Introduction to Dollar-Neutral Pair Trading

Courtesy of Catalyst Corner
http://catalystcorner.com

What is Pair Trading?

Pair trading is the strategy of trading two securities simultaneously, one long and one short. These trades combined consist of a “pair.”

This strategy was developed decades ago as an alternative method that seeks to generate significant and consistent returns while controlling risk by maintaining a low correlation to broader market averages. This market-neutral strategy is meant to profit regardless of whether equities rise or fall. A profit or loss on an established pair trade depends on whether differences between paired positions widen or narrow.

What is Dollar Neutral Pair Trading?

A dollar neutral pair trade requires employing the same amount of capital on the long and short side. This typically means that the amount of shares bought and sold short *will not* be equal. Here’s an example:

Employing $10,000 of capital, let’s say you want to pair trade Bank of America (BAC) and Citigroup (C):

	Bank of America (BAC)
Current Price	$14.12
Shares to buy	354
Total capital	**$5000**

	Citigroup (C)
Current Price	$4.11
Shares to short	1217
Total capital	**$5000**

Notice the difference in the amount of shares bought/sold short, yet the total amount of capital is equivalent on the long and short side. This represents a pair trade that is dollar neutral.

What is the strategy behind Pair Trading?

In researching pair trades, the goal is to find **similar assets with dissimilar valuations**. This is done by analyzing companies that are relatively similar (usually in the same sector or business) but are valued differently by the market.

Concluding that two assets are *similar* involves comparing financial ratios. Some popular ones are listed below:

- P/E
- PEG
- Dividend Yield
- Price / Book
- EV / EBIT
- EV / EBITDA
- EV / Sales
- S&P Beta

There are many other methods of comparing companies, and you are free to choose whichever metric(s) you think best apply to a specific trade.

Concluding that two similar assets are *valued differently* involves comparing the percentage gains/losses of their respective stock prices. It is best to pick an extended time period (1 yr, 2yr, etc) and observe the price fluctuations on a percentage basis. You will likely observe that the prices, for the most part, correlate. However, on occasion, the price variation becomes great (for various reasons) and creates an opportunity for a pair trade. Take a look at the graph below which illustrates this:

The graph below compares JPM (in blue) and MS (in red) from Jul 27 2009 to Jul 23 2010.

Some points are indicated where it may have made sense to enter a pair trade. You will notice that the trades occur when the stocks are valued significantly different by the market. The extent of this variation is typically measured using statistical analysis.

Which companies make sense to pair trade?

Not every company can be traded as a pair, and it is very important to know which can and cannot. Things to look for when researching potential pair trades:

- Volatility

  Without volatility, price fluctuations will be too insignificant for a pair trade to make sense. Looking at a stock's beta will give you an idea of its volatility against the general market.

- Volume

Without volume, you will not be able to enter/exit pair trades at the point in which you want. "Penny stocks" typically do not make good pair trade candidates for this exact reason.

- Close Competition

Without close competition, it is difficult to find two assets that would be considered similar. One recent one that comes to mind is Tesla Motors (TSLA) – the pioneer in the electric car market. There really isn't any true competitor to TSLA yet, which makes it very difficult to find a true similar asset.

Some examples of close competitors:

  - Oil Companies (XOM, BP, CVX)
  - Financial (BAC, JPM, C, GS)
  - Credit Card Companies (AXP, V, MA)
  - Technology (GOOG, AAPL, AMZN, YHOO, EBAY)
  - Home Improvement (HD, LOW)
  - Big Box Retail (WMT, TGT, COST)
  - Fast Food (MCD, BKC, WEN, YUM)
  - Rental Cars (CAR, DTG, HTZ)
  - Car Manufactures (F, TM, HMC)

- Multiple Share Classes

Some companies have two share classes that trade on the open market. There is typically a difference between two share classes (e.g. voting rights, different currency, dividend amount, etc) but the underlying asset is the same—this makes for a great pair trade.

Some companies that have multiple share classes:

  - Comcast (CMCSK, CMCSA)
  - BHP Billiton (BHP, BBL)
  - Unilever (UN, UL)
  - News Corp (NWSA, NWS)
  - Berkshire Hathaway (BRK-B, BRK-A)

So how do I do it?

There is a lot of software available on the internet that assists with pair trades. Unfortunately, most of them are not free, and some can be extremely expensive (>$1500).

Nonetheless, you absolutely need a trading tool to be a successful pair trader. It must be possible to analyze potential pairs quickly and accurately – doing it by hand is simply just not an option.

Catalyst Corner, the site providing this introduction, has created an online [Pair Trading Tool](http://catalystcorner.com/index.php?m=pair_tool). The tool is completely free to anyone interested. This tool was developed to make the strategy of pair trading available to the general investing public, as opposed to only hedge funds in which it is commonly used.

The Pair Trading Tool allows you to create your own paired position by entering two equities, one long and one short. The model will then output all the fundamental, statistical, and graphical analysis you need in order to determine the viability of the trade.

Below is an example of the model's output:

What is unique about the Pair Trading Tool is that it doesn't show two separate graphs of the securities, but rather shows one graph that represents the price difference (long price divided by short price). This makes it much easier to determine possible entry points and exit points. Bollinger bonds and moving averages of the pair are also created to further assist in technical analysis.

Below the graph you will find statistical data that the model outputs. This data shows where the pair is in relation to its historical price and how likely it is to return to a level more in-line with the mean.

