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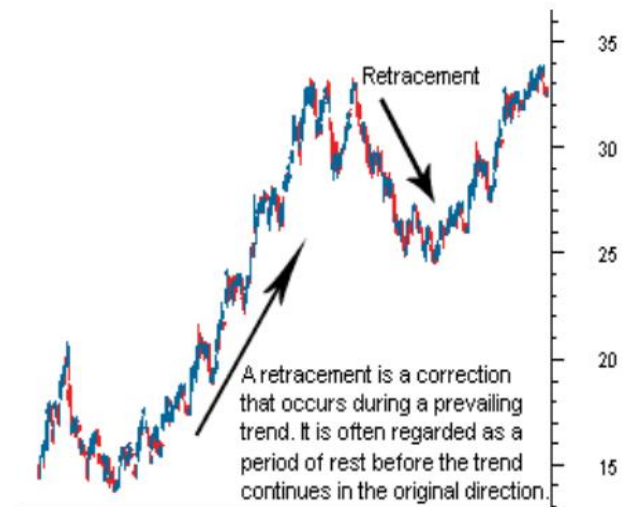
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Market Masters, LLC
www.marketmastersacademy.com

Retracement

- DEFINITION of 'Retracement'

temporary reversal in the direction of a stock's price that goes against the prevailing trend. A retracement does not signify a change in the larger trend. On a chart where a stock's price is generally headed upward, retracements are the small dips in price that the stock experiences during its overall upward trend. Whether an investor identifies a change in a stock's direction as a retracement or a reversal will impact how he responds to it.



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Retracement

- Technical analysts make an important distinction between retracements and reversals.

Retracements are short-term changes within a longer-term trend, while reversals indicate the end of a larger trend and the beginning of a new trend. When a retracement first begins, it is difficult to tell whether it is a retracement or a reversal.

- Technical analysts try to distinguish between the two using Fibonacci retracements or DOW

Retracements, pivot point support and resistance levels, and trendline support and resistance levels.



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Fibonacci Numbers

FIBONACCI NUMBERS AND GOLDEN RATIO

- There is a special ratio that can be used to describe the proportions of everything from nature's smallest building blocks, such as atoms, to the most advanced patterns in the universe, such as unimaginably large celestial bodies. Nature relies on this innate proportion to maintain balance, but the financial markets also seem to conform to this 'golden ratio.' Here we take a look at some technical analysis tools that have been developed to take advantage of it.



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The Mathematics

- Mathematicians, scientists and naturalists have known this ratio for years. It's derived from something known as the Fibonacci sequence, named after its Italian founder, Leonardo Fibonacci (whose birth is assumed to be around 1175 AD and death around 1250 AD). Each term in this sequence is simply the sum of the two preceding terms (1, 1, 2, 3, 5, 8, 13, etc.).
- But this sequence is not all that important; rather, it is the quotient of the adjacent terms that possesses an amazing proportion, roughly 1.618, or its inverse 0.618. This proportion is known by many names: the golden ratio, the golden mean, PHI and the divine proportion, among others. So, why is this number so important? Well, almost everything has dimensional properties that adhere to the ratio of 1.618, so it seems to have a fundamental function for the building blocks of nature.



Fibonacci Numbers

Prove It!

- Don't believe it? Take honeybees, for example. If you divide the female bees by the male bees in any given hive, you will get 1.618. Sunflowers, which have opposing spirals of seeds, have a 1.618 ratio between the diameters of each rotation. This same ratio can be seen in relationships between different components throughout nature.
- Still don't believe it? Need something that's easily measured? Try measuring from your shoulder to your fingertips, and then divide this number by the length from your elbow to your fingertips. Or try measuring from your head to your feet, and divide that by the length from your belly button to your feet. Are the results the same? Somewhere in the area of 1.618? The golden ratio is seemingly unavoidable.
- But that doesn't mean that it works in finance ... does it? Actually, the markets have the very same mathematical base as these natural phenomena.



Fibonacci Numbers

Fibonacci sequence is as follows:

- 0,1,1,2,3,5,8,13,21,34,55,89,144,233,377,610.....

The sequence extends to infinity and contains many unique mathematical properties.

- After 0 and 1, each number is the sum of the two prior numbers ($1+2=3$, $2+3=5$, $5+8=13$, $8+13=21$ etc...).
- A number divided by the previous number approximates 1.618 ($21/13=1.6153$, $34/21=1.6190$, $55/34=1.6176$, $89/55=1.6181$). The approximation nears 1.6180 as the numbers increase.
- A number divided by the next highest number approximates .6180 ($13/21=.6190$, $21/34=.6176$, $34/55=.6181$, $55/89=.6179$ etc....). The approximation nears 0.6180 as the numbers increase. This is the basis for the 61.8% retracement.



