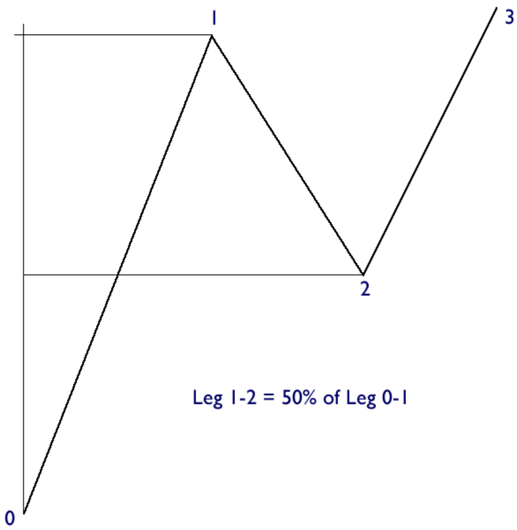
Technical Analysis – Fibonacci Levels

Retracements

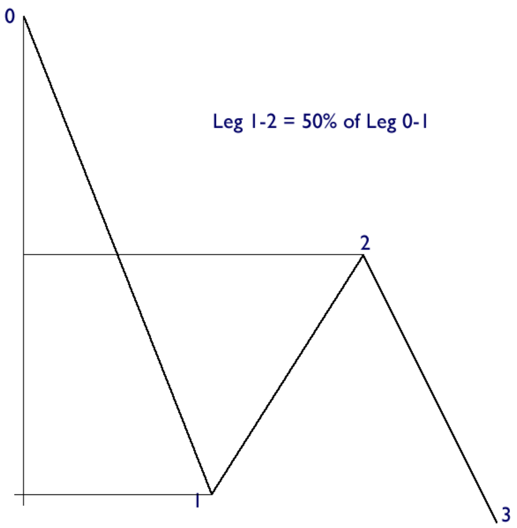
A retracement is a pullback within the context of a trend.

Dip



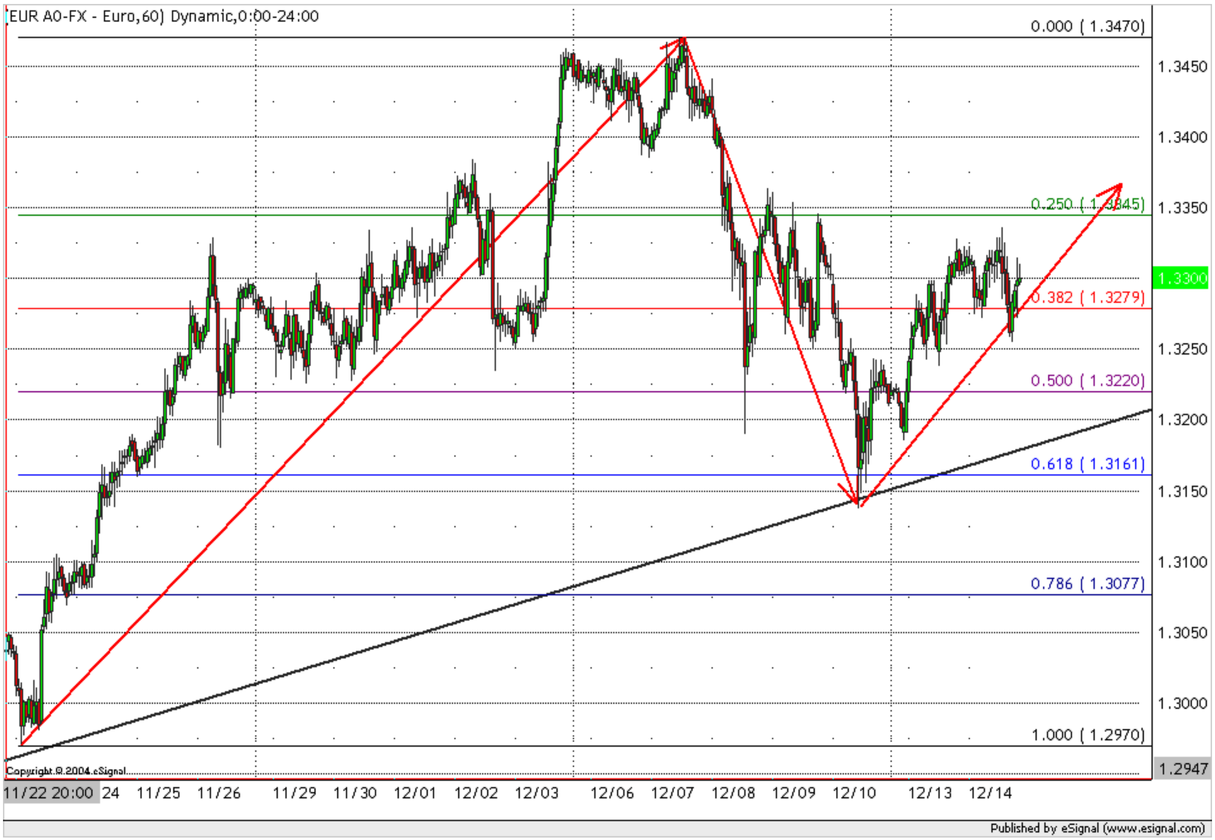
After a rise from 0 to 1, short term market participants start to take profit. This drives the price lower until such a point that the bulls, sensing the price is better value, enter the market again at point 2 and hence “Buy the Dip” enabling the market to continue in the direction of the trend.

