Donchian Channel Breakout

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A Donchian Channel is created by determining the highest and lowest point in the last X number of days. The highest point during the last X number of days marks the top of the channel and the lowest point marks the bottom of the channel. A long entry signal is given when the price breaks out to the upside and a short entry signal is given when a price breaks to the downside.

This strategy was made famous by the Turtle Traders who used the strategy to successfully trade commodities in the 1980's. The Turtles were a group of people that were taught to trade by Richard Dennis and William Eckhardt and then given accounts to trade. The Turtles made millions of dollars during their trading careers and many went on to manage money for other people. The Turtles' entry strategy used either a 55 day or a 20 day Donchian Channel breakout.

Using Market Analyser we can test the effectiveness of a similar strategy in the markets today. I am using the Trading System in the Platinum version of Market Analyser to create the results that you see here today. Once you have successfully developed a strategy you can use the Analyser tool in Market Analyser to provide you with signals on a daily basis.

MA Trading System

In the Trading System we are going to develop a strategy based on a Donchian Channel breakout. The indicator to select in Market Analyser is the Price at Extreme and set the timeframe to the number of periods that you are interested in testing.

The test shares we will assess are the Top 20 Australian companies from 1/1/2000 up to 31/12/2008. This test period includes the bear market of 2002 as well as the credit crisis of 2008. Initially while developing the strategy the exit used will be to exit after 1 day of trading to take either a profit or a loss. Later we will apply a trailing type exit strategy. Initially I tested a 25 day Donchian Channel Breakout.

As can be seen from the results the strategy is profitable, but nothing spectacular. It makes a profit of $8,000, based on $100,000 capital and a trade size of $5,000 over eight years. It is not time to give up your day job just yet.

The Turtle Strategy which used a 55 day breakout is even worse losing $1,500, so not really a great strategy for today's market. A 10 day breakout makes $5,000, with the profit reaching as high as $40,000 before losing in 2008. A 5 day breakout makes $15,000 with a peak profit of $35,000.

The strategy makes money during a bullish market, but loses money when the market turns bearish as it did in 2002 and 2008. But let's find the market's secrets that may be hidden from view.

What a Difference a Day Makes

Maybe there are better days of the week to trade this strategy, so let's take a look at how this plays out. The results in the table below show what happens when you trade just one set day of the week following this strategy.

Day of Week	Profit
Monday	-$2,253
Tuesday	-$4,034
Wednesday	$5,492
Thursday	$3,563
Friday	$13,551