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- A number divided by another two places higher approximates .3820 ($13/34=.382$, $21/55=.3818$, $34/89=.3820$, $55/144=.3819$ etc....). The approximation nears .3820 as the numbers increase. This is the basis for the 38.2% retracement. Also, note that $1 - 0.618 = 0.382$
 - A number divided by another three places higher approximates .2360 ($13/55=.2363$, $21/89=.2359$, $34/144=.2361$, $55/233=.2361$ etc....). The approximation nears 0.2360 as the numbers increase. This is the basis for the 23.6% retracement.
 - 1.618 refers to the Golden Ratio or Golden Mean, also called Phi. The inverse of 1.618 is 0.618.
- These ratios can be found throughout nature, architecture, art and biology



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Fibonacci Numbers

The Fibonacci Studies and Finance

When used in technical analysis, the golden ratio is typically translated into three percentages: – 38.2%, 50% and 61.8%. However, more multiples can be used when needed, such as 23.6%, 161.8%, 423% and so on. There are four primary methods for applying the Fibonacci sequence to finance: retracements, arcs, fans and time zones.



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1. Fibonacci Retracements

Fibonacci retracements use horizontal lines to indicate areas of support or resistance. They are calculated by first locating the high and low of the chart. Then five lines are drawn: the first at 100% (the high on the chart), the second at 61.8%, the third at 50%, the fourth at 38.2% and the last one at 0% (the low on the chart). After a significant price movement up or down, the new support and resistance levels are often at or near these lines.

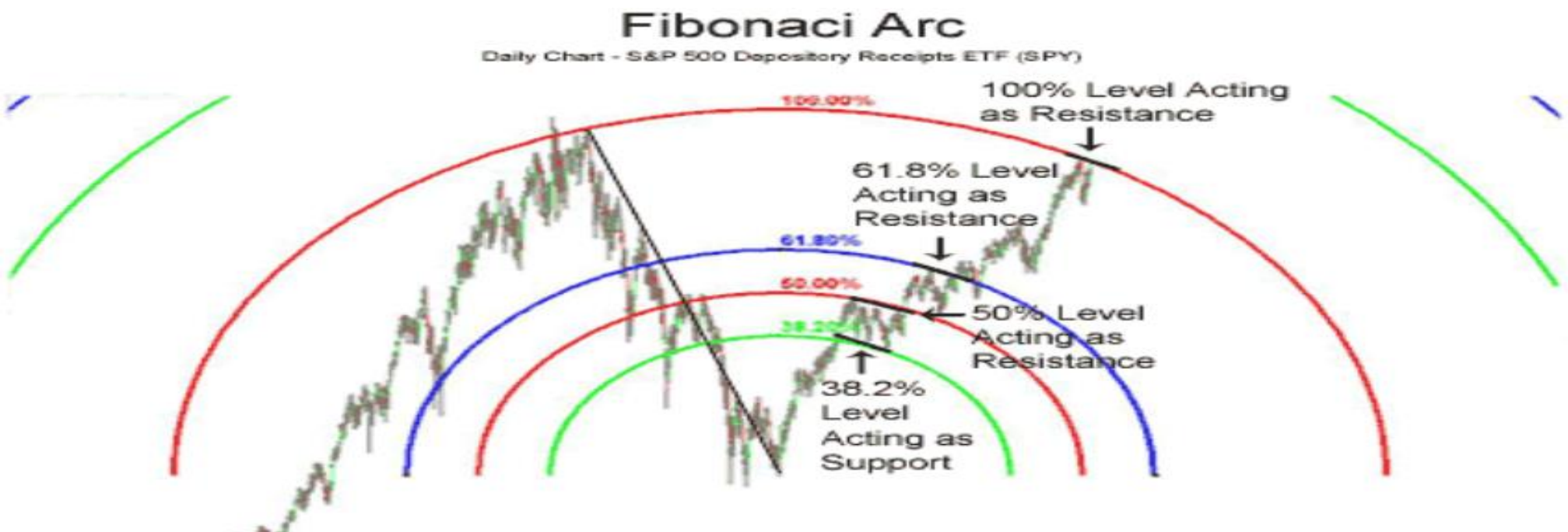


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2. Fibonacci Arcs

Finding the high and low of a chart is the first step to composing Fibonacci arcs. Then, with a compass-like movement, three curved lines are drawn at 38.2%, 50% and 61.8%, from the desired point. These lines anticipate the support and resistance levels, and areas of ranging.



