What are Bollinger Bands?

Bollinger Bands are a technical trading tool created by John Bollinger in the early 1980s. They are a volatility indicator and use the mathematical concept of standard deviations to measure price volatility around a moving average to generate trading signals. During periods of increased fluctuation, the bands will widen to take this into account. When the fluctuation decreases, the bands are tapered for a narrower focus to the price range.

The upper band is the standard deviation multiplied by a given factor above the simple moving average, and the lower band is the standard deviation multiplied by the same given factor below the simple moving average.

Standard deviation is a mathematical concept that is adapted for use in technical analysis through Bollinger Bands. Prices will disperse around an average value – in this case a simple moving average – with 68% of price action varying around the average by 1.0 standard deviation. However, this increases to 95% of the data being contained within 2.0 standard deviations; and as much as 99% of the data within 3.0 standard deviations.

For medium term analysis, Bollinger Bands are typically drawn 2.0 standard deviations from a 20 day moving average. This means that 95% of the price action should be contained within the Bollinger Bands.

However, this can be tailored depending on time horizons. For shorter term trading, perhaps use a 10 period moving average with 1.5 standard deviations; while for longer term trading use a 50 period moving average with 2.5 standard deviations.

It should be noted that tighter parameters, will generate more trading signals, but when a signal is generated, it should come with higher conviction.

We recommend that traders undertake further investigation of their own in order to determine the parameters that best fit their specific trading style.
Interpretation of Bollinger Bands

In isolation Bollinger Bands do not give absolute buy and sell signals. Instead, they indicate whether the price is relatively high or low, allowing for more informed confirmation with other technical indicators.

There are four general rules when following Bollinger Bands:

- When the price hits the upper or lower bands, if other indicators suggest that price movement shows strength or weakness, this could indicate a continuation. If other indicators do not confirm this movement, it can suggest a reversal.

- Tops or bottoms made outside the bands, followed by another top or bottom within the bands, indicate a trend reversal.

- A move originating at one band tends to go to the other band.

- Sharp moves often occur after the bands tighten towards the moving average, as the price is less volatile. The longer the period of less volatility, the higher the propensity for a breakout.

Using Bollinger Bands to generate trading signals

There are three main ways that Bollinger Bands can assist trading decisions. These are breakouts, reversals and range trading:

1. Breakouts

When the Bollinger Bands become very narrow this is a sign that the price is consolidating and volatility has become extremely low. However, this narrowing will often occur just before a significant move in the price.

As the pressure builds, there can be a sudden burst of price action often seen, which can be either higher or lower. The trade is placed in the direction of the breakout.
2. Reversals

It is possible to use the upper and lower bands to help identify possible reversal in price. When the daily range is entirely outside the bands this suggests the increased likelihood of a reversal. This signal is strengthened by a second top or bottom being made inside the bands.

Figure 3: A reversal using the Bollinger Bands on GBP/USD

3. Range Trading

In a consolidating market it is possible to use the two bands as a basis for support and resistance. The idea would be to then buy as the price hits the bottom band and then sell again when the price hits the top band.

Figure 4: Range trading using the Bollinger Bands on Silver
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