailing graph.



## Testing A Euro Currency Scalping Strategy

With the dollar trailing we can see a stable range between \$600 and \$1,000. So this appears to be a robust stop and a midpoint value of \$800 is better than our original \$2,000 stop. But can we do any better?

Next is our break even stop.



With the break even stop at \$300 might help our system but remember, the break even only activates when we have an open profit of \$300. We still have drawdowns in the \$700, \$800 and \$1,000 dollar range!

I went on to test several other stops including ATR trailing stops, ATR stops, ATR Square Root stops and even Noise Tolerant Money Management Stops. However, none really looked that promising.

Stops can really be tricky when trying to add them to a trading system. As for now, I'm hitting a wall with this one. I've looked at the losing trades for this system and the median maximum adverse excursion is \$125. The average losing trade is \$78. Looking at the largest losing trades we have only 8 that are greater than \$1,000. I guess the point I'm making is this: the system has these characteristics...

1. A stop needs plenty of room to play out.
2. A hard stop is for a catastrophic loss while most trades are taken out with our dynamic exit at a much lower loss.

This looks like the classic example where we make money for years on a system only to have a couple of \$2,000 stops really take a bite out of our profits. This does not sit well with me. We

## Testing A Euro Currency Scalping Strategy

should attempt to find a better stop and or entry point before we move on to testing our system on the OOS data.

One area which has not been explored is enhancing the entry technique. Currently when a setup occurs we just open a trade at the open of the next bar. Perhaps buying on a limit order at the low of the last bar or waiting for a deeper pullback after the setup would be more desirable. Maybe buying into strength after a setup occurs. These are all ideas worth testing.

You can download the source code by visiting the link below. I would love to hear any recommendations. Feel free to leave a comment at the website.

### Source Code:

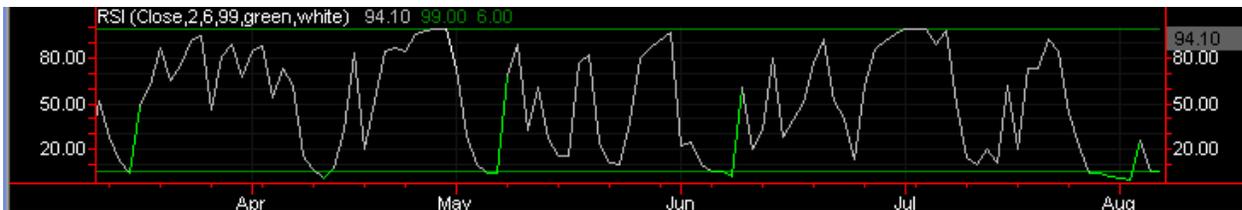
<http://systemtradersuccess.com/euro-currency-scalping-strategy/>



# RSI And How To Profit From It

We all know there are no magic indicators but there is one that certainly acted like magic over the past 10 years or so. What indicator is it? Our reliable RSI. In this article we are going to look at two trading models that were first talked about in the book, “Short Term Trading Strategies That Work” by Larry Connors and Cesar Alvarez. It has been well established in various articles that a 2-period RSI on the daily chart of the stock index markets has been a fantastic tool for finding entry points. Sharp price drops in the S&P E-Mini futures during bullish markets have historically (since the year 2000) been followed by reversals. These reversals can often be detected by using the standard RSI indicator with a period value of two. Place this indicator on a daily chart and look for points when the indicator falls below five, for example. These extreme low points are buying opportunities.

## RSI And How To Profit From It



### RSI(2) System

We can turn this into a simple trading model to test the effectiveness of the RSI(2) indicator on the E-mini S&P. In short, we wish to go long on the S&P when it experiences a pullback in a bull market. We can use a 200-day simple moving average to determine when we are in a bull trend and using a 2-period RSI to locate high probability entry points. We can then exit when price closes above a 5-day simple moving average. The rules are clear and simple:

- Price must be above its 200-day moving average.
- Buy on close when cumulative RSI(2) is below 5.
- Exit when price closes above the 5-day moving average.
- Use a \$1000 catastrophic stop loss.

The system backtest was performed from September 1997 through March 2012. A total of \$50 for commissions and slippage was deducted per round trip. Below is a chart of what this system would look like along with the system results.

### RSI(2) System Results

*Net Profit: \$17,163*

*Percent Winners: 67%*

*No. Trades: 64*

*Ave Trade: \$268.16*

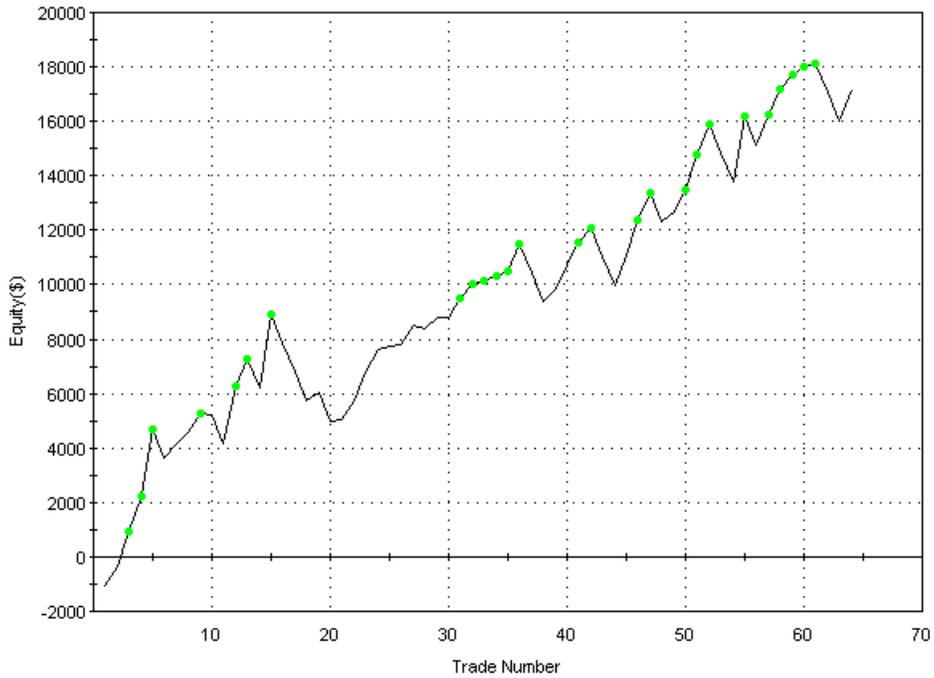
*Max Drawdown: -\$5,075*

*Profit Factor: 1.90*

# RSI And How To Profit From It



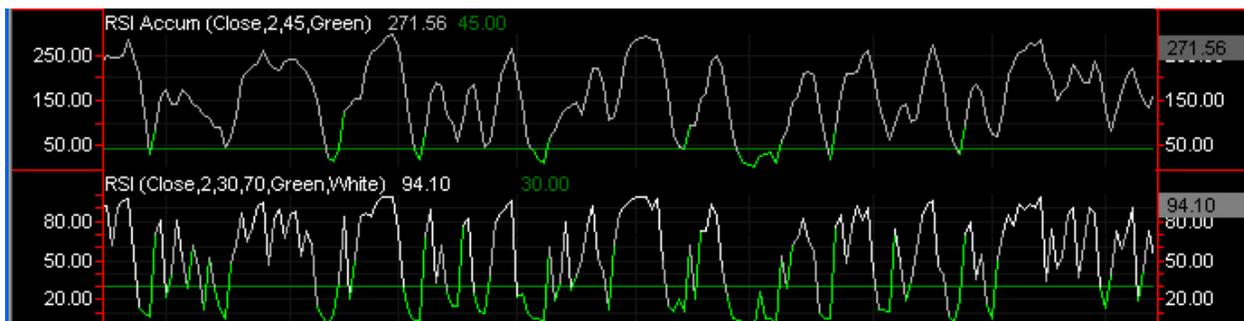
Equity Curve Line - @ES Daily(09/11/97 15:15 - 03/16/12 15:15)



These results are great considering we have such a simple system. This demonstrates the power the RSI(2) indicator has had now for well over a decade. Just with this concept alone you can develop several trading systems. For now, let's see if we can improve upon these results.

