

Commodity Channel Index (CCI)

Developed by Donald Lambert, the Commodity Channel Index (CCI) was designed to identify cyclical turns in commodities but can be applied to shares as well. The Commodity Channel Index uses a typical price in its calculation which is an average of the high, low and close for the day. A moving average of this price is then calculated and the deviation of the typical price from the moving average is also calculated. The formula is:

$$CCI = (\text{Typical Price} - \text{Moving Average of Typical Price}) / (0.015 * \text{Average Deviation})$$

Where, 0.15 is a constant that ensures that approximately 70 – 80% of the price action falls between -100 and +100. The more periods used to calculate the Commodity Channel Index, the higher the percentage of values between +100 and -100.

Lambert suggested that buy signals were generated when the Commodity Channel Index moves above +100 indicating a strong up trend and sell signals when the Commodity Channel Index moves below -100 indicating a strong down trend. A long position should be closed when the Commodity Channel Index moves below +100 and a short position when it moves above -100.



Since Lambert's original guidelines, traders have also found the Commodity Channel Index valuable for identifying reversals. Commodity Channel Index can be used to identify overbought and oversold levels like other oscillators can. A security would be deemed oversold when the Commodity Channel Index dips below -100 and overbought when it exceeds +100. From oversold levels, a buy signal might be given when the Commodity Channel Index moves back above -100. From overbought levels, a sell signal might be given when the Commodity Channel Index moved back below +100.

Using Market Analyser we can test the effectiveness of both of these strategies 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. 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 using signals provided by the Commodity Channel Index.

The test shares we will use are the Top 20 Australian companies from 1/1/2005 up to 31/03/2009. This test period includes 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.

The first idea we will test is Lambert's original idea to enter long when Commodity Channel Index is above 100 and exit 1 day later.



As you can see from the chart this strategy works well when the market is trending up, but loses money when the market is trending down. Modifying the test to use Lambert's exit when the Commodity Channel Index crosses below 100 gives a very similar result.

So turning the strategy around and instead using the strategy as an overbought oversold style of strategy the entry would be to enter long when the Commodity Channel Index crosses below -100. This approach turns out to be far superior. I tested a number of different values to determine the timeframe I would use. The chart below is shown for a 25 day Commodity Channel Index.



Using the 25 day Commodity Channel Index delivers a profit of approximately \$50,000 following this strategy. These are reasonable results based on \$100,000 worth of capital and a trade size of \$5,000. Testing different time frames failed to produce better results with 5 days making \$22,000, 14 days making \$30,000 and both 20 days and 30 days delivering \$43,000.

Daily Profits

With other strategies we have tested in the past the day of the week that the trade is entered makes a significant difference. Maybe there are better days of the week to trade the Commodity Channel Index 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. We have set the parameters to 25 days and a trigger level of -100 to enter the trades.

Day of Week	Profit
Monday	\$10,772
Tuesday	\$16,606
Wednesday	\$4,335
Thursday	\$10,962
Friday	\$7,555

The results are not as dramatic as they are with some other trade signals. Wednesday is not as profitable as the rest of the week, but it is still profitable. Here we will not use a day of the week filter to make our selection as it actually reduces returns.

