Trends, Indicators and Patterns:

Technical Description and Examples

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Feb 14th, 2019

Software Engineering Web Application Assignment 2

Abstract

In the field of finance and economics, technical analysis is an analysis methodology for forecasting the direction of prices through the study of past market data, primarily price and volume. Fundamental analysts examine earnings, dividends, assets, quality, ratio, new products, research and the like. Technicians employ many methods, tools and techniques as well, one of which is the use of charts. Using charts, technical analysts seek to identify price patterns and market trends in financial markets and attempt to exploit those patterns. [1] [2]

In this essay, we study and introduce some of the commonly applies indicators and patterns that are used in technical analysis.

Trend Lines and Channels

Trend Lines

Technical analysis is built on the assumption that prices trend. Trend Lines are an important tool in technical analysis for both trend identification and confirmation. A trend line is a straight line that connects two or more price points and then extends into the future to act as a line of support or resistance. Many of the principles applicable to support and resistance levels can be applied to trend lines as well. [3]

- **Uptrend Line:** An uptrend line has a positive slope and is formed by connecting two or more low points. The second low must be higher than the first for the line to have a positive slope. Note that at least three points must be connected before the line is considered to be a valid trend line.
- **Downtrend Line:** A downtrend line has a negative slope and is formed by connecting two or more high points. The second high must be lower than the first for the line to have a negative slope. Note that at least three points must be connected before the line is considered to be a valid trend line.

Figure 1. A Typical Uptrend Line

- **Drawing Trend Lines:** The very first thing to know about drawing trend lines is that you need at least two points in the market to start a trend line. Once the second swing high or low has been identified, you can draw your trend line. There are three very important keys to drawing effective trend lines. [7]
    1. The higher time frames will always produce the most reliable trend lines, so start there and work your way down.
    2. Most trend lines will have some overlap from the high or low of a candle, but what's important is getting the most touches possible without cutting through the body of a candle.
    3. A trend line does not needs to fit, if it doesn't fit the chart then it isn't valid and is therefore not worth having on your chart.

Channels

Price Channels are lines set above and below the price of a security. The upper channel is set at the x-period high and the lower channel is set at the x-period low. For a 20-day Price Channel, the upper channel would equal the 20-day high and the lower channel would equal the 20-day low. The dotted centerline is the midpoint between the two channel lines. Price Channels can be used to identify upward thrusts that signal the start of an uptrend or downward plunges that signal the start of a downtrend. Price Channels can also be used to identify overbought or oversold levels within a bigger downtrend or uptrend. [4]

Price Channels can be used to identify trend reversals or overbought/oversold levels that denote pullbacks within a bigger trend. A surge above the upper channel line shows extraordinary strength that can signal the start of an uptrend. Conversely, a plunge below the lower channel line shows serious weakness that can signal the start of a downtrend. Once an uptrend has started, chartists can move to a shorter timeframe to identify pullbacks with oversold readings. A move below the lower channel line indicates oversold conditions that can foreshadow an end to the pullback. Similarly, short-term bounces within a bigger uptrend can be identified with Price Channels. A move above the upper channel line signals overbought conditions that can foreshadow an end to the bounce.

