

RISING WEDGE, FALLING WEDGE

Rewarding patterns...provided you stay disciplined!

Introduction

The wedge is a very usual chartist pattern which is made of two converging trendlines that go in the same direction, both upwards or both downwards. As such, it can be immediately distinguished from a triangle.

This pattern can be found on every timeframe, from the monthly charts to intraday price action.

There are two sorts of wedges that have opposite consequences:

- **Falling wedges**, mostly completed following a sharp slump and which have a bullish implication,
- **Rising wedges**, which foreshadow a violent, downwards reversal phase. Their bearish bias is all the more pronounced since they are completed after a long period of time, and following a clear uptrend.

But regarding most wedges as **reversal patterns** are just an opinion on our own. Many authors, however, consider that following the examples of triangles, pennants and flags, wedges are essentially **continuation patterns**, sloped against the trend.

True, you can find falling wedges just in the middle of a bullish trend, or rising wedges within a bearish trend.

A perfect example of continuation rising wedge made on the Japanese Topix index in 2007 is shown on the chart below.



Setting up precise figures on the continuation or reversal nature of wedges is hard and useless, we think. What is of more interest is that continuation wedges tend to complete in a generally shorter lapse of time than reversal wedges.

Furthermore, the debate over the reversal/continuation nature of wedges is of minor importance as these patterns are overwhelmingly broken in the "natural" sense: downwards for a rising wedge, upwards for a falling wedge. Hence, let us rely on the general rule according to which a rising wedge has a bearish bias and a falling wedge, a bullish one. BUT you must always have a very precise trading plan in your mind for the uncommon invalidation occurrences.

In a first step, we shall study the characteristics and traps inherent to wedges. These observations will lead us in a second part to underline the absolute necessity to combine other techniques to a mere chartist analysis in order to optimise one's risk/reward while trading wedges. In a third part, we shall infer from the above a few simple trading rules.

1. The wedge pattern: easy to recognise, hard to trade

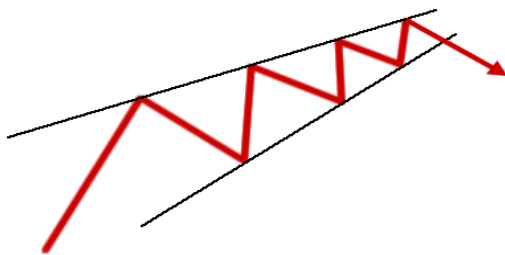
Beforehand, let us assess that wedges are the chartist's best friends as they rarely disappoint about the probability prices will eventually go the expected way. This is basically why you can qualify them as either "continuation" or "reversal" even before the very completion of the pattern.

1.1 Pattern construction and basic principles

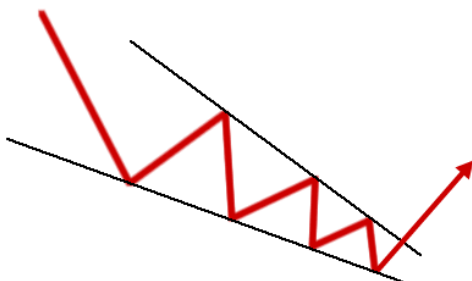
Unlike in flags and rectangles, a wedge is delimited by two **converging** straight lines, a support line and a resistance line. Unlike in triangles, **both lines slope either up or downwards**.

As wedges are swing-wing patterns, it is useless being too rigorous as regards their construction: we consider that support and resistance lines made by only two points are enough for a wedge to qualify.

Rising Wedge



Falling Wedge



All the examples of wedges plotted here on daily charts are delimited by straight lines joining open/close prices rather than extreme points reached during the session – although this is, of course, irrelevant for the forex market. This is the only way, we think, to avoid data that could be "polluted" during very volatile sessions. This rule was not applied for weekly or intraday charts.

A frequent mistake consists in confusing a rising/falling wedge with an ascending/ descending triangle. This confusion is all the more worrisome so that the implications of these two patterns are diametrically opposite. Here are a few means to make the distinction:

- A rising/falling **wedge** can extend itself **until its apex**, which clearly contradicts the generally accepted rules for triangles, i.e. breakout after the 5th impact, or within the ¾ of theoretical time length to complete the pattern;
- We earlier wrote that, for daily chart analysis, we felt more comfortable to take **open/close** data instead of extreme prices (i.e. daily highs for a rising wedge's or an ascending triangle's resistance line, daily lows for a falling wedge's or a descending triangle's support line). By doing so, one can better estimate the real degree of "steepening" of the most extreme straight line – some seemingly ascending triangles may reveal to be rising wedges;
- **Volumes** may also clear up any ambiguity (see below).