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

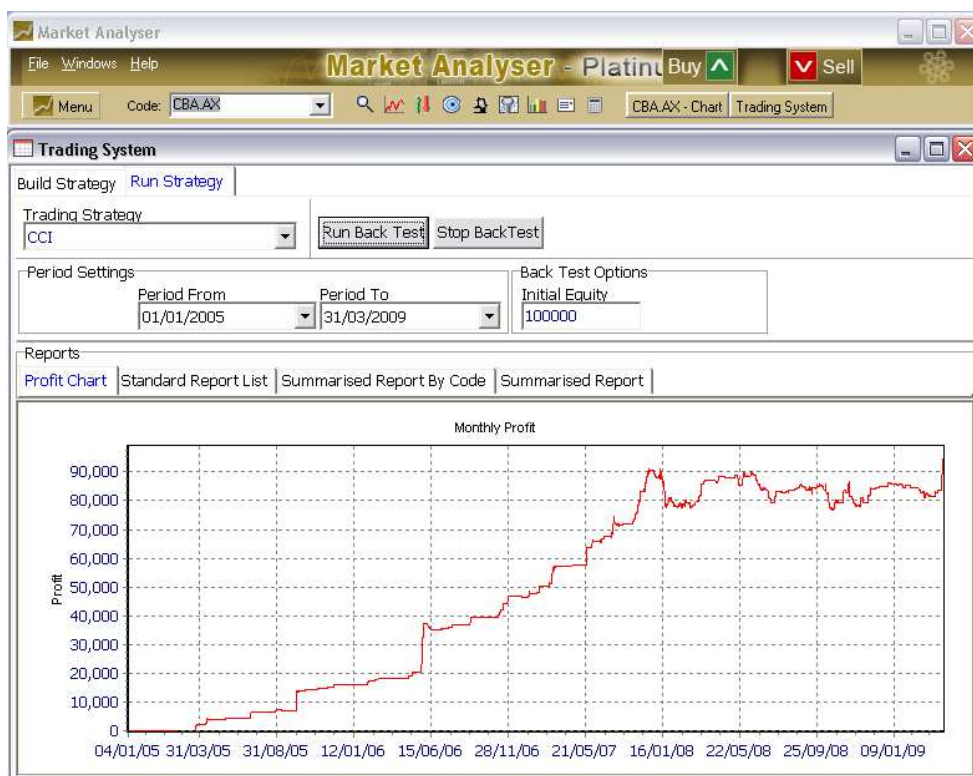
Using a 4% trailing stop, that is moved up each day following the share price as it rises, dramatically improves the results of this strategy.



Setting a stop at 2% produces a profit of almost \$90,000 in 4 years, and a stop at 4% produces just over \$100,000 while a stop of 6% sees the return drop to \$90,000. This is all far better than just exiting one day after entry.

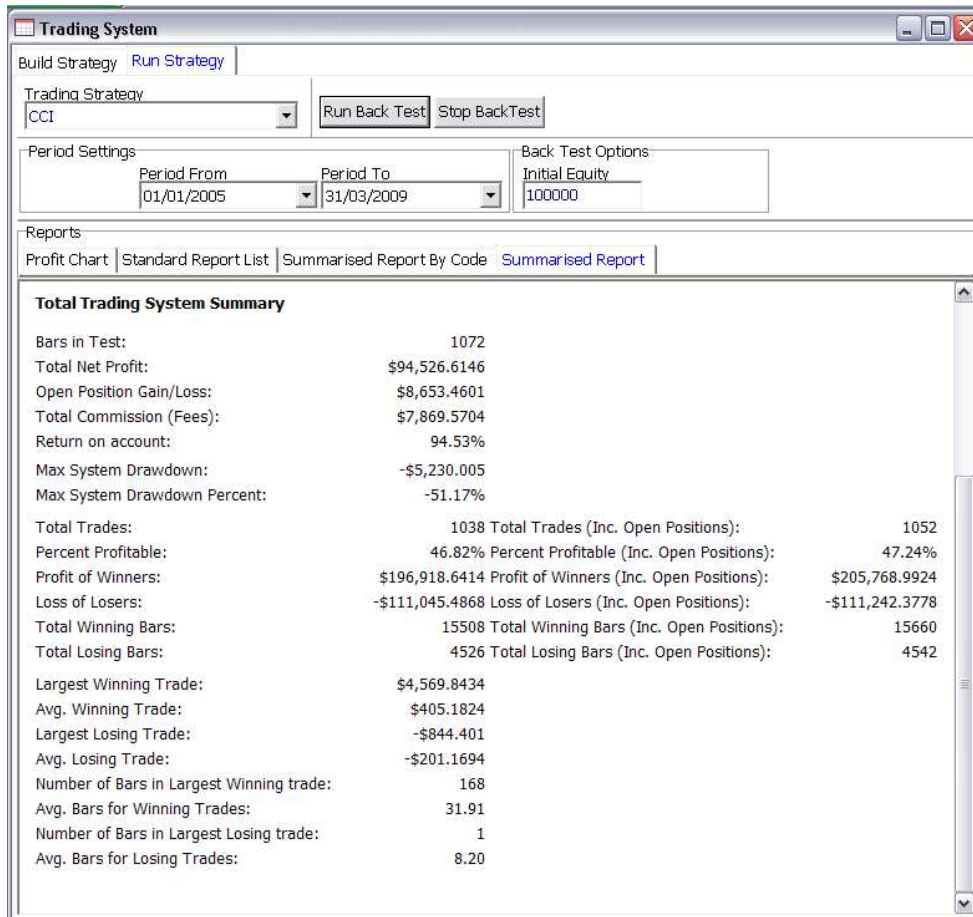
Brokerage

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.