### Accumulated RSI(2) Strategy

Larry Connors adds a slight twist to the RSI(2) trading model by creating an accumulated RSI value. Instead of a single calculation we will be computing a running daily total of the 2-period RSI. In this case, we are going to use the total of the 2-period RSI for the past three days. When you keep an accumulated value of the RSI(2) you smooth out the values. Below is a chart comparing the standard 2-period RSI indicator with an accumulated 2-period RSI indicator. You can see how much smoother our new indicator is. This is done to reduce the number of trades in hopes of capturing the quality trades. In short, it's an attempt to improve the efficiency of our original trading model.



The rules are:

- Price must be above its 200-day moving average.
- Buy on close when cumulative RSI(2) of the past three days is below 45.
- Exit when RSI(2) of the close of current day is above 65.
- Use a \$1000 catastrophic stop loss.

### Accumulated RSI(2) System Results

*Net Profit: \$17,412*

*Percent Winners: 67%*

*No. Trades: 52*

*Ave Trade: \$334.86*

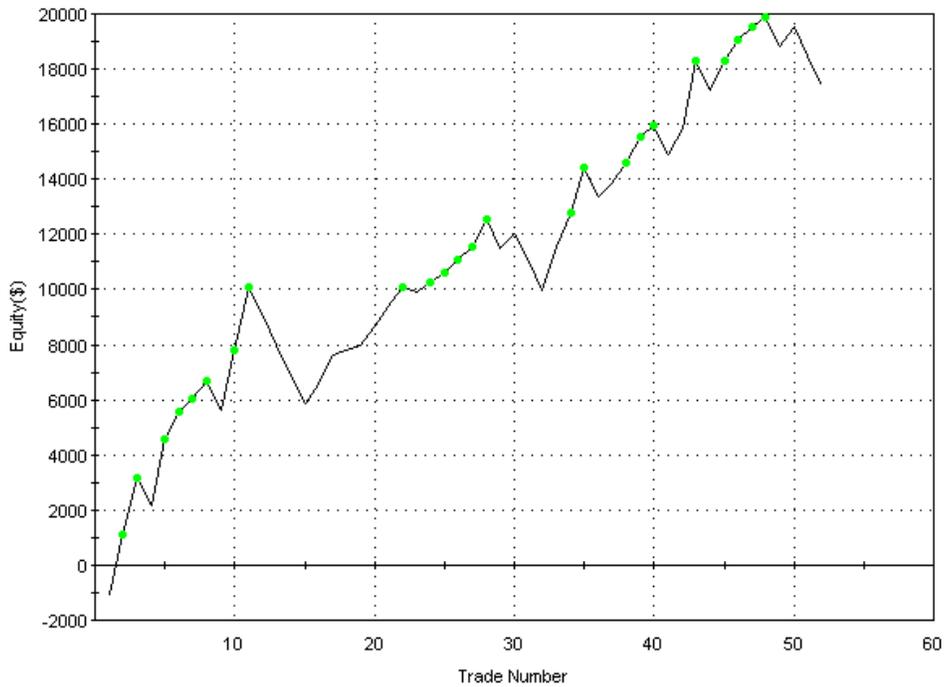
*Max Drawdown: -\$4,850*

*Profit Factor: 2.02*

# RSI And How To Profit From It

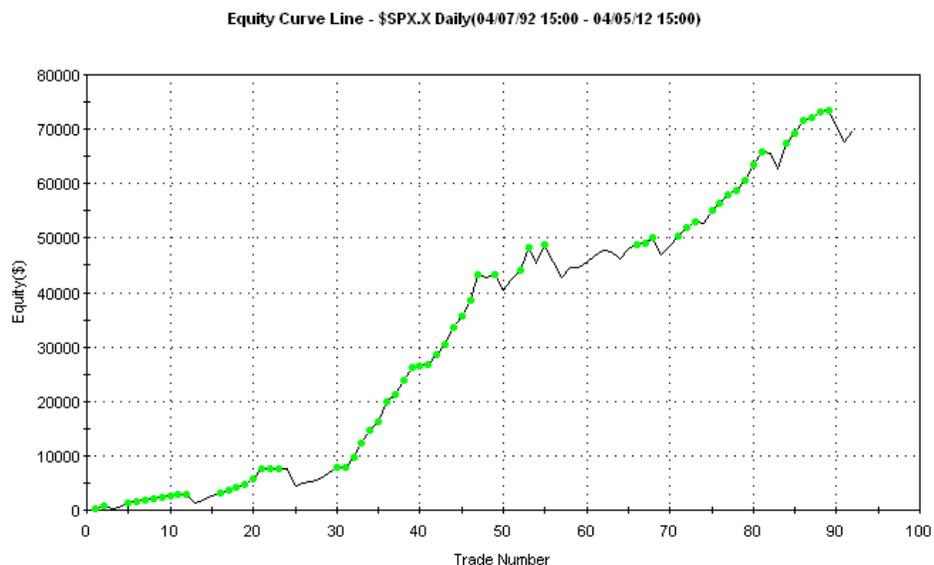


Equity Curve Line - @ES Daily(09/11/97 15:15 - 03/16/12 15:15)



### S&P Cash Market

What would the 2-period RSI system look like trading 100 shares of the S&P cash market going back to 1993? It does rather well.



### Conclusions

So which one is better? The accumulated strategy worked as intended. It increased the efficiency of the standard RSI(2) trading model by reducing the number of trades, yet produced about the same amount of net profit. As a bonus, the drawdown was slightly smaller. While both systems do a fantastic job, the accumulation strategy may do a slightly better job. The Accumulated RSI(2) strategy will work well on the mini Dow as well as the two ETFs, DIA and SPY.

The EasyLanguage code is available as a free download by visiting the link below. There is also a TradeStation workspace. Please note, the trading concept and the code as provided is not a complete trading system. It is simply a demonstration of a robust entry method that can be used as a core of a trading system. So, for those of you who are interested in building your own trading systems this concept may be a great starting point.

### Source Code:

<http://systemtradersuccess.com/rsi-and-how-to-profit-from-it/>



# Better Breakout Trading Model

In this article I will demonstrate a simple breakout strategy for the S&P that utilizes a breakout trading method that has produced consistent results on the S&P E-mini futures market since 1987.

In a recent article entitled, “Better Breakouts In The Electronic Age“, from the October issue of *Futures Magazine*, author Murray A. Ruggiero, Jr. describes how breakout strategies on the S&P market do not perform so well. It’s been my experience that breakout strategies, such as the common open-range breakout, on the E-mini futures market do not work that great. These types of strategies make use of the market’s 0830 Central open as a key price level to base long and short trades from. An offset value from the open price is calculated and a stop-buy order is placed above the open and a stop-sell order is placed below the open. The

market is then free to move in either direction taking you into either a long trade or a short trade. The opposite resting order then acts as your initial stop loss value.

Ruggiero suggests that the electronic age has significantly reduced the open-range breakout strategy's effectiveness. Why? The once important 0830 Central open of the cash session holds far less importance today as it did in the past because of the nearly 24hr access to the electronic market from any Internet enabled computer. Ruggiero puts it like this...

*“The electronic markets have destroyed opening range breakouts for futures markets. Previously, markets were closed for 12 hours or more, whereas now they are closed only for a few hours, if that (30 minutes for E-minis). This has, in turn, made the open ineffective. Although the close is a valuable reference point, it never worked as well as the open, which was a powerful reflection of overnight sentiment shifts because of various reports, such as inflation and unemployment. While the open has lost its significance for commodity futures, stocks still are sensitive to this price point. Although most stocks trade overnight, volume is light and for N.Y. Stock Exchange stocks, we still have a specialist involved in opening the stocks each day.”*

While I have no idea if this is the real culprit causing the loss of effectiveness in such trading strategies, breakout strategies on the S&P are difficult beasts to master. In my personal opinion, mean reverting strategies often perform better on the S&P, but let's look at what Ruggiero has to say.

