Slide 1

Breakout is used by investors to take a position within a trend’s early stages. This strategy can be the starting point for major price moves …

According to the figure, we’re able to gain profit from the difference between Entry position and Stop position.

The big advantage of breakout is limiting the downside risk. However, the big trade-off is that it’s easy to miss the biggest profit point. Such as the peak point in the picture.

Slide 2

The algorithm is easy to understand. Step 1-3, find the chance to buy; step 4-5, set stop position to sell; step 6, continue to end of dates.

Slide 3

Test the breakout algorithm by using 2014-2017 Coca and Pepsi stocks. I used the stop percent changes from 0.5% to 1% and step is 0.01% increasement. From the table below, we can see the best return ratio of Coca is 1.36%, which happens at stop percent from 0.5% to 0.56%. The best return ration of Pepsi is 11.85%, which happens at stop percent from 0.82% to 0.91%. In the Coca’s return ratio graph, we can clearly see there is negative return. Let’s see why we got negative numbers?

Slide 4

Here, we have value at risk for both coca and pepsi, and pepsi’s value is slightly bigger than coca’s. Also, the beta value is very close as well. However, there is big difference in their volatility. Coca is 1.91 but pepsi’s is 7.87. As I mentioned in 1st slide, the big trad-off of breakout is easy to miss the biggest profit point. Similarly, to coca, we can tell from, the left side figure, its Adj Close price of the 4 years period, its price hasn’t changed a lot, which corresponds to its low std div. Therefore, a slightly big stop percent can make stop position is below the previous entry position; other words, we could get negative return. I think probably smaller stop precent and higher frequent data such as hourly or 5-min data, can improve breakout’s performance on coca.