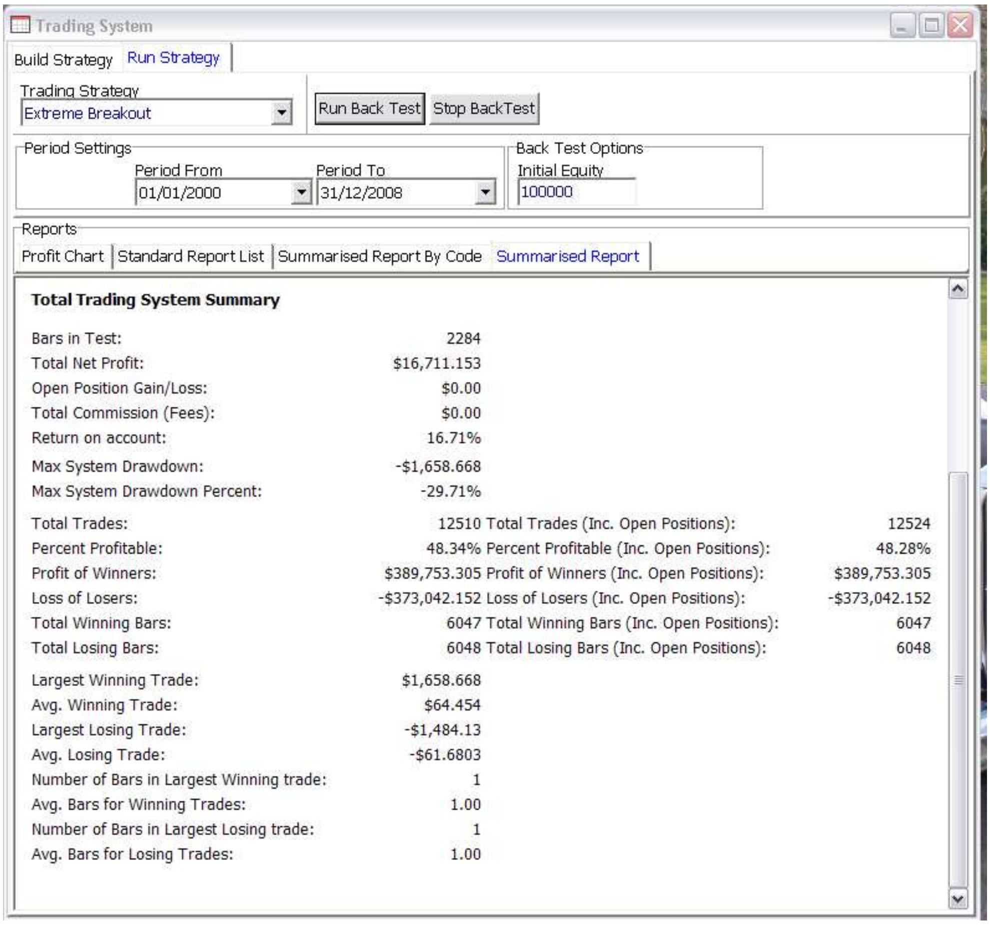
Wow what a difference a day makes! It would be best to stay in bed on Monday and Tuesday. So make sure you take the first two days of the week off when using this strategy and if you want to work only one day a week make sure it is a Friday. Now adding the criteria to trade on Wednesday, Thursday or Friday to the strategy produces the following results.

The strategy profit improves reaching over $30,000, but there were losses experienced during 2008 so it drops back to a return of $22,000. So it is time to add a different exit strategy, other than getting out one day after we get in, to see whether we can improve the results further.

Exit Strategy

Using a 4% trailing stop that is moved up each day following the share price as it rises actually produces worse results than exiting after 1 day in the position. While the peak profit is higher at $50,000 this strategy loses more money in a bear market environment.

By reviewing the summarised report we can now see the details of the overall strategy shown in the table below.



Trading System

Build Strategy | Run Strategy

Trading Strategy: Extreme Breakout

Run Back Test | Stop BackTest

Period Settings — Period From: 01/01/2000 — Period To: 31/12/2008

Back Test Options — Initial Equity: 100000

Reports: Profit Chart | Standard Report List | Summarised Report By Code | Summarised Report