Ruggiero goes on to develop a test strategy designed to explore the market's behavior in an attempt to help locate a potential “fix” to the problem of poor performance. I will not get into the details here simply because I would like to focus on Ruggiero's solution and convert it into TradeStation's EasyLanguage. However, I will say this: Ruggiero's experiment was designed to find a better offset or stretch formula and to test what filter might help improve the performance. I found it interesting that attempting to filter trades by volatility did not help. Ruggiero tested taking trades only when the current volatility was rising above an average volatility. You would think this would be a perfect time to take trades, but it wasn't. In the end, Ruggiero comes up with two very simple rules that produce very interesting results.

### The New Offset Formula

The offset is based upon yesterday's price action. More specifically yesterday's close, yesterday's high and yesterday's low. The formula looks like this:

```
LowOffset = Absvalue( Close data2 - Low data2 );  
HighOffset = Absvalue( Close data2 - High data2);  
MaxOffset = Maxlist( LowOffset, HighOffset );  
MaxOffsetAvg = Average( MaxOffset, 3 );
```

## Better Breakout Trading Model

In the above code you can see we are using “data2” on many of the price references. In this case, this simply means we are looking at the daily bar chart to get these values. The breakout system we are creating will be trading on a 5-minute chart, but we also wish to reference the daily chart located on data2. We first take the difference between yesterday’s close and the two major price extremes. We then take the larger value of these two values and compute the three-day average. This final value is our offset and is called MaxOffsetAvg in our code.

This **MaxOffsetAvg** is then applied to the value of yesterday’s close to produce a breakout price where we will place our order to go-long. Below is a code example to place our stop-buy order.

```
Buy("LE") next bar at Close data2 + MaxOffsetAvg stop;
```

### Momentum Filter

Ruggiero goes on to apply a simple momentum filter to his trades. The momentum calculation is nothing more than the difference between yesterday’s closing price and the average closing price over the past 40 days.

```
vMomentum = Close data2 - Average( Close data2, Lookback );
```

You will notice when the momentum filter is applied, the system will only take long trades when the momentum is negative. In other words, we are looking for falling price action before we place our long orders.

```
If ( vMomentum < 0 ) And ( EntriesToday(Date) = 0 ) Then Buy("LE") next bar at Close
```

### Baseline System

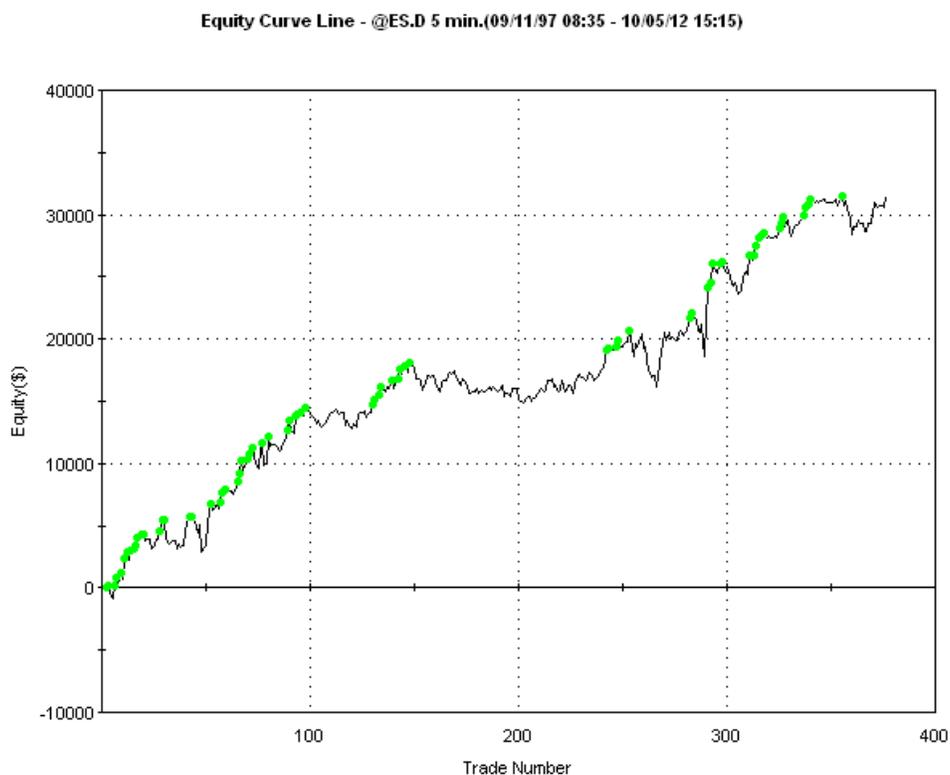
With these simple rules Ruggiero has developed a breakout trading model for the S&P E-mini market. All the following examples are generated from historical price action of the S&P E-mini futures market from 1987 to October 5, 2012. A total of \$30 was deducted from each trade to account for slippage and commissions.

## Better Breakout Baseline Results

|                       | Baseline |
|-----------------------|----------|
| Net Profit            | \$31,338 |
| Profit Factor         | 1.47     |
| Total Trades          | 377      |
| % Winners             | 59%      |
| Avg. Trade Net Profit | \$83.23  |

## Better Breakout Trading Model

|                         |         |
|-------------------------|---------|
| Annual Rate of Return   | 9.43%   |
| Sharpe Ratio            | 0.29    |
| Max Drawdown (Intraday) | \$5,527 |
| Expectancy              | 0.20    |
| Expectancy Score        | 5.16    |



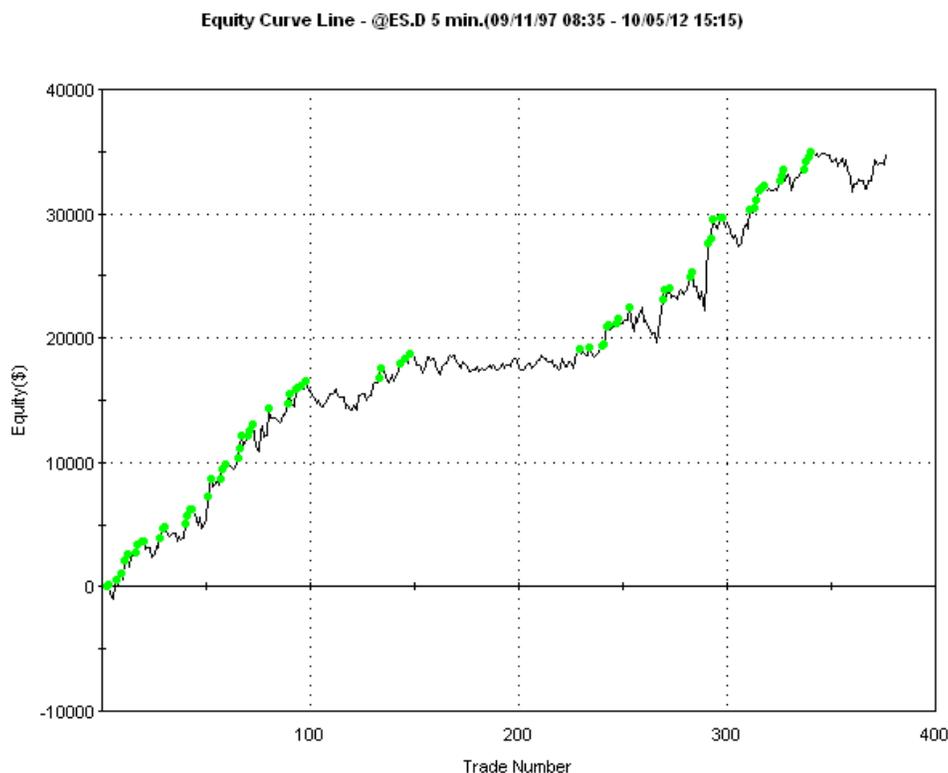
The equity graph looks very good considering we are trading a breakout system across the entire lifespan of the S&P E-mini. There are some flat periods during the growth of the curve and there are a few sharp drawdown periods. But also remember we don't have any stops applied to this system. The entry rules are dynamic, adjusting to the ever changing market volatility. The 40-day lookback period for the momentum filter is not optimized and other values around it also produce positive results. Overall, this baseline system looks very good in my opinion. It's a promising start to a potential profitable trading model.

