

Building A Better Breakout System Using Simple Filters

By Steve Mistic

TECHNICAL ANALYSIS TACKLES BREAKOUT AND BREAKDOWN TRADE TECHNIQUES

There are several types of setups that traders look for when placing long trades and short trades. Two of the most popular setups are known as the trading range “breakout” for a long entry, and the trading range “breakdown” for a short entry. After moving vertically for a period of time, the price will often consolidate before resuming its vertical move in either the same direction, or in the opposite direction. When prices trade sideways, the bars or candles will often have similar highs and similar lows. If there are two identical highs or two identical lows, a trading range can be defined. This method of defining a trading range will work regardless of whether the trader uses a time chart, or a volume bar, or tick chart.

Once defined, the trader places a horizontal line on the highest high of the range and another horizontal line on the lowest low. If the price suddenly breaks above the highest high of the range, a long trade is entered using a buy stop a few ticks above the highest high as the entry point. For a short trade, a sell stop is placed a few ticks below the lowest low to be used for the entry point. Some traders prefer to use channels or bands to define their trading range because both will follow price as it moves around automatically, but most prefer using horizontal lines which can give a trader a better visual view of the top and bottom of the trading range, or trend lines which help assist traders in determining the most likely direction of the breakout.

While breakout and breakdown trades are among the most popular, both can also be very

frustrating trades when shortly after entering the breakout or breakdown, price goes a few ticks above or below the entry price, and then suddenly reverses leaving the trader with a loss. There are a few ways to improve the likelihood that the breakout or breakdown trade will result in a win rather than a loss by selecting which breakout and breakdown trades to enter, and then entering the ones with the better odds of success by using a simple filter system. This article explains the filters I use when deciding on which breakouts and breakdowns I believe will give me the best chance for success.

The first filter I use to determine which breakout or breakdown trades I



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(Figure. 1)

take on a small time frame entry chart is the overall trend from the higher time frame charts. Breakout long trades will have better win rates if the instrument being traded is currently in a medium to long term up trend. Breakdowns will have a higher success rate in markets that are topping out, or have already entered short term down trends. In addition to the trend, when I look at higher time frame charts, I am looking for visible areas of support and resistance that need to be broken for a breakout or a breakdown trade to be profitable. (Figure. 1)

Having a few concentrated bars or candles like those on a daily or 180 minute chart will provide a clear picture of the obstacles to success on the entry chart. If the market is visiting an area of resistance or support on a higher time frame for the first time, I will avoid breakout and breakdown trades all together. These areas will produce higher time frame retracement trades which will lead to many of the smaller time frame whipsaw reversals that breakout traders often experience. If the area of support or resistance on the higher time frame has been visited several times, it becomes a better candidate for a winning breakout or breakdown trade in the same direction as the macro trend.

As a visual aid, I use color coded horizontal lines to identify new or old support and resistance. For support, I use blue for new and yellow for old, and for resistance, red is new and yellow is old. These colored lines help my mind make decisions faster without having to look at any other charts during the trade. Another reason for knowing higher time frame support and resistance would be for a pullback entry to join the macro uptrend or downtrend with a minimal amount of risk. For example, to safely enter a market that is in a macro up trend, I will find the area of support on this higher time frame that I would buy a pullback to to join the uptrend. Breakdowns into these support areas will be avoided since they are less likely to produce consistent winning trades. Limiting the losers in a breakout or breakdown system using this first filter will lead to a fewer number of overall entries, but it will not improve the amount of profit per entry when used by itself. This will be addressed in the next two filters.

In summary, by finding support and resistance on the higher time frame chart, and trading with the macro trend, I can force my mind to

focus on the long term picture, because the short term trend on my entry chart will often show a completely different or totally opposite picture.

HIGHER TIME FRAME TREND AND VISIBLE SUPPORT AND RESISTANCE

Let's take a look at a 15 minute, two day chart of the British Pound futures contract, and a 180 minute, 5 day chart for an example of how to use this filter. (Figure. 2)

I use a lower time frame chart as my entry chart which varies with the instrument I am trading. Some of the less liquid futures contracts or stocks I trade will push past smaller time frame support and resistance. Moving to a slightly higher time frame often solves this issue.