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3. Fibonacci Time Zones

Unlike the other Fibonacci methods, time zones are a series of vertical lines. They are composed by dividing a chart into segments with vertical lines spaced apart in increments that conform to the Fibonacci sequence (1, 1, 2, 3, 5, 8, 13, etc.). These lines indicate areas in which major price movement can be expected.



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4. Fibonacci Fans

Fibonacci fans are composed of diagonal lines. After the high and low of the chart is located, an invisible vertical line is drawn through the rightmost point. This invisible line is then divided into 38.2%, 50% and 61.8%, and lines are drawn from the leftmost point through each of these points.

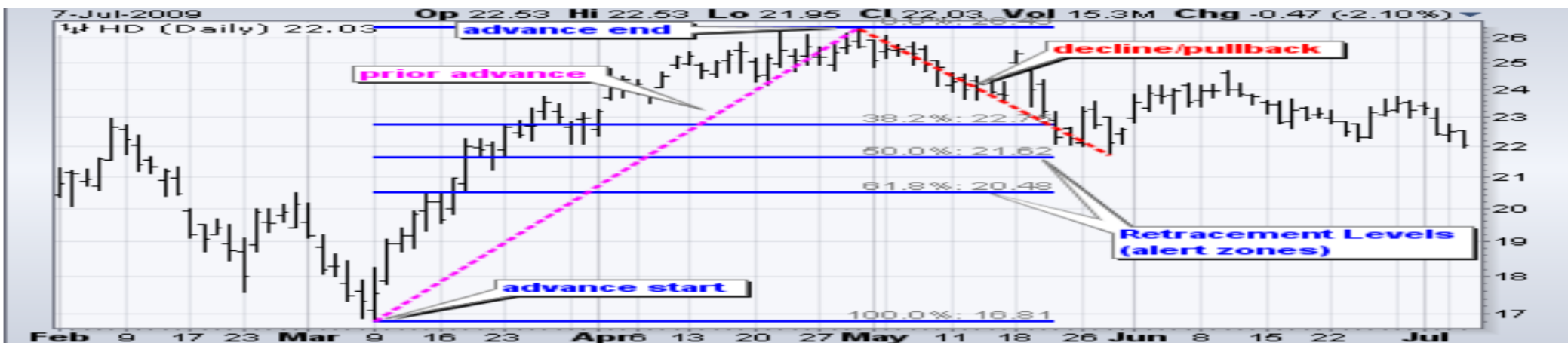


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Retracement Alert Zones

- Retracement levels alert traders or investors of a potential trend reversal, resistance area or support area. Retracements are based on the prior move. A bounce is expected to retrace a portion of the prior decline, while a correction is expected to retrace a portion of the prior advance. Once a pullback starts, chartists can identify specific Fibonacci retracement levels for monitoring. As the correction approaches these retracements, chartists should become more alert for a potential bullish reversal.



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- The inverse applies to a bounce or corrective advance after a decline. Once a bounce begins, chartists can identify specific Fibonacci retracement levels for monitoring. As the correction approaches these retracements, chartists should become more alert for a potential bearish reversal.



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- Based on depth, we can consider a 23.6% retracement to be relatively shallow. Such retracements would be appropriate for flags or short pullbacks. Retracements in the 38.2%-50% range would be considered moderate. Even though deeper, the 61.8% retracement can be referred to as the golden retracement. It is, after all, based on the Golden Ratio.
- Shallow retracements occur, but catching these requires a closer watch and quicker trigger finger. The examples below use daily charts covering 3-9 months. Focus will be on moderate retracements (38.2-50%) and golden retracements (61.8%).



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Conclusions

- Fibonacci retracements are often used to identify the end of a correction or a counter-trend bounce. Corrections and counter-trend bounces often retrace a portion of the prior move. While short 23.6% retracements do occur, the 38.2-61.8% covers the more possibilities (with 50% in the middle). This zone may seem big, but it is just a reversal alert zone. Other technical signals are needed to confirm a reversal. Reversals can be confirmed with candlesticks, momentum indicators, volume or chart patterns. In fact, the more confirming factors the more robust the signal.



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Bodies or shadows?

There is always a minor debate about whether you should anchor your Fibonacci retracement to the body of a candle or the shadows. I prefer to use the shadows so that the study includes the extremes of market sentiment. Most of the time, the difference is insignificant but sometimes it can be critical.

Support and resistance lines or areas?

I feel that support and resistance is more often an area around the Fibonacci lines than a specific to-the-penny point in the charts. You will find that prices move around a support or resistance line, especially during a consolidation. Discounting that level because of a temporary break may lead you to ignore a valid signal in the future.



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