### Baseline With Offset Stop Loss

The baseline system does not have a stop loss. Let's add a dynamic stop loss to it. The most obvious stop level is to use our **MaxOffsetAvg** value. Once a trade is opened, simply place a stop order **MaxOffsetAvg** distance from our entry. Doing this produces the following results.

## Better Breakout With Offset Stop

|                         | Baseline | Offset Stop |
|-------------------------|----------|-------------|
| Net Profit              | \$31,338 | \$34,738    |
| Profit Factor           | 1.47     | 1.56        |
| Total Trades            | 377      | 377         |
| % Winners               | 59%      | 58%         |
| Avg. Trade Net Profit   | \$83.23  | \$92.12     |
| Annual Rate of Return   | 9.43%    | 9.95%       |
| Sharpe Ratio            | 0.29     | 0.32        |
| Max Drawdown (Intraday) | \$5,527  | \$3,878     |
| Expectancy              | 0.20     | 0.24        |
| Expectancy Score        | 5.16     | 6.25        |



The performance numbers certainly improved. We reduced our drawdown while increasing all other performance measures. Adding a stop clearly improved the system. This got me

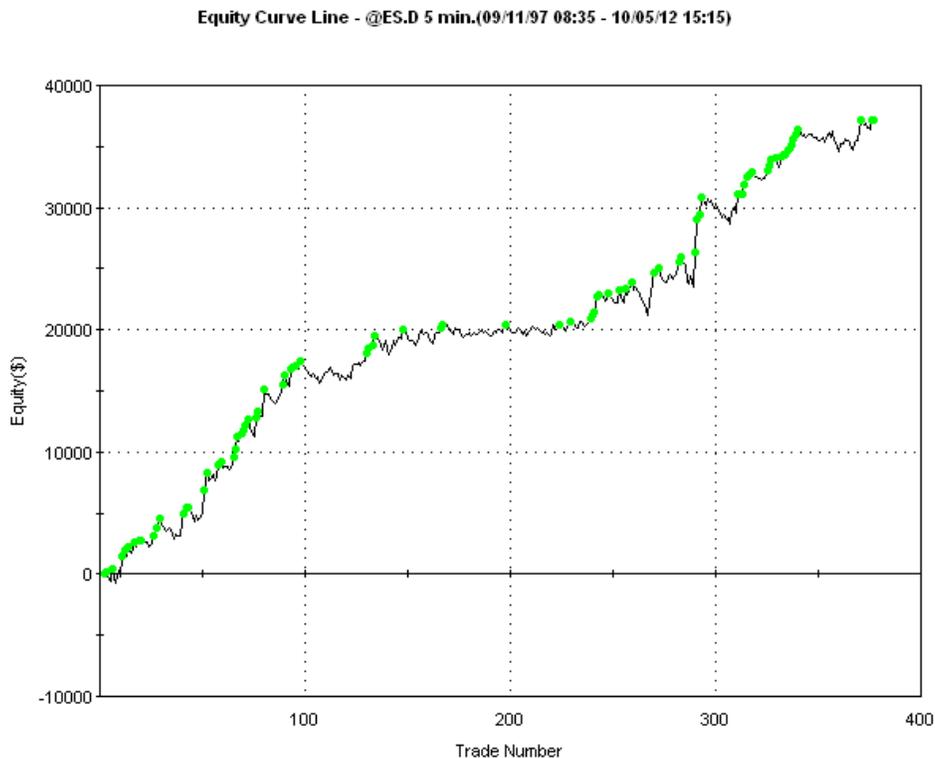
## Better Breakout Trading Model

wondering what would taking half the **MaxOffsetAvg** value as a stop value look like. I like the idea that a breakout should not retrace much thus, we should only risk half the breakout range. These results are below.

### Better Breakout With 1/2 Offset Stop

|                         | Baseline | Offset Stop | 1/2 Offset Stop |
|-------------------------|----------|-------------|-----------------|
| Net Profit              | \$31,338 | \$34,738    | \$37,153        |
| Profit Factor           | 1.47     | 1.56        | 1.67            |
| Total Trades            | 377      | 377         | 377             |
| % Winners               | 59%      | 58%         | 53%             |
| Avg. Trade Net Profit   | \$83.23  | 492.12      | \$98.55         |
| Annual Rate of Return   | 9.43%    | 9.95%       | 10.30%          |
| Sharpe Ratio            | 0.29     | 0.32        | 0.35            |
| Max Drawdown (Intraday) | \$5,527  | \$3,878     | \$3,465         |
| Expectancy              | 0.20     | 0.24        | 0.32            |
| Expectancy Score        | 5.16     | 6.25        | 8.31            |

## Better Breakout Trading Model



It looks like we have improved the system again. While the percentage of winning trades has fallen, we reduced our risk, thus improved most of the performance metrics. Overall, this looks promising. Ruggiero has developed a very interesting breakout concept and I thank him for sharing his ideas.

### Conclusions

There is so much more that could be tested on this system. What about a regime filter? What about taking short trades by reversing our momentum filter? But this is a fantastic start for a profitable trading system. It looks like we just might have a winner here. I encourage you developers reading this to pursue this concept and share your ideas by leaving a comment on the website.

### Source Code:

<http://systemtradersuccess.com/better-breakout-trading-system/>



# Simple Shorting Strategy

Over the years I've looked at several very simple long strategies that were published in the book, "Short Term Trading Strategies That Work" by Larry Connors and Cesar Alvarez. Those articles include the following long strategies:

- Double Seven Strategy
- RSI(2) Strategy
- VIX Stretch Strategy
- RSI And VIX Strategy

Buried within Connors and Alvarez's book you will find one simple shorting strategy which can be used on the major market indices. In this article I will review this strategy and also combine it with the Double Shorting strategy we explored a couple of weeks back.

## [Simple Shorting Strategy](#)

The rules of this system are very simple.

## Simple Shorting Strategy

- The instrument must be below its 200 day moving average.
- If the instrument closes up for four or more days in a row, sell short at close.
- Cover your position when price closes below a 5-day SMA at open of next bar.

The trading model is very simple and attempts to fade strong bullish moves when the overall market sentiment is bearish. By only taking trades when the market is below its 200-day SMA we are ensuring bears are in control. We then attempt to sell into short-term bullish strength as defined by four days of consecutive market advances.

Below is a screenshot showing example trades on the S&P Cash Index. Click the image for a larger view.