Rally



Conversely, after a fall from 0 to 1, the shorts take profits thus causing a brief rally taking the price higher until point 2. At point 2, fresh shorts enter the market overcoming the shorter term bulls and driving the price lower in the direction of the main trend. Hence the term “Sell on Rally”.

The most popular type of retracement used in the Forex market is, undoubtedly, the Fibonacci retracement. Popular Fibonacci retracements are 25%, 38.2%, 50%, 61.2% and 78.6%.



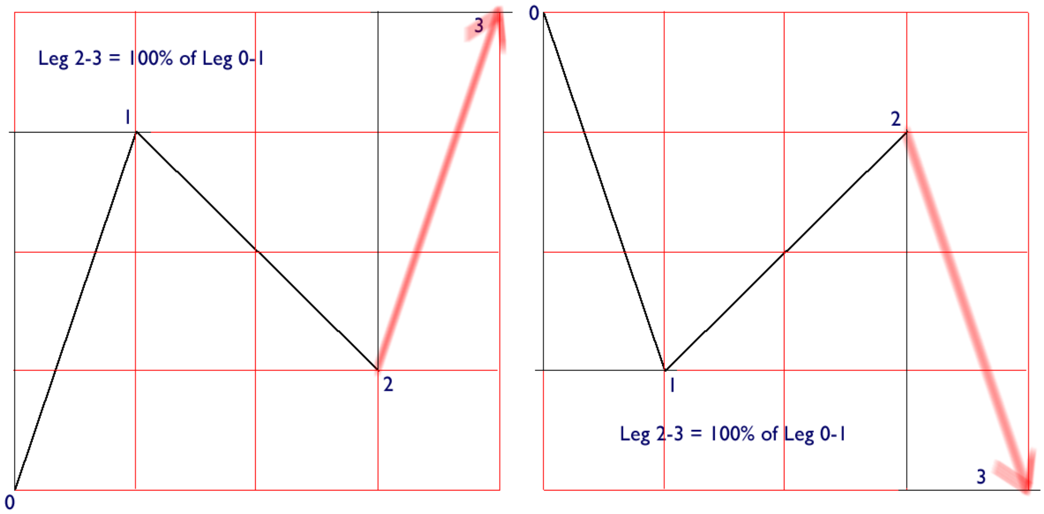
Notice how the downleg retraces 61.8% of the first upleg, 1.2970-1.3470, before continuing with the trend upwards.