This is achieved using metrics such as:

- Co-integration
  - The likelihood that, when two stocks deviate in valuation, they will revert to the mean

- Correlation
  - The measure of how two securities move in relation to one another

- 30-day Correlation
  - The measure of how two securities move in relation to one another over a 30-day time period

- Standard Deviation
  - The measure of variation from the mean

- Percentile
  - The value below which a percentage of observations fall

- Percent Bollinger
  - Percentage within the Bollinger bands

- and more

The model offers the Target Move metric which gives guidance on where it might make sense to exit the pair, if such a gain is realized.

Furthermore, it is important to remember that this strategy involves making the trade dollar-neutral. The tool gives you the # of shares you need to long and short based on the ratio of the two stock prices (based on the amount of capital that you want to employ).

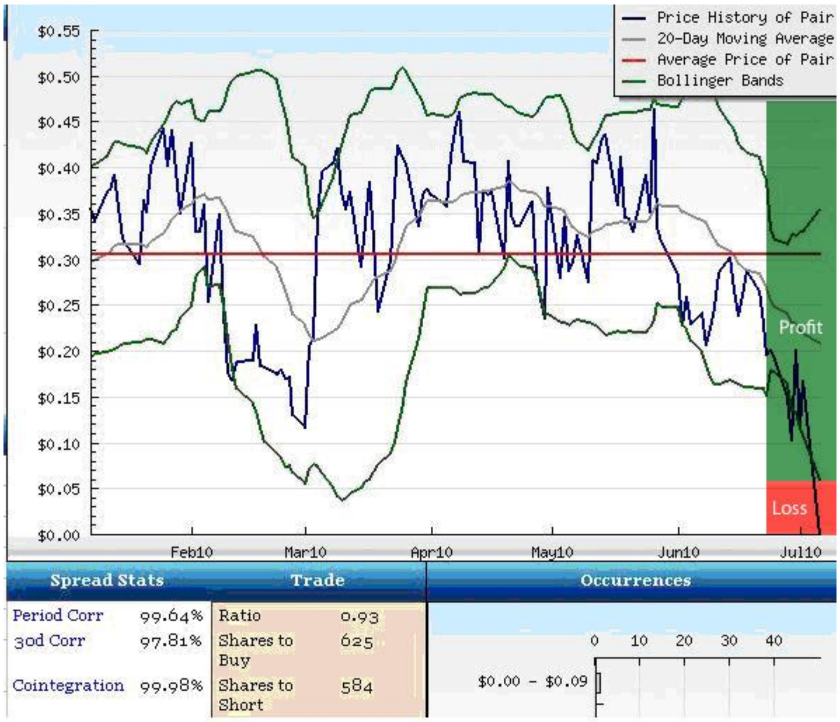
What are some examples of good pairs?

Long BBL – Short BHP

Spread Stats		Trade	
Period Corr	99.56%	Ratio	0.83
30d Corr	99.32%	Shares to Buy	196
Cointegration	99.84%	Shares to Short	163
Mean	$0.64	Target Move	1.26%
Median	$0.66	Percent Bollinger	(4.65)%
Std. Dev.	0.67	Off Avg. Std. Dev.	0.99
Min Spread	($0.90)	Percentile	56.79%
Max Spread	$2.55		

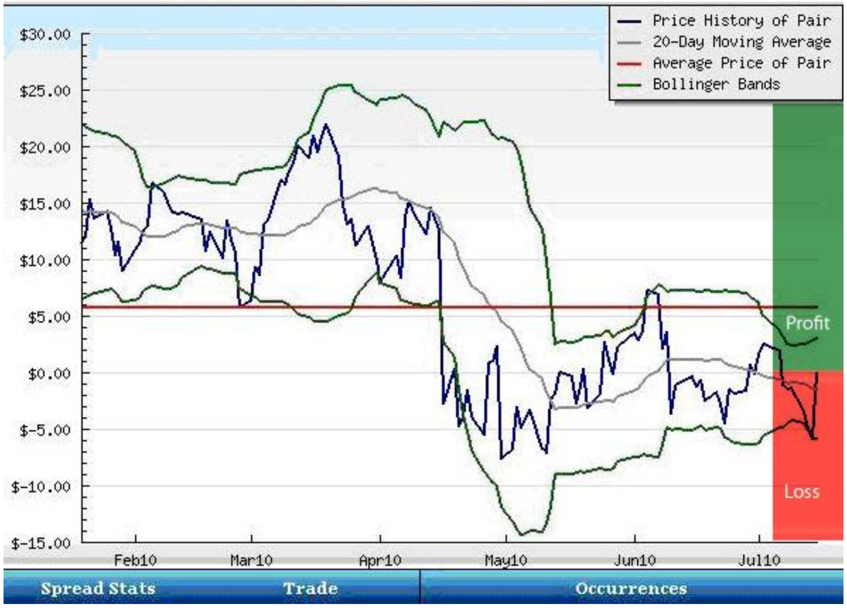
Occurrences

Long CMCSA, Short CMCSK



Long GOOG, Short AAPL

Long GS, Short JPM



In Conclusion

Pair trading is not a new strategy by any means. It was developed a long time ago and has consistently been used by hedge funds across the globe.

Nonetheless, there is no reason why the strategy of pair trading can't be employed by the casual, retail investor. The biggest setback has always been the lack of free, easy-to-use tools for potential pair analysis—but not anymore. Catalyst Corner's Free Pair Trading Tool outputs all the analysis you need, and it's free!

If you remember the main strategy—looking for similar assets with dissimilar valuations—and the rest of the principles discussed in this e-book, you should be pair trading in no time!

Good luck!

Catalyst Corner is a FREE financial website that provides research on underfollowed companies. In addition, members receive access to our FREE proprietary Pair Trading Tool.
http://catalystcorner.com
info@catalystcorner.com