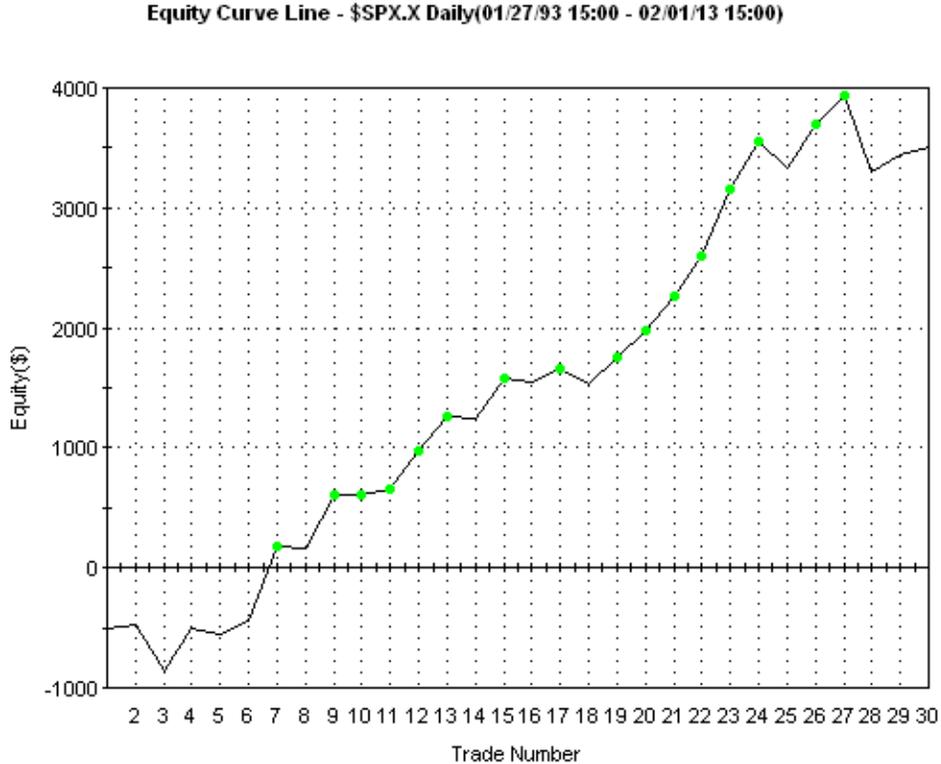
Unless otherwise stated, all the tests performed in this article will be based on the following assumptions:

- Starting account size of \$100,000.
- Dates tested are from 1993 through January 31, 2013.
- The number of shares traded will be based on volatility estimation and risking no more than \$2,000 per trade.
- Volatility is estimated with a five times 20-day ATR calculation. This is done to normalize the amount of risk per trade.
- The P&L is not accumulated to the starting equity.
- There are no deductions for commissions and slippage.
- There are no stops.

Here is the position sizing formula used:

## Simple Shorting Strategy

$$\text{Shares} = \$2,000 \text{ per trade} / 5 * \text{ATR}(20) * \text{Big\_Point\_Value}$$



## Larry Connors Short Performance

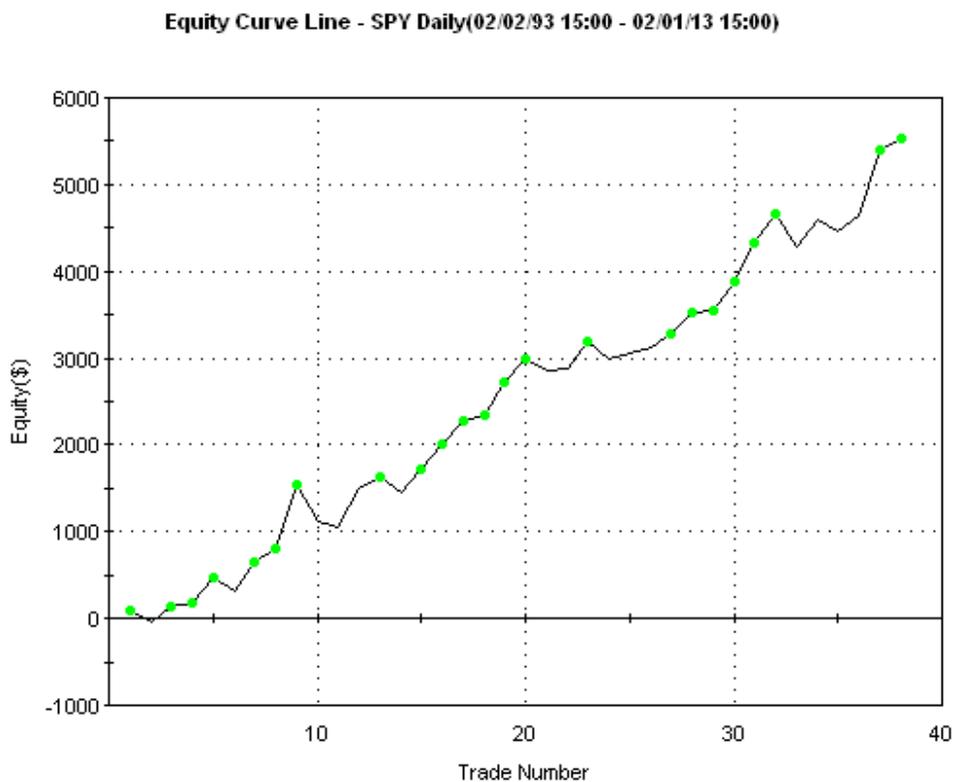
|                        | SPX      |
|------------------------|----------|
| Total Net Profit       | \$3,507  |
| Profit Factor          | 2.78     |
| Total Number of Trades | 30       |
| Percent Profitable     | 70%      |
| Avg. Trade Net Profit  | \$116.92 |
| Return on Capital      | 3.51%    |
| Annual Rate of Return  | 0.18%    |

Overall, this is not very impressive. With only 30-trades since 1993 we only generate 3.51% return on our capital. Of course the market bias is up, so most of the time we are not actively looking for trades. But even when we are looking for trades during those bear markets, this

## Simple Shorting Strategy

method is not capturing enough profit to make it worth pursuing. This is a similar result I wrote about in this article, “The Death Cross - What You Need To Know.”

While I don't expect much change, let's take a look at trading the ETF, SPY.



## Larry Connors Short SPY and SPX

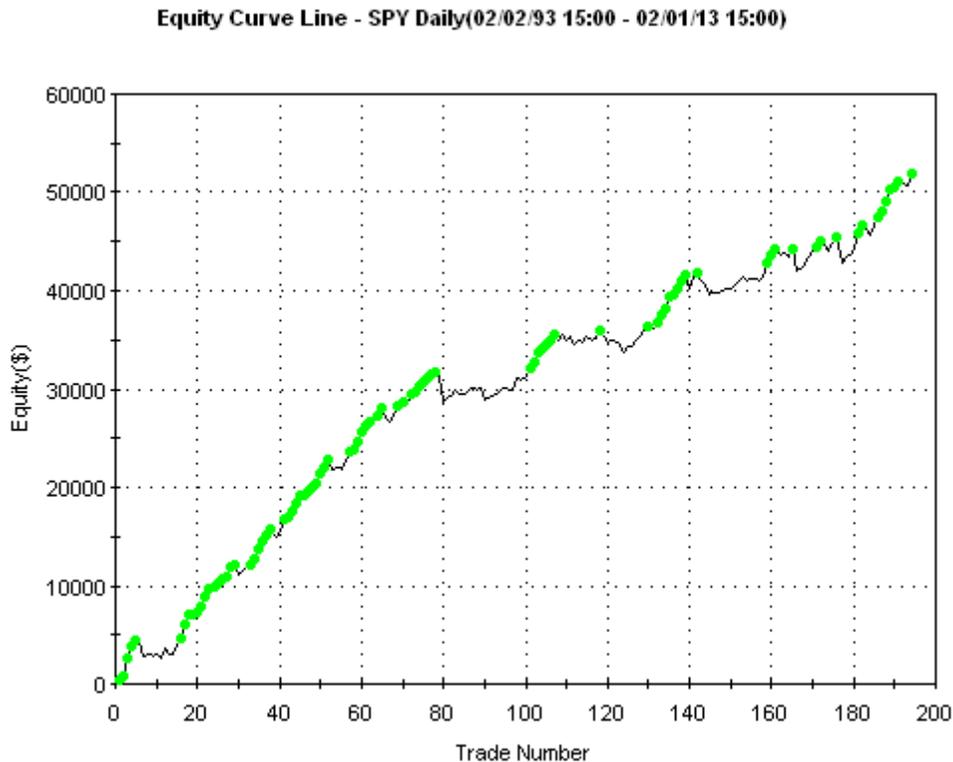
|                        | SPX      | SPY      |
|------------------------|----------|----------|
| Total Net Profit       | \$3,507  | \$5,536  |
| Profit Factor          | 2.78     | 4.08     |
| Total Number of Trades | 30       | 38       |
| Percent Profitable     | 70%      | 76%      |
| Avg. Trade Net Profit  | \$116.92 | \$145.69 |
| Return on Capital      | 3.51%    | 5.54%    |
| Annual Rate of Return  | 0.18%    | 0.28%    |

The results are slightly better but nothing too exciting.