In general, the larger retracements are found at the start and end of a trend as the market is deciding whether or not the previous trend has finished, maybe ranging a little before starting the next trend. Once more and more market participants realise that a new trend is in place, the retracements of the previous leg become smaller in depth with 38.2% and 50% being the most common. As the trend appears to run out of steam, the market becomes undecided and starts to take profit thus causing a deeper retracement of the previous leg eg. 61.8% or 78.6%

In a trending market, the shallower the retracement the stronger the trend.

Extensions

Extensions are used to project where a price may go to and are useful for calculating target prices when entering a trade



As with retracements, the most popular type of extension used in the Forex market is the Fibonacci extension. The extensions that provide the most commonly used projections are 61.8%, 100%, 161.8% and 261.8%

How to Use

In the example below, each one of the Fibonacci extensions represents a potential target when entering a trade. Once a pullback is in place at point 2, we can calculate the potential targets using Fibonacci extensions. Our initial targets will be 100% at 103.85 and 161.8% at 104.78. Further out our target will be 261.8% at 106.28. The stronger the trend, the greater the chance that the targets will be achieved.

Combining what we have seen so far:

The one thing that can be said about Technical Analysis is that it is easy to see everything in hindsight, that is, when it is too late. Let's look at the above USDJPY example in more detail, starting from the point where the market is trading sideways, and use the techniques described so far to see how they are applied in preparation for the next move.

Starting with the daily chart so that we have an overall perspective of how the market is biased:

The blue line represents the long term trendline resistance. The black line represents the medium term trendline resistance that is currently in play. The red line is the previous medium term trendline support, the break of which initiated the current down trend. Notice the pullback on 12 and 13 October, after the initial breach of the red trendline support, confirming that it now acts as resistance. We can also see that the market has been trading sideways in a range since the 24 November.

Let's apply some of the techniques in retrospect to see how the market behaved and to obtain a feel for what we should expect about the current market level. The chart below is the above chart after applying Fibonacci retracement and extension calculations plus a support line.

First thing to notice is that point 2 is a retracement of approximately 78.6% of leg 0-1 indicating to us that we may have the base of another trend.

Secondly, by plotting the Fibonacci extensions of the leg 0-1 we see some interesting results, namely that at each of the extensions there is a pause or turning point. This indicates that perhaps the market has been using this series of extensions as targets and taking profits when reached.

Thirdly, we see that the 24 June support at 107.00 acted as a resistance zone for the pullback of 10 November.

Fourthly, and perhaps of the most interest given the current scenario, we see that recent price action has pulled back from the 261.8% extension at 101.99 and has ranged since reaching that level. Recent price action at this level may prove to be consolidative before moving lower or may be an early indication that a retracement is due.

We now have a model of how the market has behaved in the recent past and can concentrate on the analysis to anticipate where it may go in the near future. To do this we need to examine the recent price action in more detail. We can achieve this with an hourly chart:

Breaking the chart down we see that from 24 November to 1 December the market has been trading in a range between 102.45/40 support and 103.40 resistance with an intermediate resistance at the 103.00 level. Figures ending in **.00**, .25, **.50** and .75 have a psychological effect on the market with those in bold being more significant. This can be seen in the above example where 102.50 also provides a support zone.

On 1 December the market accelerates a short term down trend which entices enough sellers on board to overcome the 102.45/40 support level. However at around 101.90 buying pressure suddenly overcomes the selling pressure at the time of the European markets opening on 2 December.

The shorter term traders, momentum traders and traders entering late, start to bail out on realising that buyers have entered the market. This in turn attracts the range traders back in as the price moves above 102.45/40 and the nett effect is a "short squeeze" where the shorts are squeezed out of their positions.

The squeeze continues up to the short term down trend resistance from where the market trades a 40 pip range whilst it decides upon the next move. During this phase buy stops will start appearing above the short term down trend resistance as the positional traders look to lock in profit and those looking for the breach place buy orders to take advantage of any breakout to the upside.

