Support and resistance levels are important because they represent points at which major price movements are expected to occur. Being able to identify these levels in order to act on upon the expected price movement is important to traders and short-term investors, as well as long-term investors looking for a buy or sell point.

One common method of identifying support or resistance levels is using pivot points. Furthermore, pivot points can help determine the direction of the market and as such are leading or predictive indicators. They were originally used by floor traders to set key levels of support or resistance. Here we discuss how to calculate and interpret them.

Calculating Pivot Points

You can calculate pivot points over a variety of time frames. StockCharts.com, a CI top pick among technical analysis and charting sites, uses a variety of time periods for generating the high, low and closing prices used in calculating pivot points.

Pivot points for one-, five-, 10- and 15-minute charts use the prior day’s high, low and close, such that today’s pivot points for those time frames would use yesterday’s high, low and close. Pivot points for 30- and 60-minute charts use the prior week’s high, low and close (calendar week); pivot points for daily charts use the prior calendar month’s data, such that pivot points for August 1 would be based on the high, low and close for July; pivot points for weekly and monthly charts use the prior calendar year’s data. Depending on the period, new pivot points are not calculated until the new day, week, month or year begins.

Figure 1 shows a six-month daily price chart of the S&P 500 SPDR (SPY) exchange-traded fund. Note that there is a new set of pivot point lines for each month, based on the prior month’s data.

There are actually several different methods for calculating pivot points, but here we focus on the most common method: the standard or five-points system. This system uses high, low and closing prices, along with two support and two resistance levels to derive a pivot point. The base pivot point of the standard pivot points system is a simple average of the high, low and close prices, such that:

\[
Pivot\ \text{Point} (P) = \frac{(High + Low + Close)}{3}
\]

Support 1 (S1) = \(P \times 2\) – High
Support 2 (S2) = \(P (High - Low)\)
Resistance 1 (R1) = \(P \times 2\) – Low
Resistance 2 (R2) = \(P + (High - Low)\)

Interpreting Pivot Points

Calculated pivot points serve as the primary support and resistance levels. We expect the largest price movements to take place at those prices, so it is important to watch price action closely when these levels come into play.

Traders use pivot points in two ways. The first is in determining the overall market trend, while the second is as enter and exit price points in the market.

When a pivot point is broken by

Figure 1. Pivot Points for S&P 500 SPDR Exchange-Traded Fund

Source: StockCharts.com.
prices moving upward, this is a bullish signal, and vice versa. As a trader, you can use pivot points to set a limit order to buy shares when a price breaks a resistance level or set a stop-loss order on an active trade if a support level is broken.

Traders also use the second support and resistance levels to identify potentially overbought or oversold situations. Price movement above the second resistance level is a sign of strength, but also indicates a potential overbought situation that may lead to a pullback in price. Likewise, a move below the second support level is a sign of weakness, but also suggests a possible oversold situation that may lead to a price rebound.

Figure 2 is a five-month daily price chart for Apple Inc. (AAPL) for the period ending August 29, 2013. Again, remember that the pivot points for each month are based on the high, low and closing prices from the previous month. In early May, the price ran into resistance at the first resistance level (R₁) and eventually retreated back to the pivot point line. In July prices broke above the pivot point line, indicating a change in direction for AAPL shares. Prices broke above the first resistance level (R₁) a few weeks later and again in mid-August.

We can also see where AAPL shares entered oversold territory in late June when price broke below the second support level (S₂). This was the precursor to prices break above the pivot point line at the start of July. Then in mid-August, AAPL shares reached an apparent overbought situation when prices broke above the second resistance level (R₂). Only time will tell how long it will take for the trend to reverse and the magnitude of the price decline that may follow.

Conclusion

Pivot points offer traders a means of determining price trend as well as support and resistance levels. As is the case with all technical analysis tools, it is important to use multiple indicators to receive confirmation of a trend or overbought/oversold condition before acting upon it.

CI Editor Speaking at Local Chapters

Wayne A. Thorp, CFA, editor of Computerized Investing and senior financial analyst at AAII, will be giving a presentation to the following chapter on “Determining a Stock’s True Worth.” Please go to www.aaii.com/chapters closer to the meeting date for more information and to register for this meeting.

Central Florida: Wednesday, November 13, 2013.