## Simple Shorting Strategy

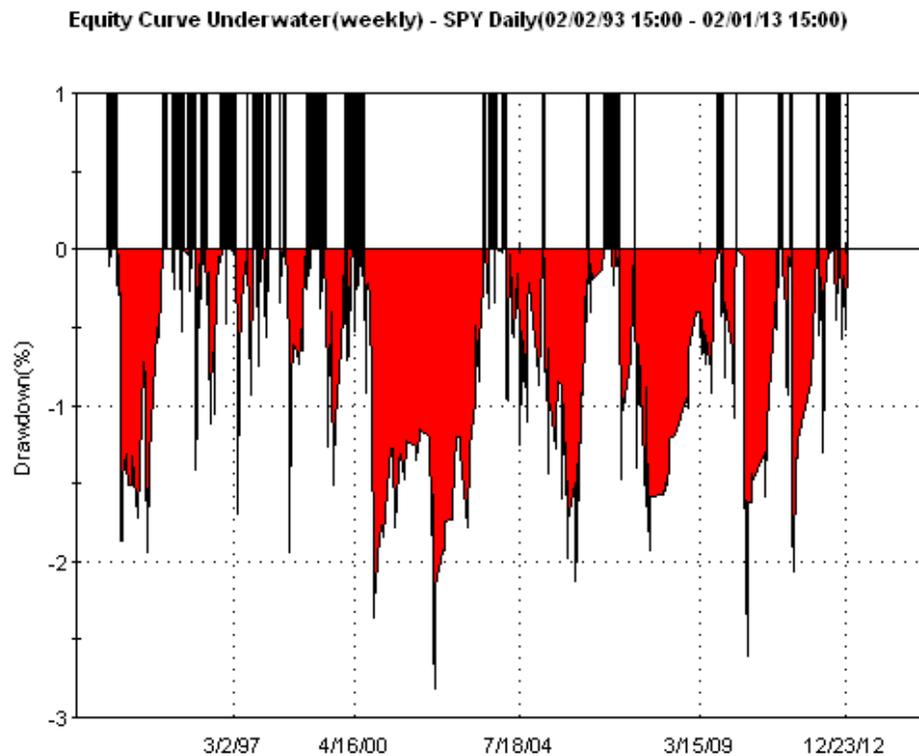
### Double Seven With Shorting

While we have determined that this shorting method is not that great, for fun let's add it to Larry Connors' long trading strategy we explored a few weeks back called Double Seven and use it to trade the SPY ETF. I simply updated the TradeStation strategy code from the previous article to take trades during a bull and bear market. During a bull market the Double Seven strategy will be actively taking trades while during a bear market the Connors Shorting strategy will be taking trades. Below are the results of combining these two strategies into a single system.



### Double Seven with Shorting Equity Curve

## Simple Shorting Strategy



### Double Seven with Shorting Weekly Drawdown

The performance chart below compares the Long Only system with the combined Long/Short system.

## Double Seven Strategy with Shorting

|                        | Long Only | Long & Short |
|------------------------|-----------|--------------|
| Total Net Profit       | \$46,325  | \$51,966     |
| Profit Factor          | 2.63      | 2.72         |
| Total Number of Trades | 156       | 194          |
| Percent Profitable     | 74%       | 75%          |
| Avg. Trade Net Profit  | \$296.96  | \$267.86     |
| Return on Capital      | 46.33%    | 51.97%       |
| Annual Rate of Return  | 1.98%     | 2.18%        |

## Simple Shorting Strategy

### Conclusion

The Double Seven Strategy with the shorting component does slightly improve the results of the long only Double Seven strategy. Is this system tradable with real money as is? Probably not. Remember, there are no stops. However, this does not mean it cannot be turned into a tradable system with a little work. Also keep in mind profits are not reinvested during the tests performed above. Each trade only risked \$2,000 which amounts to a 2% risk on a \$100,000 account. If you reinvest your profits while maintain a 2% risk per trade and/or increase your risk per trade, your returns will be greater.

### Source Code:

<http://systemtradersuccess.com/simple-shorting-strategy/>



# Using Fear To Time The Market

## Using Fear To Time The Market

Would you like to see a trading model that is 75% correct and consistently pulls money from the S&P? The following trading model is called the VIX Stretch Strategy and was found in a book called “Short Term Trading Strategies That Work” by Larry Connors and Cesar Alvarez. The concept is executed on a daily chart of the S&P E-mini futures market and the rules are very simple.

- 1) Price must be above its 200-day moving average
- 2) VIX must be stretched 5% or more above its 10-day moving average for 3 or more days
- 3) Exit when 2-period RSI crosses over 65

A 200-day simple moving average (SMA) acts as a simple market environment filter by dividing the market into two major regimes: bullish and bearish. Since the strategy only goes long, trades are initiated if the closing price is above the 200-day SMA filter.

The next rule utilizes the VIX which is a measure of the implied volatility of the S&P 500 index options. This is sometimes called the fear index. Why? You will see this index climb dramatically when the market sharply falls and market participants become fearful. Thus, spikes in the VIX index are often associated with steep or dramatic market selling. Since we are looking for a market downturn to open a long trade when we are within a longer term bullish trend, we use the VIX index to gauge the market downturn. Buying the dips within an overall bull market is a classic trading setup. It's also interesting to note we are not simply using price action to gauge a market downturn. By using VIX to gauge the level of the market downturn we are measuring the increasing volatility seen in the S&P 500 index option prices. Thus, we are not measuring a pullback in price directly, but indirectly.

The final rule is our exit rule which uses a 2-period RSI. Upon the close of the daily bar the RSI is calculated and if this value is above 65 we exit at the close. I coded these rules in EasyLanguage and tested it on the S&P cash market going back to 1983. It did rather well. Before getting into the details of the results let me say this: All the tests within this article are going to use the following assumptions:

- Starting account size of \$100,000.
- Dates tested are from 1983 through March 31, 2013.
- The number of shares traded will be based on volatility estimation and risking no more than \$2,000 per trade.
- Volatility is estimated with a five times 10-day ATR calculation. This is done to normalize the amount of risk per trade.
- The P&L is not accumulated to the starting equity.
- There are no deductions for commissions and slippage.

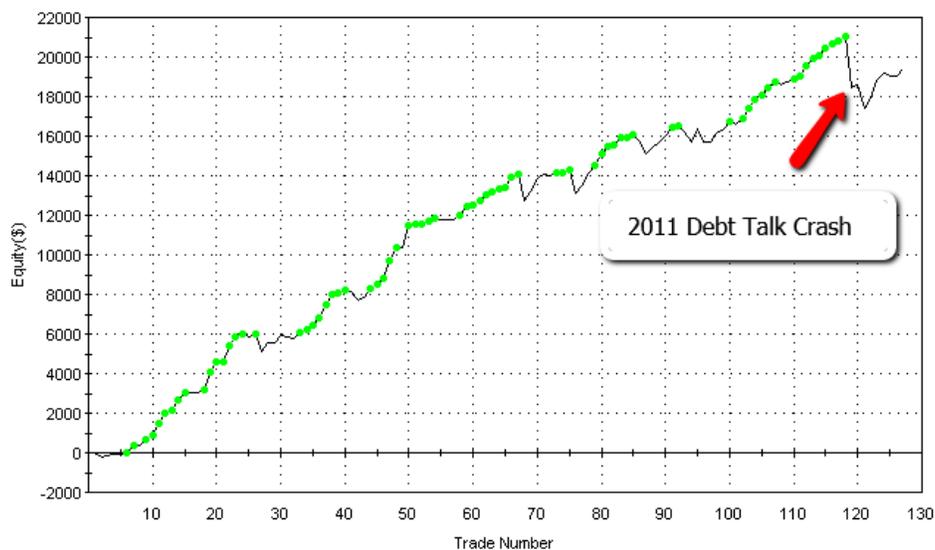
## Using Fear To Time The Market

- There are no stops.