Total Trading System Summary

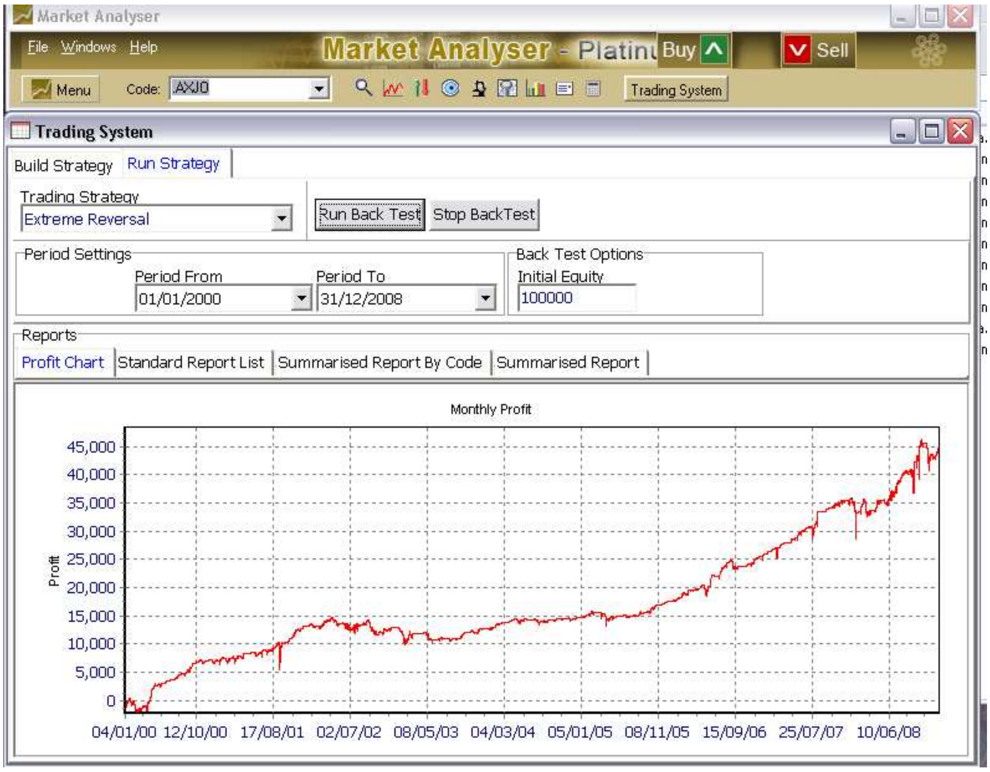
Bars in Test:	2284		
Total Net Profit:	$16,711.153		
Open Position Gain/Loss:	$0.00		
Total Commission (Fees):	$0.00		
Return on account:	16.71%		
Max System Drawdown:	-$1,658.668		
Max System Drawdown Percent:	-29.71%		
Total Trades:	12510	Total Trades (Inc. Open Positions):	12524
Percent Profitable:	48.34%	Percent Profitable (Inc. Open Positions):	48.28%
Profit of Winners:	$389,753.305	Profit of Winners (Inc. Open Positions):	$389,753.305
Loss of Losers:	-$373,042.152	Loss of Losers (Inc. Open Positions):	-$373,042.152
Total Winning Bars:	6047	Total Winning Bars (Inc. Open Positions):	6047
Total Losing Bars:	6048	Total Losing Bars (Inc. Open Positions):	6048
Largest Winning Trade:	$1,658.668		
Avg. Winning Trade:	$64.454		
Largest Losing Trade:	-$1,484.13		
Avg. Losing Trade:	-$61.6803		
Number of Bars in Largest Winning trade:	1		
Avg. Bars for Winning Trades:	1.00		
Number of Bars in Largest Losing trade:	1		
Avg. Bars for Losing Trades:	1.00		

The strategy is profitable 48% of the time and delivers an average win of $64 and an average loss of -$61. The hit rate is acceptable, but the risk reward at 1.04 has to be better for the strategy to be profitable overall. In summary this does not seem like a very good trading strategy. Testing different time frames and exits produces similar results, so trading Donchian Channel Breakouts is unlikely to be a wonderful strategy.

Turtle Soup

It would be nice to find a long only strategy that makes money even during a bear market, rather than just in a bullish market environment. For some of you this may seem like wishful thinking, but there is a way. So let's try turning this trading idea upside down. Instead of trading an upside Donchian Channel Breakout, we are going to trade a downside breakout by buying the share when it breaks down. In other words we are going to fade the breakout. This strategy has been referred to as Turtle Soup.

Using a 15 day Donchian Channel Breakout to the downside with a one day exit and the other parameters the same as we looked at before we find the following:



The strategy makes money even during 2008, which was a particular volatile time, and we are only trading on the long side here. Overall this strategy is up $45,000 over 8 years, based on a $100,000 capital base and $5,000 trades.

Trading Days To Avoid

As before there are better days of the week to trade this strategy, so let's take a look at how this plays out. The results in the table below show what happens when you trade just one set day of the week following this strategy.

