Chapter Six:
Stochastics—Kings of Momentum

When it comes to momentum indicators, the stochastic oscillator is perhaps king of the hill. The stochastic indicator is one of the most popular technical indicators; yet, traders do not always use it in the best way. Here, we will take a close look at what the stochastic really measures, and then compare traditional methods for using the stochastic to spot momentum opportunities to the newer methods.

These newer methods not only use the stochastic more effectively than the traditional methods, but also do a better job of exploiting specifically what the stochastic is—and is not—saying about the market.

The standard definition of the stochastic oscillator is that it is a technical indicator that compares a market's closing price to that market's price range over a period of time. George Lane, who popularized the stochastic in an article for *Technical Analysis of Stocks & Commodities* called "*Lane's Stochastics*," wrote of his indicator (1983):

> *This method is based on the observation that as price decreases, the daily closes tend to accumulate ever closer to their extreme lows of the daily range. Conversely, as prices increase, the daily closes tend to accumulate ever closer to the extreme highs of the daily range.*

Think for just a moment about how Lane's observations about the stochastic might be displayed by a candlestick chart—and how well a Japanese candlestick chart on its own could reveal the same pattern of closes "accumulating" at the extreme end of a price range. Hopefully, you now see why I began this discussion of momentum indicators with a survey of candlesticks.

The stochastic is perhaps the most widely available technical indicator in both stand-alone and online/web-based charting services. Let's look first at the stochastics' component parts and its traditional uses. Then, let's explore what I think might be a better way for most traders, especially most momentum traders, to use the stochastic.

The stochastic oscillator consists of two lines called a %D line and a %K line. The %K line—also known as the "raw" stochastic—is derived by determining the ratio between the current session's close less the lowest point for a specific number of sessions on the one hand, and the highest point for a specific number of sessions less the lowest point for a specific number of sessions on the other. This ratio is multiplied by 100 to arrive at a value for %K.

The %D line—also known as the slow line—is actually a moving average of the %K line. When constructed this way, the stochastic is referred to as the "fast stochastic." However, there is a more widely used "slow stochastic" that takes the slower %D value from the fast stochastic, inserts it as the value %K, and then derives a new, even slower %D from that new %K. Observers like Alexander Elder in his book, *Trading for a Living*, point out that the advantage of the slow stochastic is that it creates fewer signals, meaning fewer "whipsaws" and less "market noise."

So the stochastic measures the frequency of closes near the high of the range, indicating bullish or upward momentum, compared to the frequency of closes near the lower of the range, indicating bearish or downward momentum. And as I alluded to earlier, this information is critical to momentum traders who need to know which side—those betting on

higher prices or those betting on lower prices—is carrying the day. As David Nassar said of the stochastic in his DVD, *Foundational Analysis:* "stochastics measure the shifting control of the emotional range (from fear to greed)." Keep this concept in mind as we look at a way of using stochastics to exploit the shift in psychology when greed and fear overwhelm a market.

Values for the stochastic vary much more widely than those for other momentum indicators such as the RSI. In *The Visual Investor: How to Spot Market Trends*, John Murphy recommends 14 and 3 as values for the slow stochastic. The software I use most commonly sets 10 and 10 as the default values. For the "hinge" or "hook" strategy I will discuss shortly, values of 7 and 16 (%K and %D, respectively) have been used effectively. And for one of the other stochastic strategies I will introduce later, the settings of 20 and 20 are my preference.

Additionally, George Lane set out eight different "formations" in which the stochastic might appear. Three of these formations—divergences, crossovers, and hinges—are among the most popular ways contemporary traders use stochastics. I will discuss each of these approaches and add a fourth technique I've nicknamed "BOSO" that is one that every trader using stochastics should consider.

Crossovers

Stochastic crossovers represent the most basic use of the stochastic, and, sometimes, the most problematic use. Here, the method involves buying crosses when the faster line (the %K line) moves above the slower line (the %D line), and selling crosses when the faster line moves below the slower line.

Stochastic crossover methods are similar to moving average crossover methods: follow the lead of the faster or shorter-term line in relation to the slower or longer-term line. This notion will come up again a little

Figure 6.1 | Dow Jones Industrial Average
Daily | August 2006-October 2006

Bullish stochastic crossovers helped traders time dips in this uptrend from the second half of 2006.

Chart courtesy of Prophet Financial Systems. Inc.

later when we look at another tool for spotting momentum opportunities: moving average trios.