Here is the position sizing formula used:

$$\text{Shares} = \$2,000 \text{ per trade} / 5 * \text{ATR}(10)$$

Below are the results for the S&P cash index trading the rules as defined by the original creator of the system.



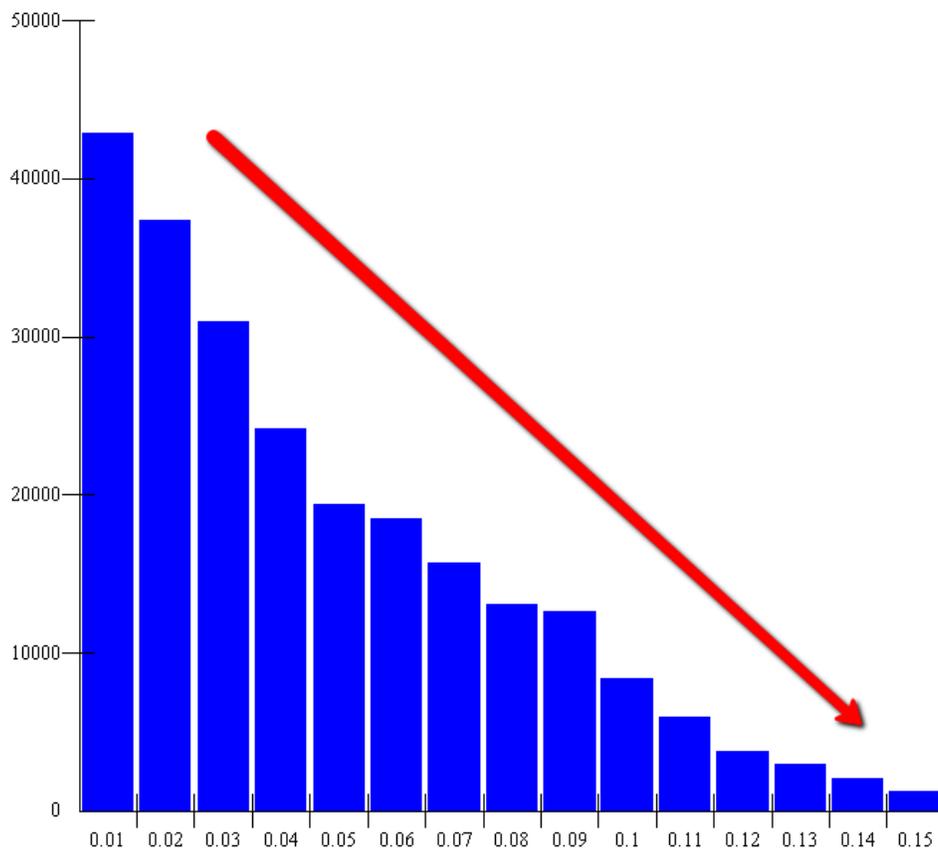
This strategy, like many of the Connors trading models, did well until late summer of 2011 when U.S. debt talks spooked the market into a series of strong bear days. The trading model as it currently stands does not have any protective stops! Remember, this is a study of a potential market edge that could be exploited with a complete trading system. But as it stands, it's not a complete system. However, even after the big crash in 2011 the system continues to produce winning trades so I'm not overly worried about that single big loss, for now. I'm more interested in testing the robustness of the input values surrounding this basic system premise. Let's look at a few of those inputs now.

### Testing Stretch Factor

The original rules look for three consecutive days where the VIX is stretched 5% beyond the 10-day average. I want to test different percentages around the original 5% values to see how well the system will hold up. This is done to test the robustness of this setting thus, the robustness of the trading model. A strong market edge will allow variations within the parameters of the model and still produce positive results. Ideally changing the stretch factor values should maintain positive results. What I don't want to see are small changes in the stretch factor changing the trading results dramatically.

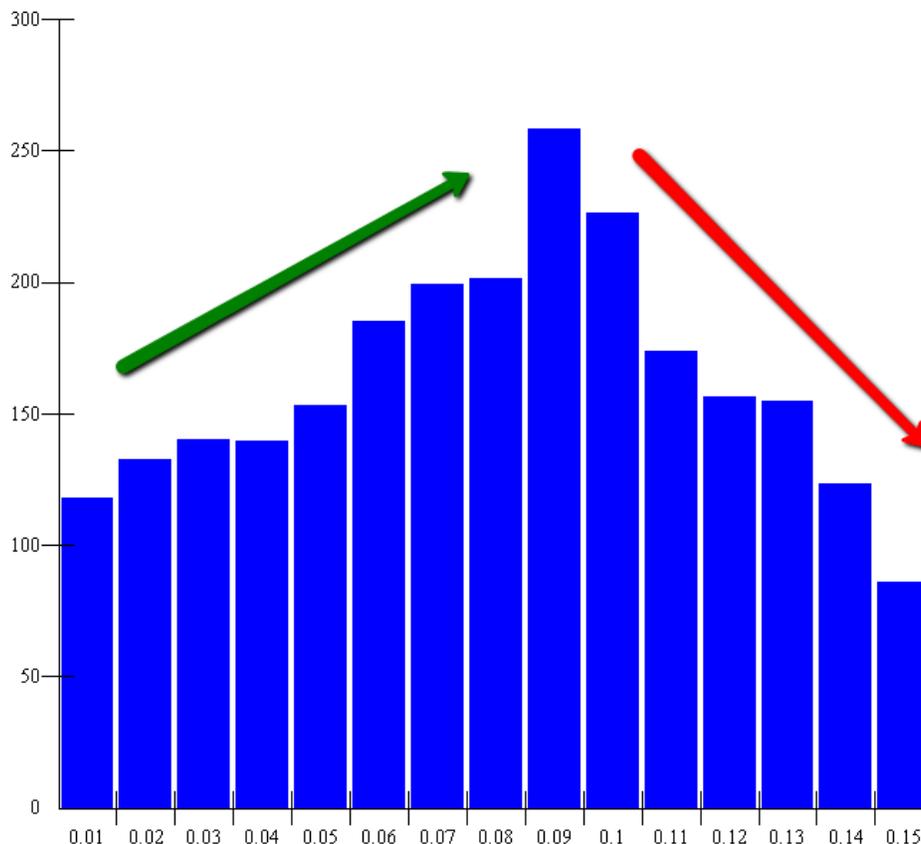
## Using Fear To Time The Market

I will test the stretch factor using TradeStation optimization feature. I will test stretch values of 1% - 15%. Below is a graph depicting the results. The x-axis depicts the percentages 1 - 15 and the y-axis depicts the profit generated for that particular run.



It's not too surprising to see we have fewer dollars generated by the system as we increase the stretch factor. It's a very orderly decent. Of course we'll have fewer trades as we require the VIX to be further and further stretched thus, we'll also have less profit. One may be tempted to simply take trades that are stretched beyond 1% and make \$40,000 in profit. However, what this does not tell us is how effective or efficient each trade may be. Sure you are making more money but how many trades is it taking to generate that return? Let's look this from another angle by graphing the average profit per trade vs. the stretch factor.

