

# Stock Market Basics Series



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## THE STOCHASTIC OSCILLATOR

### A Little Background

The Stochastic Oscillator was developed by the late George Lane in the 1950s and is a range bound momentum indicator that shows the current closing price relative to the high/low range of a defined period, the default time period that George used and therefore the most commonly used is 14 days. George explained that it doesn't follow price or volume or anything like that. It follows the speed or the momentum of price. As a rule, the momentum changes direction before price.

There are three types of Stochastic: Fast (Original and the one used by George), Slow and Full. I prefer the full stochastic, the fast one can give too many false signals. However, the fast one can also get you into a trade a little earlier as it is more in tune with the quick trend changes in the stock. A lot of charting software does not give you multiple choices of which type of Stochastic you would like to use. They often just give you one choice, which would be the full one.

The Full Stochastic Oscillator is a customizable version of the Slow Stochastic Oscillator. The difference being that you can set the number of periods to show for the %K line and the number of periods for the %D moving average. The default parameters are Fast Stochastic Oscillator (14,3), Slow Stochastic Oscillator (14,3) and Full Stochastic Oscillator (14,3,3). For smoothing I always set mine to 14, 5, 5.

I am not going to spend time going into the minute detail on how they are calculated, it's just not worth knowing frankly, the only thing that matters is how to set it up and how to read the signals. However, for all you math geeks out there, below is the formula:

### Formula:

Fast %K =

$$\left( \frac{\text{Today's Close} - \text{Lowest Low in \%K Periods}}{\text{Highest High in \%K Periods} - \text{Lowest Low in \%K Periods}} \right) \times 100$$

So now you know!

Stochastics is measured with the %K line and the %D line. The %K line is the fastest and the %D line is the slower of the two lines. Below are the examples of what makes up the different settings:

Fast Stochastic Oscillator:

- Fast %K = %K(14) basic calculation
- Fast %D = 3-period SMA of Fast %K

Slow Stochastic Oscillator:

- Slow %K = Fast %K(14) smoothed with 3-period SMA
- Slow %D = 3-period SMA of Slow %K



### Full Stochastic Oscillator:

- Full %K = Fast %K (14) smoothed with 5-period SMA
- Full %D = 5-period SMA of Full %K

### How to use it:

So now you have some background, let's now move on to how it works, why it works and how to use it.

Stochastic is a momentum indicator and it can be used to track the overbuying and overselling of a stock. Overselling is when the "big guys", the institutional investors start selling and then others join in creating a lot of downward momentum, translated as the fear of losing money. When everyone, particularly the big guys, are sure that there are no more sellers, they put in buy orders and the stock will go back up.

Two popular methods for trading signals using the stochastic based on using the %K and %D lines:

1. The first way is to use %D as a trigger or signal line for %K. A buy signal is given when %K crosses up through %D, or a sell signal when it crosses down through %D. However, such crossovers may occur too often, so to avoid too many false signals and therefore whipsaws, the key is to wait for the crossovers to occur together at around the overbought/oversold lines of 80 and 20. Therefore after a peak or dip in the stock price. See example below:



2. The second way, is to just use the overbought or oversold levels as your buy or sell signal. On the theory that the prices oscillate, many analysts including George Lane, recommend that buying and selling be timed when the stock returned to being overbought or oversold. In other words, you should buy or sell after a reversal. Practically, this means that once the indicator exceeds one of these thresholds, we should wait for stochastic to return to the 80 or 20 thresholds. I.e. if the oscillator were to go above 80, then you wait until it falls below 80 to sell and if it is below 20, you wait for it the break above 20 before you buy. So, you are waiting for a confirmation of strength or weakness.

## Stochastic Divergences

The final way to use Stochastics and the most important way in my opinion is to look for price divergences. Price Divergences are a situation where indicators suggest the trend may be about to head in a different direction. Traders like to spot these price divergences and will usually position themselves for a reversal of the price action.

Price divergence using technical indicators like the Stochastic often form as the trend strength weakens, as momentum from a well formed move breaks down. Although the price of the stock may still appear to be continuing in one direction, technical indicators may diverge from the stock price.

### Bullish Divergence:

For the Stochastic a bullish divergence occurs when price makes lower low, while %K makes a higher low, yes you are reading English! Stochastic divergence takes a little practice to spot. See below for an example of Bullish divergence in action.



So, the closing price is now lower, but the stochastic is higher than it was before. As expected the market rallied from this position as it often does when divergence shows up on our charts.

### Bearish Divergence:

A bearish divergence occurs when price makes a lower high, while %K makes a higher high, see below example:



As you can see the price closed below the previous high, but the stochastic is higher than it was at the last high close. This confirms that the trend was weak and, as expected, the price declines.

### Conclusion

Stochastic has been around for a while, it has withstood the test of time and is used widely by many traders and investors. Like all indicators, it cannot tell you what is going to happen next, it is merely a way of putting the odds of making money in your favour when it is in its `ideal` zones. However, like all indicators, it lags behind the price, so it has limited uses. The way to trade it as I have stated above has been the way that I was taught to use it.

May today be a profitable day...for all of us.