The Nokia chart below displays a good example of an intraday rising wedge. Please notice the divergence made by the slow stochastic oscillator at the end of the pattern.



1.2. Inherent risks to wedges

The wedge pattern's "success rate" *ex post* – measured as the percentage of bearish/bullish breakouts for a rising/falling wedge – is high, but trading wedges accurately happens to be a tricky task. How can this paradox be explained?

The main reason is the **impossibility to reasonably forecast the timing of breakouts**. Traditional markers that can be applied for instance to triangles (5th impact) are useless here. Indeed, all the difficulty comes from the pattern's irregularity: a wedge may well be

"requalified". For example, let us suppose that a trader thinks prices clearly broke the lower trendline of a rising wedge; hence, he bets on a sharp movement downwards to come.

But we observed that, much more than for any other chartist pattern, wedges are often subject to whipsaws, leading to **overanticipate the future trend**. In the case of our rising wedge, should prices manage to reach the former lower support line – which now acts as a resistance line – again, the mistake to avoid would consist not only in cutting the freshly initiated short position, but also in going long again. But just like for any other chartist structure, the wedge's outline is likely to evolve over time... Betting on "**the**" breakout requires from the trader to be ready to change his/her mind about the pattern at any time!

If a pullback occurs following the breakout of a rising wedge – with a suspicion of whipsaw – it seems appropriate to:

- partly neutralise a short position,
- accordingly re-draw a less steep lower support trendline, to take the supposedly false breakout into consideration,
- reinitiate a short position once this newly drawn trendline is broken to the downside. For more safety, one can also rely on indications such as weakening momentum or volumes, or ideally on bearish divergences as we will examine below.

From our own experience, we are tempted to assert that following a wedge, prices tend to go almost always in the expected direction. Besides, the **length** of their completion before the eventual breakout is generally a **forerunner of the future trend's magnitude**: a particularly long rising wedge mostly warns you of a sizeable bearish movement to come.

Another difficulty lies in the **impossibility to determine a price target**. The height of a triangle or a rectangle (continuation patterns par excellence), the distance from the top of the head to the neckline in a head-and-shoulders pattern are reliable landmarks to help determine a target.

Things are very different with wedges as they frequently encompass false (and sometimes multiple!) breakouts, leading the technician to often readjust his/her trendlines.

Our answer would be the following: When you may reasonably think that the wedge you're looking at will be a **continuation** one (for instance a falling wedge after a clear bullish trend), then calculate the extent of the movement prior to the pattern (the '**mast**') and extrapolate it to the upside once the wedge is broken, exactly as if you were studying a flag or a pennant.

On the other hand, if you anticipate that this wedge will be a **reversal** one, conveying trend exhaustion, such landmarks are inefficient. Fibonacci-like **retracements** provide better price targets in this case.

1.3 Rising and falling wedges: asymmetrical behaviours

Generally speaking, in accordance with Dow's theory, market highs are made in periods of euphoria when managements, economists, strategists and analysts feel completely relaxed about macro and microeconomic perspectives. Volatility tends to be very weak.

Even though 'blissful consensus' times may persist for a while, elementary human psychology suggests that market lows are made at the conclusion of longer periods. That is why reversal falling wedges take even more time to be completed than reversal rising wedges. After prolonged pessimism through the market, we strongly advise against anticipating any upside breakout in a falling wedge, except when it occurs within an ocean of bad news (principle of contrarian opinion). It is well known that markets that do not even react to further bad statistics are poised for a bounce.

A falling wedge with bullish reversal implications is plotted in the 1993 chart of JPYUSD below – please notice, however, that its support line is only propped up by two points. *Ex post*, we can see that it was more accurate to wait for the short pullback a few days after the pattern's 'completion' (green arrow) before building a *massive* long position.



Configurations such as a Hammer/Hanging Man (as is the case here), an Evening/Morning Star or, even better, an Island Reversal can be frequently found at the end of falling wedges, whereas this is more rare during market tops within rising wedge patterns.