When the breakout through the short term down trend resistance does occur, it is swift as the triggering of stops lifts the market through the 103.00 resistance level. 103.00 then proceeds to act as a support level with 103.40 as the next resistance above.

One observation to make note of: When a market breaks out of a range, or some other pattern such as a triangle, but fails to follow through and reverses, in many cases it will reverse to the other side of the range, or pattern, that it broke out of. This is exactly what happened here when the market reversed at 101.90. The ensuing trend traded up to and through the upper side of the range at 103.40.

The breach of 103.40 did not have the momentum to sustain further bullish action and was promptly sold off, triggering sell stops, all the way back to the 101.90 [point 0 on chart] support. Data released that day would have also influenced the price action and this is discussed in Fundamental Analysis.

Price action after point 0 develops in the shape of a triangle or wedge with the high at 1 and the low at 2 producing a narrowing range. The chart below zooms in on this wedge so that it can be seen more clearly:

It can be seen that point 2 is at 102.37 which is close to the 61.8%, at 102.45, retracement of the previous upleg 0-1. Remember, the deeper retracements occur at the start and end of a trend. In addition, we have support at 102.45/40 which held the downleg 1-2. Price action is also making higher highs and higher lows. So this could be interpreted as the start of trend. Some traders will be entering longs as close to the short term up trend support connecting 0-2 with stops the other side of this support. Others will be sidelined waiting for a breakout of the wedge before entering.

It is at this point that initial target projections from point 2, 102.37, can be made using Fibonacci extensions of the upleg 0-1, 101.88-103.38. Referring to the third diagram in this example, it can be seen that these projections come in at:

102.37 + (61.8% x (103.38-101.88)): 103.29

102.37 + (100% x (103.38-101.88)): 103.87

102.37 + (161.8% x (103.38-101.88)): 104.79

102.37 + (261.8% x (103.38-101.88)): 106.27

Most charting applications will have an extension tool that will plot these values for you, saving you having to calculate them manually.

Before getting carried away thinking that we have found a trend and its potential targets, we must remember that there is still some resistance overhead at 103.00, 103.40, the upper trendline resistance of the wedge and also the longer term trendline resistance from 111.43 high of 7 Oct through 107.29 high of 10 Nov that will need to be overcome.

