

Technical Analysis explained:

The Gap theory applied on unsustainable movements in EUR/USD

In late 1980s John J. Murphy published his book titled “Technical Analysis of the Futures Markets”, a comprehensive and detailed guide to the concepts of Technical Analysis and their applications to the futures market. Till this day the author’s book is characterized as the “Bible” of Technical Analysis. Almost thirty years later the same concepts are applied to almost any pattern that can be plotted on graph in some way or form, from the commonly used currency fluctuations all the way to prediction of rainfall in the Sahara desert.

It is therefore logical to assume that even though these patterns can be applied there will be some variability in the behaviour from one object to the next. This article will focus on the behaviour of currency pairs in short time frames ranging from the 15 minute chart all the way down to the volatile tick chart and contemplate the application of the Exhaustion Gap theory in a high volume currency like the EURUSD.

In the following article the term unsustainable growth will refer to movements in the price chart that march on the channel line and do not retrace to the trend line.

As presented by John Murphy in his 1999 book “Technical Analysis of the Financial Markets”, gaps appear in three forms, the Breakaway Gap, the Runaway Gap (or Measuring Gap) and the uncommonly witnessed Exhaustion Gap. All three gaps have different principles, for example the Breakaway Gap is reported to be found after a period of consolidation or range movement in prices and commonly appears on high volume and a breakout from the range, while the direction of the gap is in the direction of the expected following price movement.

The Runaway gap is also called a measuring gap because it appears in the middle of the price movement and therefore gives the indication of how far the prices should continue before ending their run. And finally the Exhaustion gap is reported on the final topping of the movement and is followed by an island reversal and a new breakaway gap to the opposite side.

This of course would sound as the most uncommon pattern to be witnessed, especially in a high volume market as the EURUSD where gaps can only be seen usually after the closing of the markets for some time, but this article will try to apply this theory on patterns that could be considered as the next best alternative to the described move.

Since the EURUSD pair consists of more than half of all trading volume worldwide in the FX Market it is almost impossible for a gap to appear, let alone a consequent breakaway gap in the opposite direction. But how much volume would be required for even a price jump to appear on the minute chart? While contemplating possible amounts for this answer let’s think about which purpose was Gap theory first developed and when.

The answers to these questions are not as vague as would be expected. Clearly Gap theory was developed over 30 years ago and mostly applied to stocks which consisted of large amounts of manipulation due to the low amounts of volume.

It can therefore be logical to assume that a simple jump in the EURUSD pair 30 years later would consist of hundreds of times more volume than would be required for the gap in a single stock 30 years ago. Let us then apply the theory on certain patterns such as the following charts.

Figure 1 — EURUSD 5 Minute chart on the 11th of June 2010



The above chart reveals a reversal which topped at 1.2147. The bullish movement started at around 1.2105 and accelerated at an unsustainable growth, returned to test the previous top at 1.2125, and after making a lower high at 1.2135 fell to 1.2107.

There could be a number of ways to interpret the reversal such as a head and shoulders reversal pattern, a break of the trend line, even a simple failure swing. The break of the support at 1.2125 could be either a neckline for the head and shoulders, or a confirmation of a failure swing.

But what we will take note of in this graph is the last bullish candle which reached the 1.2147 high giving false signals of more advance to come to eager bullish traders only to disappoint them by a return of more than fifty pips.

Notice also how the aforementioned candle could also fit the exhaustion gap theory with the logic discussed above, and could be added to the list of possible reasons for the reversal.

Figure 2 — EURUSD 15 Minute chart on the 9th of June 2010



This chart reveals a similar pattern to Figure 1; once again the candles are moving at an unsustainable growth reaching above previous channel lines and eventually return to the 1.2045 resistance before breaking the 1.2024 support and declining further. In this case the head and shoulders pattern is not very suitable since the shoulders do not form peaks but are levelled.

Gap theory can once again be applied since there is a burst of bullish motion which is completely corrected and reversed.

Figure 3 — EURUSD 15 minute chart on 26th of May 2010



Figure 4 — EURUSD 1 Minute chart on the 23rd of June 2010



Both figures three and four display the same pattern of movements followed by a reversal. At this point it becomes more apparent that exhaustion gap theory may be more possible than initially thought but this article is not about proving which reversal pattern should be given the title for such a pattern but simply give some more insight to certain market behaviour. A number of different methods of signalling possible reversals can be applied in technical analysis because each analyst has his or hers own view.

Technical analysis is after all very subjective. In the above pattern we associate the movements with three different technical analysis theories, the head and shoulders, the break of trend lines and failure swings. Since this pattern can be seen on bottom reversals as well, it would be logical to associate the term unsustainable growth with oversold or overbought theories.

However, what is most important is that the number of different theories applied in each case confirms another technical analysis rule; that technical analysis works best when there are multiple confirmations from different theories. All together though a simple word of caution that should be derived is that one should be patient enough to confirm his beliefs with a break of the support or resistance which is the last step of the reversal.

A procedure to follow in such patterns is to first confirm that there is an accelerating movement which creates an overbought or oversold pattern, then a return to previous supports should confirm the possibility of an exhaustion gap in process but not completed, finally a break of the support should create a confirmation of a reversal followed by a move which could be measured with the head and shoulders theory.

Note that the pattern may not fit the head and shoulders appearance, as seen in figures 2, 3 and 4, but follows nonetheless a reversal that could be considered the best alternative to the Exhaustion Gap theory.

In order to prove the logic behind the theory of the exhaustion gap it was easier to use small time frames but this does not mean that gap theory should be applied on such small time frames only. As with all technical analysis tools, gap theory described in this article can be applied to hourly, daily or even monthly charts. The underlying logic remains the same but is applied at a much larger scale. It would therefore be prudent to keep an eye out for such patterns as they deliver an early warning of possible reversals.

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