However, since we are using a stochastic oscillator rather than a pair of moving averages, there are some additional caveats to be aware of that will improve the success rate of stochastic crossovers as a trading method. For example, rather than buying or selling crosses of the slow line by the fast line wherever they occur, some traders require that the cross take place in oversold territory (below 20) in order to be a buy signal, or in overbought territory (above 80) in order to be a sell signal.

Consider the example of the U.S. Dollar Index in the spring of 2006 (Figure 6.2). Although the market went on to provide a true breakdown in the second half of April, a trader mechanically trading stochastic crossovers would have been repeatedly whipped around throughout March and the first half of April. Although stochastic crossovers helped traders take advantage of the market's downturn in April, those same crossovers were helpless while the U.S. Dollar Index futures traded sideways earlier in the spring.

As such, other methods of using the stochastic—from divergences and the "hinge/hook" method to BOSO—are often preferable in both sideways and strongly trending markets.

Figure 6.2 | U.S. Dollar Index Daily | March 2006-April 2006

Stochastic crossovers in tight, congested or sideways markets often provide problematic signals until the market breaks to the upside or downside.

Chart courtesy of Prophet Financial Systems. Inc.

Divergences

A [divergence](#) in the stochastic occurs when the stochastic diverges from market price. For example, if a market makes a high and then a higher high, while the stochastic makes a high and then a lower high, the stochastic is said to be diverging from price. The same is true in the other direction. If a market makes a low and then a lower low, while the stochastic makes a low and then a higher low, then the stochastic is also diverging from price. The only difference is that the first example represents a bearish or negative divergence, while the second example represents a bullish or positive divergence.

The good news about divergences is that many, if not most, major tops and bottoms form telling divergences that can allow traders to go short at market peaks and long at market troughs. The bad news about divergences is that a trending market will often create multiple divergences before reaching a top or bottom. Traders can find themselves entering positions based on a divergence, only to be stopped out over and over as the market continues to make higher highs or lower lows.

There are a few ways to make trading divergences a little less of a highwire act. The first is to make sure that the market you are analyzing has moved far enough from a consolidation, base, or extreme point (i.e., a peak or a trough) that a top or bottom of significance could develop. In other words, do not be too quick to call a top or bottom.

Second, be willing to use other technical tools—from candlestick patterns to other indicators—to determine the likelihood that a given divergence is truly marking an important top or bottom. If a negative divergence in the stochastic coincides with a 2B top, a bearish engulfing pattern, and a shooting star, then that divergence has a greater chance of being fruitful, all things considered, than a negative divergence that has none of these confirming indicators.

Last, be ready to exit. The one wonderful thing about trading divergences is that you know exactly when you are wrong: the market will move

on to make a new high or new low instead of reversing as the divergence suggested it would.

Many traders will recommend against trying to trade tops and bottoms—and for good reason. But because so much money can be made catching a reversal in a market, there will always be top- and bottom-pickers. And, in order to sell tops and buy bottoms, the technician has to be discriminating in the extreme. If the reversal does not happen, and the market moves to form yet another new high or new low, then the technician has no choice but to abandon the trade.

Figure 6.3 is an example of a negative or bearish stochastic divergence in the crude oil market when it topped in the summer of 2006. Crude

Figure 6.3 | September Crude Oil Daily | June 2006 – August 2006
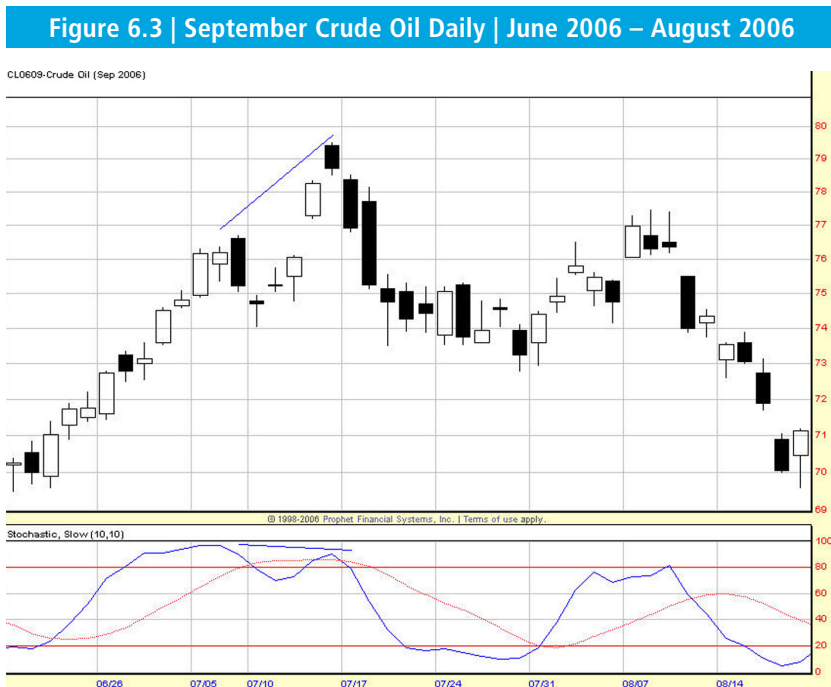
A bearish stochastic divergence in early July anticipates a sharp correction, sideways trading, a weak bounce, and more trading to the downside.