The 15 minute chart works better than the 5 minute chart for me when I trade the British Pound futures because of its liquidity. This was a trial and error discovery, and will vary from trader to trader. The 180 chart clearly shows the trend for the British Pound futures is, and has been up on the higher time frames, and the picture of the 15 minute entry chart shows the Pound Sterling at a 27 year high against the US Dollar at 2:00 AM Central time on this day.

Visual resistance is not an issue; however, unseen resistance in the form of option barriers is still a very real possibility in the currency markets. Many of the institutions use options to hedge or speculate in the currencies. Some option barrier strategies when placed near whole numbers act as resistance.

There were two successful breakouts on this 15 minute chart. The first breakout past the resistance near 2.0574 is a much cleaner looking trade than the higher breakout past 2.0662. The main reason is the first breakout trade happened near the higher time frame support as seen on the 180 chart above, whereas the second breakout trade was near the contract high where it may have been influenced by option barrier strategies.

The next filter I use helps improve the entry point, and further explains the logic I use for selecting the better odds trades.



(Figure. 2)

LOCATION OF PRICE AT THE START OF THE TRADING DAY

The location of price at the start the trading day in relation to the prior day's high or low is the second filter I use when deciding on taking a breakout or breakdown entry. Depending on the instrument being traded and the time of the day, I will define my range by using either the 15 minute chart for the markets that trade more actively at different times during the 24 hours trading day such as the spot forex and currency futures contracts, or, if the market has a specific time defined opening period such as the 9:30 AM to 10:30 AM Eastern time opening for the stock indexes, I will use that period to define the trading range for the initial entry point. (Figure. 3)

Another option can be to use a 10 or 20 bar range on a volume or tick chart for periods when trading is slow for any instrument you trade such as lunch time in the stocks or the overnight sessions in the futures. The benefit is that increased volume will be the catalyst for entry in case a major move starts during a off peak period. I prefer using the 5000 share volume bar chart or the 644 tick chart for entries for thin instruments such as the Pound Sterling during the hours between 11:00 AM and 6:00 PM Central time when the currencies are dormant. I use the high and low from the 180 chart for the location of the horizontal lines on these non-time based charts to define my range rather than a set number of bars.

Using the British Pound again as an example, the 15 minute chart above shows the first breakout long trade on 10/30/07 occurred after a decline from the day's high of 2.0611 on 10/29/07 led to price establishing a trading range between 2.0574 and 2.0557 for the balance of the day on 10/29/07 into the beginning of the trading day on 10/30/7.

In terms of location, that means that in the early part of the trading day on 10/30/07, we are trading close to the bottom of the range and near the low from the previous days trading range. Combined with the support being near from the previous day, this makes the likelihood that a long breakout trade, if entered, will have a excellent chance of success and a short breakdown trade is eliminated. Even a breakout long that is stopped out for a loss and re-entered at a later time in the day would be considered acceptable since the area of support was a first test on the 180 chart. The 15 minute chart trading range initially had a bottom

of 2.0557 for several hours during the Asian session that was broken for a few bars early on 10/30/07 to the eventual day low of 2.0536. This breakdown short entry, if taken by a trader, would have been briefly profitable, but, by using the first filter, (higher time frame chart, showing the macro trend is up), and the second filter, (location at the start of the trading day being near the previous days low and support), the breakdown short trade was ignored. To summarize using filter 1 and filter 2:

- i. The 180 minute high time frame chart shows the area of support that is not clearly visible on the entry chart. The next step is to determine if this is an area to buy for a pullback.
- ii. The pullback to support on the 180 chart leads to the clean breakout entry above 2.0574 on the 15 minute entry chart.
- iii. The location at the start of the trading day combined with the macro trend determines the choice between breakout or breakdown.

If you are a swing trader and you prefer to trade using only the 180 minute chart, a buy stop above the high of 2.0580 from the previous candle would have been the entry point for the breakout trade on that chart.

The last filter I use continues to explain why the lower breakout at 2.0574 was the preferred trade when compared to the 2.0662 breakout trade and other reasons why I use a smaller period entry chart.

USE A MOVING AVERAGE TO DETERMINE VALID ENTRIES, AND TO TRAIL STOPS FOR PROFITS, AND TO LIMIT LOSSES

The last filter I use is a 30 weighted moving average (WMA) on the 15 minute entry chart to determine if a breakout or breakdown entry is going to be allowed, to trail price for a successful breakout or breakdown, and to limit the initial loss for breakout or breakdown trades that fail.