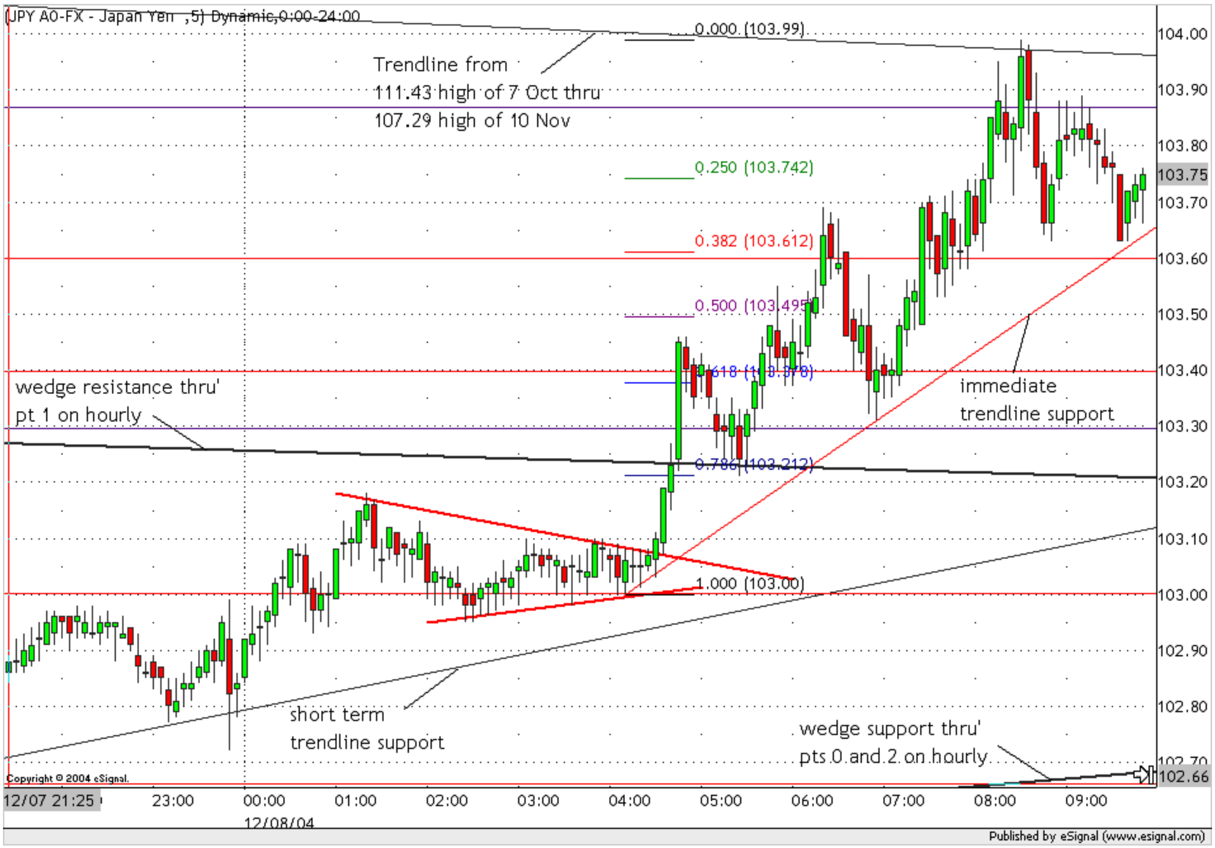
The chart below shows the ensuing breakout to the upside a few hours later:

Just before the breakout a smaller triangle/wedge, shown in red, develops indicating that the market is pausing as it realises that the upper wedge resistance, in black, is coming into focus around 103.25. Above this is the 103.29 Fibonacci extension and the 103.40 resistance level.

This cluster of levels provides an ideal location for the placement of entry buy stops as a) there will be those traders that see the trendline resistance provided by the upper peaks of the wedge as perhaps a place to short from and will have placed their buy stop loss orders to the upside and b) many traders will be using similar technical analysis and thus also be placing entry buy stops there too.

When the smaller triangle is broken out to the upside, there is enough momentum in the breakout to trigger the stops through 103.25, the area of the trendline resistance provided by the wedge. Other traders, seeing that the wedge has been breached, may also have joined the trend buying at market.

To view how trading action from the perspective of a short term trader, let’s zoom in on a 5 minute chart:



We can see the:

1. horizontal supports, in red, at 103.00, 103.40 and 103.60
2. Fibonacci extensions, in purple, at 103.29 and 103.87
3. wedge support and resistance in black.
4. immediate trendline support in red
5. short term trendline support
6. medium term trendline resistance

Notice that immediately after the breakout, there was a pullback to the wedge resistance from which the breakout occurred. At which point more traders entered long placing their stops beneath this former resistance anticipating that it would act as support.

It is also evident that the market was aware of the overhead medium term trendline resistance coming in at just under 104.00, as well as the 100% Fibonacci extension at 103.87, by the choppy manner in which it reached that level through the intermediate resistances. This is a longer term trendline and is thus not likely to be broken on a first attempt. This becomes clear when we see some immediate profit taking when this level is reached. Other traders will have seen this as an opportunity to short as the risk is defined by placing the stop loss above the medium term trendline resistance. This would have helped accelerate the fall from 103.99 to 103.62.

However, we can see that the former resistance level at 103.60 is now providing support. This is further strengthened by the immediate trendline support and the fact that 103.61 is 38.2% of the rise from 103.00 to 103.99. Short term, intraday, traders may use this as a base to initiate speculative longs with a tight stop beneath 103.60 support, for a renewed assault on the medium term trendline resistance.