Chart courtesy of Prophet Financial Systems. Inc.

Figure 6.4 | Nasdaq Composite Index
Daily | July 2004-September 2004

This bullish stochastic divergence in August signaled the end of the 2004 bear market in the Nasdaq.

Chart courtesy of Prophet Financial Systems. Inc.

reduction in the velocity of movement in either 'K' or 'D' indicating a reverse of trend the next day."

The hinge—or hook—looks as it sounds. It is a small crook or bend in either stochastic line. For Lane, the purpose of the hinge was to warn traders of a very short-term reversal as shown in the change of slope of the %K or %D lines. This bend does not necessarily cause the stochastic values to drop—an advancing stochastic can have a hinge and still be considered advancing, though at a less rapid pace.

**Figure 6.6 | U.S. Dollar/Swiss Franc,
Daily | February 2007-April 2007**

Even in a volatile downtrend, bearish stochastic hooks can help traders time optimal entries when momentum to the downside has shown evidence of reviving.

Chart courtesy of eSignal

the breakdown itself being a clue that momentum was increasing and directional—stochastic hooks signaled excellent opportunities to exploit temporary bounces and rallies during the decline. Late February, early March, and late April all provided instances where the hooking down of the stochastic alerted traders to waning momentum to the upside—the warning George Lane wrote about. In the context of a downtrend, this warning provided sound signals that, upon confirmation, made for winning short-term momentum trades.

BOSO: A Better Way?

Back in 2005, I wrote an article called "*BOSO*" for *Working-Money.com*. That article was based in part on observations made by Price Headley of BigTrends.com during a seminar at the Trader's Expo earlier that year.

**Figure 6.8 | U.S. Dollar/Singapore Dollar
Daily | October 2006 – December 2006**

The market for the USD/SGD pair broke down in mid-October and became oversold in the BOSO stochastic shortly thereafter. That plunge lower in October represented a great opportunity to the downside as the stochastic remained oversold throughout November and December.

Chart courtesy of eSignal

The market for buying U.S. Dollars and selling Singapore Dollars (USD/SGD) was in a downtrend earlier in 2006, but the market bounced in late spring and began moving fitfully sideways into late September. Although there was a downside bias, USD/SGD managed to avoid a full-fledged breakdown for months.

However, when prices broke down in mid-October, there were few buyers who stepped in. This allowed the selling to intensify to the point that the market for USD/SGD became oversold.

Conventional wisdom would encourage technicians to begin looking for bottoms. However, the BOSO methodology tells us that if the market becomes oversold and shows follow-through to the downside, then

the proper play is to continue (or begin) betting against the market, not trying to fade the market by buying.

Clearly the BOSO approach worked wonderfully for USD/SGD traders in the fall of 2006. The USD/SGD became overbought on the 19th of October, and that move lower was confirmed on a follow-through closing basis on October 25th. The next two days alone saw the USD/SGD pair fall 135 pips.

What is especially compelling about the BOSO method is that it helps technicians climb into markets that they may otherwise avoid (or worse, fade). The BOSO method also helps technicians ride momentum longer than they would with most momentum trading techniques. For as long as the market remains beyond the Greed or Fear threshold, technicians can feel relatively sure that the market will continue to move in their favor. It is only after a market slips from the Greed or Fear threshold— and shows follow-through out of those zones on a closing basis in subsequent sessions—that the trader must abandon the trade.

For many momentum traders, waiting for the market to fall out of the overbought zone or bounce up from the oversold zone risks too much of the gains, particularly on a short-term basis. This is why I appreciate and use momentum indicators like the stochastic and, as I will show later, the MACD histogram and TRIX. These indicators may spot entry levels in markets, but I prefer the immediate market intelligence provided by Japanese candlesticks to tell me when it is time to take my leave and close out the trade.