2. The necessity to use complementary techniques for validation

As usual in technical analysis, it is strongly advocated to check a wedge's validity through a more in-depth study, going beyond the traditional chartist framework.

2.1 Elliottician analysis

An Elliott wave study is obviously a great help for the technician as **continuation wedges** abound in **waves 2** and **4**.

Wedges can be also found in **waves 5**; in this case, they form all of them and are essentially **reversal warnings**. Conceptually, they perfectly coincide with the exhaustion situations inherent in most of waves 5: new highs are made (in the case of a rising wedge) but in a more and more painstaking way, with contracting volumes and shrinking volatility.

Let us go one step further: the presence of wedges is an excellent means to corroborate one's Elliott wave scenario as it enables to clarify the wave count – the trickiest point in this method, we think.

For non-Elliotticians, we believe the easiest way to avoid traps consists in relying on volumes and technical oscillators.

2.2 Volume analysis

As far as wedges are concerned, scrutinizing volumes is necessary and even mandatory. *In fine*, volumes can help you remove any ambiguity as to whether the current consolidation pattern is an ascending triangle or a rising wedge with almost flattish new highs. In a rising wedge, **volumes reached on each successive high** will tend to broadly decrease and be anyway lower than in an ascending triangle.

On the other hand, whatever the considered timeframe, in an ascending triangle, volumes will be bigger on white (bullish bias) than on black candlestick sessions (bearish bias); the exact opposite should be observed in rising wedges.

The reason why is the psychology associated to both chartist patterns is completely different: exhausting uptrend, in a rising wedge; repeated attempts from traders to test a resistance that ultimately breaks, in an ascending triangle.

As typically, in a rising wedge, prices try to make new highs while volatility is shrinking, a volume analysis is very often supported by weakening momentum (be it ROC or RSI) and tiny Bollinger bandwidth. The latter phenomenon generally attests complacency vis-à-vis the bullish trend.

The last months of 2008 give us a good example of falling wedge on the DJ Stoxx 600 index as shown below. We can perceive the very progressive weakening of the bearish momentum along with the gradual decrease of day-to-day volatility, and, even more importantly, the overall volume downtrend.

New lows were made in a desperate mood, which translated into *decreasing*, but not *vanishing* volumes. During the considered period, the deleveraging process – especially among hedge funds – perfectly illustrated this point.

The subsequent bullish breakout did not immediately trigger a big additional movement, as the index had already bounced 12% off its previous low... But from March 2009 onwards, a real, strong uptrend has developed.



To summarise, while diminishing volumes during up waves in a narrow range are a serious warning of bearish reversal, the opposite signal after extended slumps is far more complex to analyse.

2.3 Oscillators

We are firm believers that technical oscillators (especially momentum indicators) are a great help as to how to avoid traps set by wedges. Not that they protect against false breakouts; but they confirm shifting dynamics, and the divergences they make versus prices generally provide us with nice timing to initiate positions.

It may seem tautological: with reversal wedges, the trader should favour momentum oscillators, whereas with continuation wedges, he/she would be keen to rely on trend-following tools.

For reversal wedges, we would advise to use **slow stochastics** (less erratic than fast stochastics) by:

- tracking **divergences** between prices and the indicator,
- checking **crossovers** between the %D and %DS lines, and
- monitoring exits from overbought/oversold areas.

The chart plotted below shows a good example of bearish divergence on Cap Gemini in April 2007.



The **MACD2's** behaviour versus the MACD enables to accurately catch important turning points as well, inasmuch as it introduces an important momentum aspect in a trend-following indicator. We believe it can be rewarding to take a look at it when a wedge seems to run out of steam. But simple divergences between prices and their MACD are already meaningful: the S&P 500 index after the 1987 stock crash gives a perfect example of a reversal falling wedge which coincides with a very clear bullish divergence between prices and MACD (see below).



On the other hand, pure trend-following indicators such as ADX, or signals given by moving averages may be useful but more certainly in the case of continuation wedges. With reversal wedges, the crossing angle of a short moving average versus a long one, or an ADX seeming to plateau and revert to the downside may provide an indication in addition to a chartist breakout; but by construction, these signals occur lately (even if you use exponential moving averages).

2.4 The multi-timeframe analysis

Another means to check the validity of what might be a wedge and forecast a trading plan accordingly consists in simultaneously working on several investment horizons.