## Using Fear To Time The Market



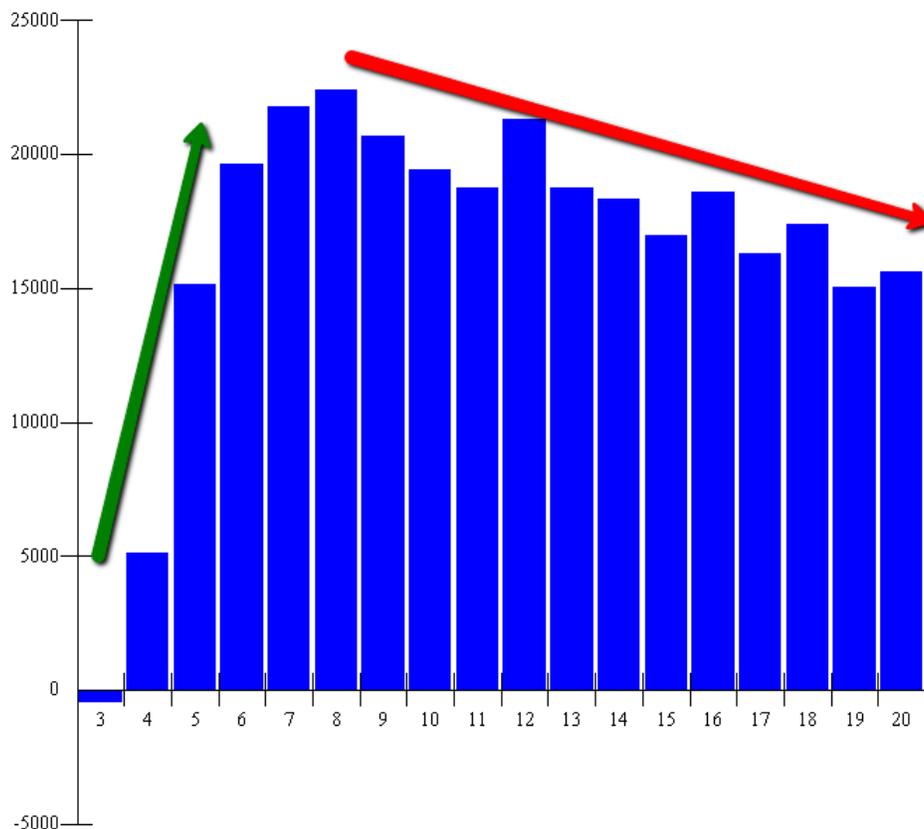
This is even more interesting. Notice as we go from a 1% stretch to around a 10% stretch we generate more dollars per trade. In other words, our system becomes more efficient. If we take all trades that generated by a 1% stretch or greater we make just over \$100 per trade. But we average around \$200 per trade when we get around 8% and go beyond that at 9% and 10%. Here we can see why a 5% value seems very reasonable and not optimized.

There is something else here too. Notice after the 10% stretch value our average profit falls off. This tells me that if the VIX is stretch beyond 10% price is likely to continue to fall! This is an important clue. Maybe limiting tradable setups to only between 5% and 10% would be a worthwhile test to conduct. For now let's leave it be and conclude a 5% stretch factor appears robust and not optimized. Let's look at another parameter.

### Testing SMA

For the same reasons as stated in the stretch factor test we just performed, I now want to look at the 10-day average parameter. Once again I will use TradeStation's optimize feature to test values over a 1-20 period. Below is a graph depicting the results. The x-axis depicts the look-back period used in the SMA calculation, 3 - 20, and the y-axis depicts the profit generated for that particular run.

## Using Fear To Time The Market

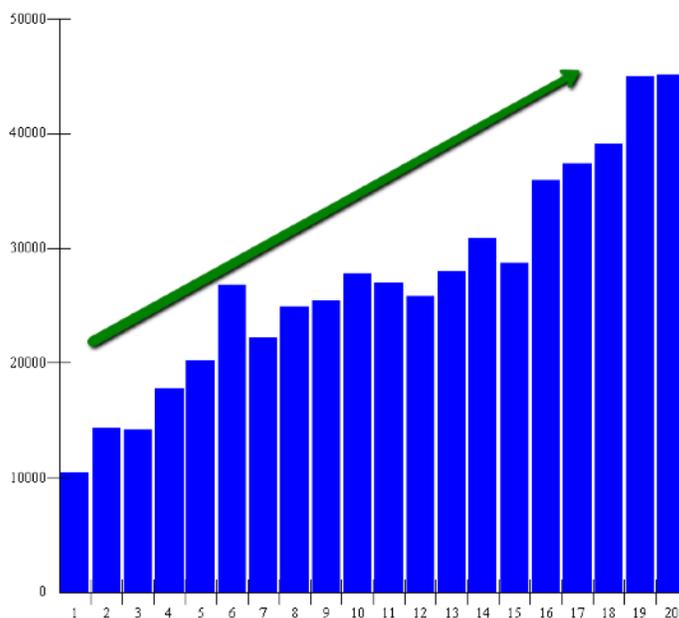


Here we are happy to see that there is a wide-range of profitable choices to pick for an SMA look-back period. Our current value of 10 does not look optimized at all. Now that we've look at the two important input values, let's look at how the market behaves after a trade is triggered.

### Post Event Market Behavior

After we have detected what we consider a spike in fear and we believe it's time to go-long the market, I want to test the market's general direction after such an event. Does the market tend to move lower, higher or not do much of anything? To test this I will simply hold a position X days after opening it then close it. I hope to see that after a VIX Stretch event occurs the market has a tendency to rise over the next few days or couple of weeks. Based upon my knowledge for testing other similar setups, I'm guessing this is exactly what we will see. I'm also guessing the longer we hold a trade, the more profit we generate. This would be consistent with other similar timing methods for the S&P. Below is a graph depicting the results. The x-axis depicts the hold period and the y-axis depicts the profit generated for that particular run.

## Using Fear To Time The Market



Bingo! Just as I thought. The longer you hold a trade, the more profit you make. I would guess the VIX Stretch system could easily be improved upon by looking to hold trades longer than the original rules provide.

### Conclusions

This appears to be another viable method for determining a high probability entry point. We have demonstrated that the parameters of this trading model appear robust, working across a variety of values. We have also demonstrated that the market tends to show a strong tendency to rise after a trade is triggered.

The code I used to generate the results is available at the bottom of this article. Is this a complete trading system that you can trade with your own money? Probably not. Please note the code used to generate these results has no stops! Most people would consider this a complete violation of the rules. I myself would not trade without stops. So a catastrophic hard stop may be added. In closing, this timing strategy is a great seed idea for building a complete trading system. With a little creativity I'm sure you could turn this into a winning system.

### Source Code:

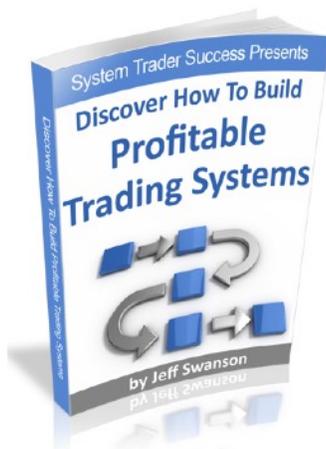
<http://systemtradersuccess.com/vix-stretch/>

# Make It Happen!

The strategies in this book can be turned into complete and profitable trading systems. The easiest system to start with is the Better Breakout Trading Model. Modifying and testing the basic strategy will provide many opportunities. However, modifying and testing strategies is not such a simple task and it's full of dangers.

Being a successful system trader is not just copying a systems from this eBook and trading it with some money. It's far more than that. You need to have the techniques to test the strategy properly so you'll have the confidence the system will work into the future. You need to know about the strategy's risk levels and what your personal risk tolerance is. You need to know how much money is required to trade each system. You need to be properly capitalized and educated otherwise you'll be doomed to failure.

Building trading systems is not easy. To get you started on this very topic I've written a 100+ page eBook on the very core fundamentals you'll need to build profitable systems.



100+ Page Ebook on  
**Building Profitable Trading Systems**  
Click Here To Learn More

[Learn More](#)

Hope you enjoyed this free eBook. If you did, you'll love my "Discover How To Build Profitable Trading Systems" eBook. It gives you the absolute essentials by showing you how to properly test trading ideas.

Best of luck and hope to see you at System Trader Success!

Truly,  
Jeff Swanson  
System Trader Success