Looking back at the first picture of the 15 minute British Pound chart shows that before both range break long entries, the 30 weighted moving average was inside the trading ranges prior to the trade. The first breakout long above 2.0574 shows the 30 WMA had time to cycle down to the trading range from above, and the second breakout has the 30 WMA



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(Figure. 3)

catching up to the higher trading range from below.

Using the 30 WMA being a part of the trading range as a condition for entry, I would now need both the 30 WMA being part of the trading range, and for price to be above the highest high for the breakout long trade to be valid. For a valid short entry, price would need to be below the 30 WMA and the lowest low of the range for a valid breakdown short to trigger. Trades where the 30 WMA is not a part of the trading range prior to entry are ignored.

Once the entry happens in either case, a pullback to the breakout price or back in the range is always possible. There is a condition I use for ending the trade early that depends on the close of the breakout or breakdown bar. My rule for using the 30 WMA as a stop loss is that if I take the breakout long entry, and the breakout candle closes above the highest high of the trading range, I will then use the 30 WMA as a trailing stop right away. I use the lowest low of the trading range as my initial stop in case I am dragged back into the trading range during a false breakout.

A false breakout is a breakout bar that returns to the trading range before it closes. Once the breakout candle closes above the top of the range, if price retraces immediately back to the trading range, the breakout line would need to provide support. A trade below the 30 WMA at this point would be an early exit, and the breakout would be a failed breakout long trade. For breakdowns, the initial stop is above the highest high of the range until the breakdown candle closes. If it closes below the lowest low of the trading range, the 30 WMA will start to trail the trade.

The British Pound breakout long that happened above 2.0662 had several false breakouts which are marked with red arrows. In each case, the breakout bar is the bar that retraces back inside the trading range. Entry could have been on any one of those bars that went 3 ticks past the previous bars high. At this point, using the 30 WMA as the initial stop loss would have led to four failed breakout entries. Having a wider initial stop would have approximately the same dollar loss as four entries and exits when commissions and fees are considered.

On the last chart above, the breakout candle that closed above the highest high of the range at 2.0680 went on to hit a high of 2.0710 before retracing to a close of 2.0690. Notice that there was no retest of the

range by the candle just before the breakout candle which closed above the top of the range, but below the breakout point. The 30 WMA is now my trailing stop in case there was a retest of the range. (Figure. 4)

The breakout has to be considered successful at this point. During the time I have been writing this article, the 30 WMA has managed to move up to 2.0682. At this point, I will use a trade below 2.0682 as my exit for a break even stop. If the British Pound continues higher from here, the higher trading range that is forming between 2.0710 and 2.0690, and the rising 30 WMA will act as protection for my breakout entry. If the trade is cut short, a breakout above the highest high of the new range above or a pullback to the breakout point at 2.0662 below would be two other options for a re-entry. In the event of the retest of 2.0662, I will use the lowest low of the original trading range below 2.0642 as the initial stop for a pullback entry or the lowest low of the higher range as the initial stop for a breakout entry above and the 30 WMA as a trailing stop from there.

In summary, the factors that contribute to a successful breakout system should include a simple set of filters like the ones above to exclude breakouts or breakdowns that have the least chances of success. Additional filters described below can add to your decision making process for further confirmation:

- i. Check for the macro trend, support and resistance on higher time frames for a more organized view of each factor. Use buy stops above the highest high on the higher time frame like a 180 minute chart if you have a problem finding the top and bottom of the range on the entry chart. Breakouts on smaller time frames such as the 3 minute or 5 minute time charts or 50 to 200 tick charts are also possible for even earlier entries, as well as breakouts on 60 minute or 180 minute charts for swing trade entries.
- ii. Be aware of the previous day's trading range and the location of price inside that range. Breakouts from the previous day's high end of the range will fail more frequently if the macro trend is sideways to down.
- iii. Use a moving average as a filter for deciding which trades you take, and as a trailing stop or as an early exit, if necessary. Location of the moving average inside the range can help determine if price is in consolidation for a move higher or lower. On the British Pound trade, notice how the 30 WMA kept rising inside the trading range before the breakout at 2.0680 rather than sitting near the bottom of the range. Another clue was the ascending triangle that formed inside the range. Use volume on the breakout if you need further confirmation.

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(Figure. 4)

Good luck and trade wisely.
Steve Misis
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