When you trade on an intraday basis with 60-min bar charts, it can be highly rewarding to examine the same asset on at least one longer step, let's say with daily data over one month. In the same way, an investor with a 6-month holding horizon can add to his/her analysis by studying a market over several years thanks to weekly charts. As traders, we all have in mind some situations where a rising wedge completed intraday fits into... another rising wedge on a daily basis!

Hence, the relevance of a wedge that implies a new movement in the same direction as the longer timeframe turns out to be much strengthened.

Wedges, especially the reversal ones, very often occur at turning points. If for instance a falling wedge on daily data goes along with a weekly or even monthly MACD reverting to the upside, then odds are really big that the asset is about to achieve a major low.

A last method consists in giving more importance – and thus taking heavier bets – on wedges depending on the direction of the longer trend. Of course, this technique happens to be successful with continuation wedges.

3. Wedges and trading rules

- a) If you want to **anticipate a breakout** from the pattern, only do it by small quantities, all the more so you deal with a probable reversal wedge. For a wedge, the timing of breakout is tricky insofar as, unlike in a triangle, you may not consider any deadline for the completion of the pattern – ¾ of theoretical length is commonly accepted for triangles. In the case of a wedge, it may well last until its apex, i.e. the point of intersection of its two boundary trendlines, without being formally invalidated.

- b) **Breakout:** play more substantial positions: in a first step, when the trendline is broken (which can obviously be a false signal); and in a second step, once it is confirmed (let's say, 2 candles out of the wedge's bounds).
 If a gap occurs little time before the breakout – see SAP's chart plotted below – or, even better, the very day of the breakout, then you may make a riskier bet.



- c) **Pullback:** take a close look at volumes and oscillators to appreciate the degree of conviction of this movement. Should volumes not follow suit to price action, then the probability for the breakout to be considered as definitive becomes very high. In this case, we suggest you should add a stop sale (purchase) a few points below (above) the former breakout level after a rising (falling) wedge
- d) Adopt a very strong short (long) bias once the pullback (correction) test failed, as represented below by the blue arrows on this Euro Stoxx 50 index chart – please also notice the interesting bearish divergence between MACD and MACD2 during the second rising wedge.



- e) And, very importantly... **do not assign any price target** just based on the pattern – and if you want to, better work with gaps and retracements. Even though chartist targets are easier to determine in the case of continuation wedges (by extrapolating the range of the previous movement prior to the building of the wedge, once the latter is undoubtedly broken), they are not outstandingly efficient, from our own experience. Or, at least, less efficient than in the case of other chartist patterns like triangles, pennants, rectangles or head-and-shoulders structures.
- f) What if our wedge is **invalidated**? As far as trading is concerned, the key point is not to be systematically, nor even mostly, right, but to have an action plan if the market does not behave as you were anticipating.

But what does invalidation really mean? In the case of wedges, asymmetrical patterns, we must keep some tolerance: false breakouts are extremely frequent and often require to re-draw the steepest trendline once or even several times. At the risk of repeating ourselves, watching volumes is crucial when it comes to weigh the odds for a false breakout.

A **major stop level** (taking the invalidation of the wedge into account) should obviously be set but this point must be chosen clearly above (below) the high (low) reached during the rising (falling) wedge. Don't forget: room to manoeuvre should be greater than for any other chart pattern.

If you work with **daily data**, we suggest you replace the high/low with the **highest/lowest close** reached during the wedge.

All things considered, we can say a **wedge's risk/reward ratio is generally good**; nevertheless, **frequent whipsaws** and **the necessity to take a loose stop-loss level may pollute your overall P&L**.

Conclusion

Wedges can be frequently found, especially on an intraday basis, and their predictive power is really high. That said, the best way to optimise your risk/reward is to complement one's purely chartist analysis with other indicators and preferably on varied timeframes. This holistic approach helps you take the good decisions and avoid usual hurdles linked to the unevenness of these price structures.

On longer time steps, falling wedges are more seldom encountered than traditional reversal patterns like inverted head-and-shoulders structures or double/triple bottoms, but they remain excellent forewarnings of the end of a downtrend.

As a matter of fact, you cannot pretend to correctly trade wedges without greater tolerance than for other patterns ("re-drawing" phenomenon after a false breakout without formal acknowledgement of invalidation). As a consequence, your trading discipline must be even more drastic, but be sure the game is worth the candle.

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