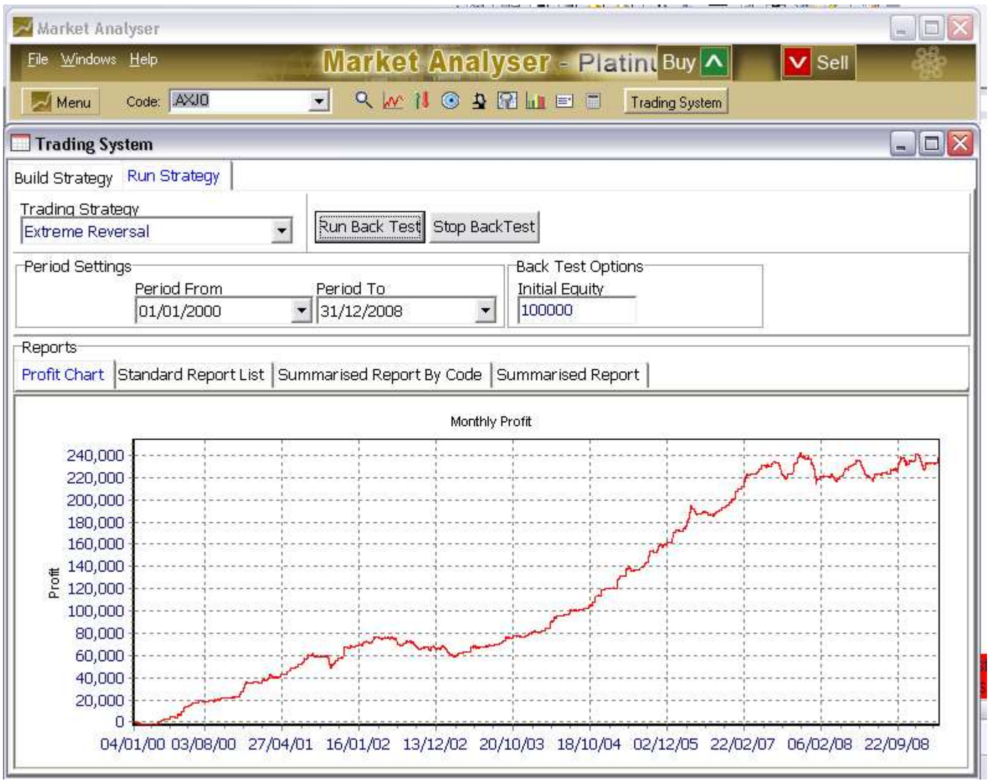
Day of Week	Profit
Monday	$15,650
Tuesday	$16,363
Wednesday	-$2,272
Thursday	$3,001
Friday	$11,977

Wednesday loses money and is a day that it would be best to avoid. Thursday is not as profitable as the rest of the week, but it does still make money. So by excluding Wednesday we come up with the following results.