Summarising the situation as seen in the above two charts:

- Extensions 61.8% and 100% have been met, with the 100% coinciding with the medium term trendline resistance.
- Immediate trendline support is strengthened by presence of 38.2% retracement of the rise 103.00 to 103.99 coming in at 103.61 and horizontal support at 103.60
- Immediate trend is up and this direction will be favoured by the intraday traders for a fresh attempt through 103.90 zone with a potential targeting the 161.8% extension at 104.79.
- Other traders may look to the hourly chart and decide to trade long on a break of, or a break and pullback to, the medium term trendline resistance
- There will also be those traders taking the short side either at the medium term trendline resistance or on a break through the immediate trendline support.

Let’s now look at the possible entries that would have been used en route to the 161.2% target of 104.79.

a. Low risk entry for intraday trading with a stop the other side of the immediate trendline support. Risk to the upside is the 103.87 extension could act as resistance and have still to breach medium term trendline resistance.

b. As per a.

c. Enter on breach of medium term trendline resistance. This would have seen both intraday traders and positional traders enter the market as the break is visible on both the shorter [eg 5 min] and longer [eg 60 min] timeframe charts. Stops would have been placed beneath points b, 103.70, and a, 103.60, depending on the timeframe of the chart used.

d. Visible on intraday, shorter timeframe charts. Enter on pullback to medium term trendline resistance, now support, with immediate trendline and 103.87 extension providing additional support. Upside risk is that high at 104.30 acts as resistance.

e. As per d. with the addition of lower high at 103.20 providing potential resistance.

f. Visible on intraday, shorter timeframe charts. Enter on break of triangle resistance with a stop beneath e. and medium term trendline now acting as support around 103.90

g. Visible on both intraday and the longer timeframe charts. Enter on break of previous high at 103.40. Stop beneath previous swing low at e.

Subsequently, the target level, 104.79, is breached with the high being 104.98. From here there is a spate of short term profit taking which sees the price come back to the previous high at 104.30, now acting as support at h.

Notice that at h. and i. further buying interest entered the market. This would have been the short term "buy on dip" traders looking to capitalise on any further rise. They would have bailed out on the breach through point j. You can also see that point j. did not give way immediately. It is on the immediate trendline support and is also on the line made through h. and i., the short term triangle support. This may have enticed speculative buyers but they would have soon exited their positions. The breach through j. confirmed that the immediate trendline support had given way

The market can be seen to be coming off the highs at this juncture. This is often the case after a 161.8% extension has been achieved. It does not mean that the overall up trend is necessarily over, just that the market may need time to consolidate. This can be seen more clearly on the hourly chart below:

The chart shows that:

- price action moved sideways between points 3 and 3a in a 115 pip range over 103.83-104.98.
- the low of this sideways action was supported by 38.2% retracement, 103.79, of the rise from the lows. This is a normal, healthy retracement within a trend. We wouldn't question the strength of a trend until approaching a 61.8% retracement or unless the peak (lows in the case of a down trend) of leg 0-1 is being threatened.
- the low of this sideways action is supported by the former medium term trendline resistance now acting as support. The rally just before point 4 was a result of traders seeing a confluence of support at 103.80 and either entering longs or exiting short positions thus causing a squeeze higher.
- additional support comes into effect at point 4 strengthen the existing support. The support at 103.80 is now considered sufficient enough, by the market, to define the risk for going long. The rally from point 4 is rejected at 3a, the top of the range where it is quickly sold off.
- by point 4a there is a clear short term trend in place from point 2 through point 4 and persuades more traders to enter the market at point 4a with a stop beneath 103.80, or even tighter at a point just beneath the trendline at point 4a. in the region of 104.20. This is the reason for the bounce off point 4a.
- the 161.8% extension of leg 4-3a supports the view that the overall target of 106.29 is attainable.