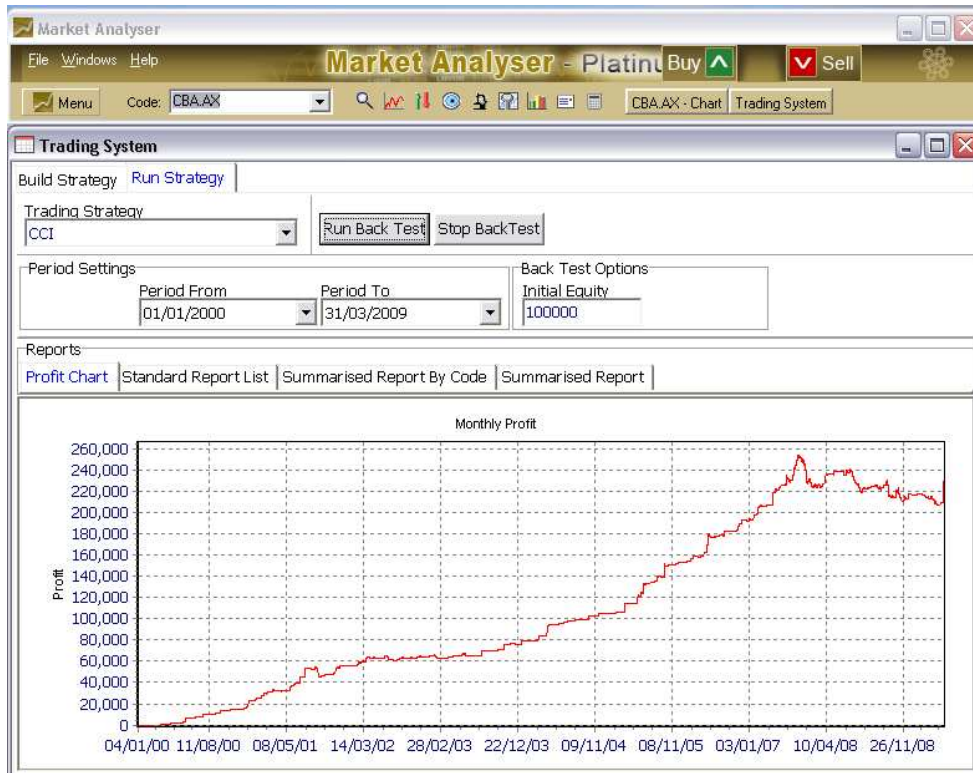
The strategy now makes \$94,526 on a \$100,000 investment over four years. These are excellent results when compared to the market return of -8.2% during this same time.

While the strategy is profitable we can examine the detail of the strategy more closely. Taking a look under the bonnet of the strategy we get the following statistics.



The strategy is profitable 46.8% of the time and delivers an average win of \$405 and an average loss of -\$201. The win% is acceptable at 46.8% and the risk reward at 2.01 allows the strategy to be profitable overall. It would be possible to improve the results of this strategy by entering only the trades that do start to climb after the signal is received. The strategy that has been tested here enters all trades once the Commodity Channel Index crosses below -100. In some cases the shares may not have turned up and waiting for the price on the day of entry to break above the previous days high is very likely to see a dramatic improvement in the already good results.

Testing the strategy over a longer time period, from 2000 – 2008, shows that the strategy produces a gain of \$229,752 in eight years.



There are many variations on this trading strategy with any number of days that could be used for the Commodity Channel Index and the reference level and exits can also be altered. Here I have tested some of but not all the possible combinations. You can test all these ideas with an upgrade to the Platinum Market Analyser.

Conclusion

The Commodity Channel Index can be used as the basis of a successful trading strategy. It is best not used in the way it was originally intended by its developer, but used as an overbought oversold indicator. A trailing stop used as an exit makes a dramatic difference to the profitability of this strategy and it can be further enhanced by only taking trades that do start to climb after the oversold signal is received. You can find the companies that meet the entry criteria on a daily basis by using the Analyser Tool in Market Analyser.