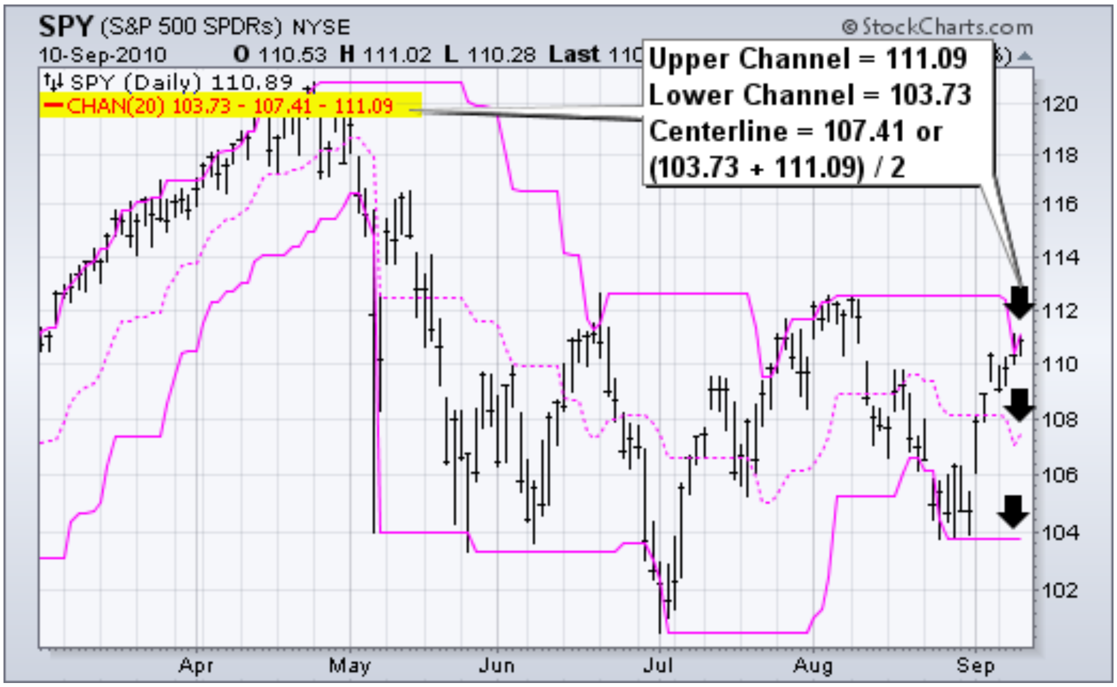

Figure 2. Three Types of Channels

Support and Resistance

Support and resistance represent key junctures where the forces of supply and demand meet. In the financial markets, prices are driven by excessive supply (down) and demand (up). Supply is synonymous with bearish, bears and selling. Demand is synonymous with bullish, bulls and buying. These terms are used interchangeably throughout this and other articles. As demand increases, prices advance and as supply increases, prices decline. When supply and demand are equal, prices move sideways as bulls and bears slug it out for control. [5]

Support

Support is the price level at which demand is thought to be strong enough to prevent the price from declining further. The logic dictates that as the price declines towards support and gets cheaper, buyers become more inclined to buy and sellers become less inclined to sell. By the time the price reaches the support level, it is believed that demand will overcome supply and prevent the price from falling below support.

Resistance

Resistance is the price level at which selling is thought to be strong enough to prevent the price from rising further. The logic dictates that as the price advances towards resistance, sellers become more inclined to sell and buyers become less inclined to buy. By the time the price reaches the resistance level, it is believed that supply will overcome demand and prevent the price from rising above resistance.

Figure 3. Support and Resistance

Major Trend Reversals

Price is the ultimate indicator and tells us when trend reversals are occurring. By spotting trend reversals we can potentially get in early on the next major price wave. Using price as the primary input for our decisions, there are two methods for trading trend reversals. One involves a slowdown in the trend followed by a trendline break. The other requires a sharp move against the trend and then a pullback. [6]

Trading a trend reversal requires an entry point and a stop loss to limit risk in case the reversal doesn't materialize. Downtrends are reversed by the price either making a higher high followed by a higher low, or a higher low followed by another move higher. Uptrends are reversed by the price either making a lower low followed by a lower high, or a lower high followed by another move lower.

Figure 4. Downtrend Reversal and Uptrend

Common Patterns

Head-and-shoulders pattern

On the technical analysis chart, the Head and shoulders formation occurs when a market trend is in the process of reversal either from a bullish or bearish trend; a characteristic pattern takes shape and is recognized as reversal formation. [8]

- **Head-and-shoulders Top:** Head and Shoulders formation consists of a left shoulder, a head, and a right shoulder and a line drawn as the neckline. A neckline is drawn across the bottoms of the left shoulder, the head and the right shoulder. When prices break through this neckline and keep on falling after forming the right shoulder, it is the ultimate confirmation of the completion of the Head and Shoulders Top formation. It is quite possible that prices pull back to touch the neckline before continuing their declining trend.

- **Head-and-shoulders Bottom:** This formation is simply the inverse of a Head and Shoulders Top and often indicates a change in the trend and the sentiment. The formation is upside down in which volume pattern is different from a Head and Shoulder Top.

Figure 5. Head-and-shoulders Chart Example [9]

Flags and Pennants

Flags and pennants are continuation patterns. They are traded in the same way, but each has a slightly different shape. The terms flag and pennant are often used interchangeably.[10]

A flag or pennant pattern forms when the price rallies sharply, then moves sideways or slightly to the downside. This sideways movement typically takes the form or a rectangle (flag) or a small triangle (pennant), hence their names. Draw trendlines along the highs and lows of the sideways price action. The sharp price rise preceding the flag or pennant is called the flag pole.

The sideways period is often followed by another sharp rise. This is where the trading opportunity comes in. Once the flag pole and a flag or pennant have formed, traders watch for the price to breakout above the upper flag/pennant trendline. When this occurs, enter a long trade.

Figure 6. Pennant Example

Triangles

A triangle is a technical chart pattern created by drawing trendlines along a converging price range. Variations of a triangle include ascending, descending and symmetrical triangles. [11] A triangle forms when the price action narrows over several price swings. If trendlines are drawn along the highs and lows of the price action, the trendlines converge towards each other. [12]

Figure 7. Triangle

Conclusion

In this essay, we have discussed several common patterns along with their likely indications behind in the economical or mathematical models. We have described the shapes of each indicator and attached several graphs for further clarification. Meanwhile, we have gone through common patterns such as Head-and-shoulders pattern or flags pattern. These patterns show great help as we try demonstrating live stocks conditions. All above could be powerful tools highly contributive in the field of economics.

References

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