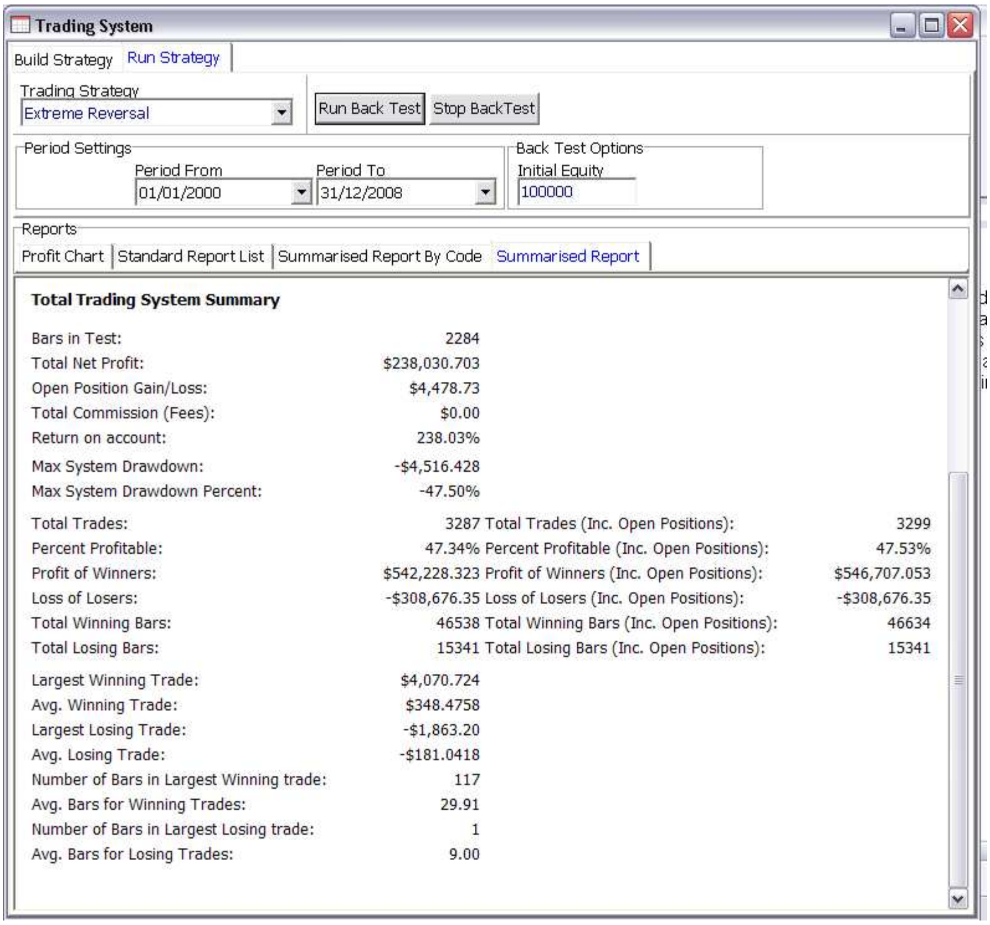
The strategy profit improves reaching over $45,000, and it made very good profits during 2008, even though the markets were down heavily. So it is time to add a different exit strategy, other than getting out one day after we get in, to see whether we can improve the results further.

Exit Strategy

Using a 4% trailing stop that is moved up each day following the share price as it rises actually produces far better results than exiting after just 1 day in the position.



Profit is boosted to $238,030 and drawdown through 2002 has been almost completely eliminated. The strategy was profitable through 2008 and considering it is a long only strategy the results are now respectable. By reviewing the summarised report we can now see the details of the overall strategy shown in the table below.



The strategy is profitable 47% of the time and delivers an average win of $348 and an average loss of -$181. The hit rate could be better, but the risk reward of this trading strategy at 1.92 provides a profitable trading strategy overall. Despite the strategy being “right” less than 50% of the time the strategy is profitable because of a good risk reward.

Brokerage

I have not yet been able to find a broker that will execute my trades for free so we have to add in the cost of brokerage to make the trades. Based on a fee of 0.15% of the trade value the following results are achieved.

The strategy now makes $207,809 on a $100,000 investment over eight years. These are excellent results when compared to the market return of just 16% during this time. There are many variations on this trading strategy with any number of days that could be used for the Donchian Channel Breakout. Other exits could also be used and all of this may improve the trading results. You can test all these ideas with an upgrade to the Platinum Market Analyser.

Conclusion

The Donchian Channel breakout can be used as the basis of a successful trading strategy. Never underestimate the importance of the day of the week when searching for good trading results. The traditional approach of the Turtles can be turned on its head for great results when trading the ASX Top 20 companies by entering a downside breakout for a long trade. You can find the companies that meet the entry criteria by using the Analyser Tool in Market Analyser.