

## “MAYDAY!” call for EUR/USD?

by Howard Friend C.M.T. (01.05.2017)

Students of market price action, commonly known as market 'technicians' or sometimes more confusingly 'technical analysts', often find themselves by the very nature of their discipline pouring over historical price charts in a detective-like manner looking for clues as to future market direction. Technical theory has it that financial markets tend to move in trends and that those trends can often persist long enough for the technically-based trader to make profit from accurate market timing.

One of the most important tools a technician has at his or her disposal are so called 'support' and 'resistance' levels. These are inflection points on the price charts where after an advance the price starts to fall leaving behind a high watermark or 'resistance' level while a support level is the same thing but in reverse with regards to a market decline. A rising trend can be defined as a series of one or more breaches (breakouts) of such resistance levels. A common technical trading strategy is to buy just as the price is breaking above a resistance level in the anticipation of a move higher presenting an opportunity to profit from the long side of the market as either a new uptrend starts or an existing one extends.

This is all well and good if every breakout saw sufficient follow-through buying but here in the real world the problem is that there are many false breakouts or market 'traps' which occur when the breakout does not go exactly as planned for the buyers. What to do?

The question for the technician who is monitoring the upside breakout is of course whether the breakout is genuine and there are many 'filters' one can use to qualify the breakout including the time spent above the broken resistance level or percentage penetration above it. If the breakout does not qualify as a valid one it may well be a 'trap' and so wrong-footed traders will need to know what action to take to limit risk (exit with a small loss) and perhaps attempt to profit by 'reversing' their position to short.

The strength of a resistance level is said to be determined by the length of time it has remained intact so it follows that if the price breaks above a resistance level which has held for over six months the break should be much more significant than if it had held for two weeks. One way to measure the strength of a resistance level is by counting the number of bars (days, weeks months etc..) to the left and to the right of the resistance level or 'swing high' as I will define it, the more bars counted on either side the more significant the breakout should be.

The reason I am writing this article now is because EUR/USD, one of the world's most important and actively traded markets, has recently made what I would call a significant upside breakout which has been matched by a similar downside breakout in the U.S. Dollar Index of which EUR/USD is by far the largest component. Looking at the strength of the swing high at the price of 1.0829 I note that there were seven weekly bars to the left and seven to the right of the swing high for a swing high of (7/7) strength.



The question here is: What usually happens when a swing high (and for the purposes of symmetry, a swing low) of (7/7) strength is broken on a weekly chart of EUR/USD and does such a breakout have any implications for market direction, either up (a valid break) or down (a trap)? Fortunately, with the aid of a computer and a sophisticated charting application with back testing capabilities such as TradeStation one can ask these kinds of questions and get some very quick and revealing answers.

Let's run a simulation of this where we automatically buy or sell EUR/USD as a (7/7) swing high or swing low is broken, the objective being to determine whether there is a high probability of profiting by trading in the direction of the breakout as technical theory would suggest one should. We'll start with some basic buy and sell rules which represent an 'always in the market' system where each new signal results in flipping one's position from long to short and vice versa. As this is a very low frequency system, slippage and commissions are almost irrelevant and have therefore been omitted.

## Entry rules

Long entry: Buy 1 unit if price trades above the last (7/7) swing high

Short entry: Sell 1 unit if price trades below the last (7/7) swing low

Here are the results for EUR/USD:

### EUR/USD spot weekly. Swing high/low (7/7) breakout. (01/01/1999 to 31/03/2017)

Number of trades: 14    Percent profitable: 64.29%    Profit factor: 2.36

Short USD trades only:

Number of trades: 7    Percent profitable: 42.86%    Profit factor: 2.10

**Analysis:** On balance the results point in favour of going with the breakout rather than fading it as 64.29% of the time buying strength or selling weakness trumped the more intuitive 'buy low, sell high' mantra we humans have been conditioned to follow. On the other side of the coin the sample size only 14 trades was quite small so the percentage profitable numbers should be taken with a pinch of salt for now at least. The profit factor of 2.10 although smaller than for Euro sales/USD buys does hint at some directional bias for USD sellers on this entry trigger.

We need to dig a little deeper to expand the sample size to get more of a feel for how using (7/7) as an entry signal has performed and this we can do by running the same tests on historical price data for the U.S. Dollar Index (1985 to date) and for the German Deutsche Mark (1976-1998) which are as good proxies as any for EUR/USD. Here are the results:

### U.S. Dollar Index future weekly. Swing high/low (7/7) breakout. (22/11/1985 to 31/03/2017).

Number of trades: 24    Percent profitable: 66.67%    Profit factor: 2.99

Short USD trades only:

Number of trades: 12    Percent profitable: 66.67%    Profit factor: 3.28

**Analysis:** Expanding our sample size to 24 and by switching to the U.S. Dollar Index we can see that the results of the smaller EUR/USD test have been borne out as the percent profitable remains in the mid-60%'s but the profit factor has risen from 2.36 to just shy of 3.0 providing us with the oft heard 3 to 1 risk/reward ratio should we decide to apply the system to trading which I would not advise at this stage. Looking at how one could have fared shorting the U.S. dollar as the current EUR/USD buy signal suggests we do one can see that the percentage profitable number jumps from 42.86% to 66.67% and the profit factor from 2.10 to 3.82. To be fair the period in question started in the same year at the Plaza Accord which was an agreement between the G5 group of nations to attempt to devalue the dollar after a particularly steep advance in the early 1980s so one would expect results to be skewed in favour of the short USD side.

As U.S. Dollar Index futures only started trading in 1985 we will need to switch to Deutsche Mark futures to see how the USD moved vis a vis the most important currency in Europe (Germany's) prior to 1985. Here are the results:

**Deutsche Mark future weekly. Swing high/low (7/7) breakout. (19/03/1976 to 29/01/1999)**

Number of trades: 17    Percent profitable: 82.35%    Profit factor: 9.44

**Short USD trades only:**

**Number of trades: 8    Percent profitable: 100.00%    Profit factor: N/A (no losing trades)**

**Analysis:** Extending the simulation back to the mid-1970s we can see that although the sample set as with the EUR/USD test was small the results provide further evidence of successful trend following on the (7/7) entry trigger. The percent profitable was over 80% for all trades and the profit factor was an almost unheard of 9.44. Looking at the USD sell side again all eight trades were winners (no losers, no profit factor calculation!) but admittedly there was a large degree of overlap with the U.S. Dollar Index results which were skewed in the bears' favour.

## **Conclusion**

While we don't yet have a fully operational system which should always include risk control features such as stop losses and more efficient exit strategies such as profit targets, time based exits and other market timing filters what we do have is a good indicator of directional bias on a multi-month if not multi-year timeframe for the exchange rate between two of the world's key trading partners.

When viewed in the context of my recent article entitled '**The Grand Old Party and the U.S. dollar**' (<https://www.hf-systems.com/blank>) which calls for a major bout of dollar weakness over the term of the current Republican Administration, the break of resistance at 1.0829 on EUR/USD may prove in hindsight to have been a "**MAYDAY!**" call for those who will be coming to the same conclusion but at a much later stage in the cycle.

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