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**Sent:** Tuesday, March 31, 2015 1:06 PM  
**Subject:** Bollinger Bands 22 Rules

Thank you for your e-mail requesting the 22 rules for using Bollinger Bands.

One of the great joys of having invented an analytical technique such as Bollinger Bands is seeing what other people do with it. The following rules covering the use of Bollinger Bands were gleaned from the questions users have asked most often and our experience over 25 years of using the bands. While there are many ways to use Bollinger Bands, these rules should serve as a good beginning point.

1. Bollinger Bands provide a relative definition of high and low. By definition price is high at the upper band and low at the lower band.
2. That relative definition can be used to compare price action and indicator action to arrive at rigorous buy and sell decisions.
3. Appropriate indicators can be derived from momentum, volume, sentiment, open interest, inter-market data, etc.
4. If more than one indicator is used the indicators should not be directly related to one another. For example, a momentum indicator might complement a volume indicator successfully, but two momentum indicators aren't better than one.
5. Bollinger Bands can be used in pattern recognition to define/clarify pure price patterns such as "M" tops and "W" bottoms, momentum shifts, etc.
6. Tags of the bands are just that, tags not signals. A tag of the upper Bollinger Band is NOT in-and-of-itself a sell signal. A tag of the lower Bollinger Band is NOT in-and-of-itself a buy signal.
7. In trending markets price can, and does, walk up the upper Bollinger Band and down the lower Bollinger Band.
8. Closes outside the Bollinger Bands are initially continuation signals, not reversal signals. (This has been the basis for many successful volatility breakout systems.)
9. The default parameters of 20 periods for the moving average and standard deviation calculations, and two standard deviations for the width of the bands are just that, defaults. The actual parameters needed for any given market/task may be different.
10. The average deployed as the middle Bollinger Band should not be the best one for crossovers. Rather, it should be descriptive of the intermediate-term trend.
11. For consistent price containment: If the average is lengthened the number of standard deviations needs to be increased; from 2 at 20 periods, to 2.1 at 50 periods. Likewise, if the average is shortened the number of standard deviations should be reduced; from 2 at 20 periods, to 1.9 at 10 periods.
12. Traditional Bollinger Bands are based upon a simple moving average. This is because a simple average is used in the standard deviation calculation and we wish to

be logically consistent.

13. Exponential Bollinger Bands eliminate sudden changes in the width of the bands caused by large price changes exiting the back of the calculation window. Exponential averages must be used for BOTH the middle band and in the calculation of standard deviation.

14. Make no statistical assumptions based on the use of the standard deviation calculation in the construction of the bands. The distribution of security prices is non-normal and the typical sample size in most deployments of Bollinger Bands is too small for statistical significance. (In practice we typically find 90%, not 95%, of the data inside Bollinger Bands with the default parameters)

15. %b tells us where we are in relation to the Bollinger Bands. The position within the bands is calculated using an adaptation of the formula for Stochastics

16. %b has many uses; among the more important are identification of divergences, pattern recognition and the coding of trading systems using Bollinger Bands.

17. Indicators can be normalized with %b, eliminating fixed thresholds in the process. To do this plot 50-period or longer Bollinger Bands on an indicator and then calculate %b of the indicator.

18. BandWidth tells us how wide the Bollinger Bands are. The raw width is normalized using the middle band. Using the default parameters BandWidth is four times the coefficient of variation.

19. BandWidth has many uses. Its most popular use is to identify "The Squeeze", but is also useful in identifying trend changes...

20. Bollinger Bands can be used on most financial time series, including equities, indices, foreign exchange, commodities, futures, options and bonds.

21. Bollinger Bands can be used on bars of any length, 5 minutes, one hour, daily, weekly, etc. The key is that the bars must contain enough activity to give a robust picture of the price-formation mechanism at work.

22. Bollinger Bands do not provide continuous advice; rather they help identify setups where the odds may be in your favor.

My book, "Bollinger on Bollinger Bands" provides a comprehensive guide on how to use Bollinger Bands, which indicators to use for confirmation, trading systems utilizing Bollinger Bands and the basics of technical analysis. For an autographed copy and free shipping in the US see <http://www.bollingerbands.com/products/?type=book>

Please also visit [www.BollingerOnBollingerBands.com](http://www.BollingerOnBollingerBands.com). The site features four trading systems based on Bollinger Bands and provides stocks that meet the criteria for each of the trading systems, updated on a daily basis including long and short positions. There is also a powerful custom-charting program with a wide variety of indicators and an extensive stock-screening program. This site features all my latest Bollinger Band research.

And if you trade the forex market, please visit [www.BBForex.com](http://www.BBForex.com). The site is dedicated to the use of Bollinger Bands analysis for foreign exchange trading. In addition to the trading systems from my book, there is a customizable currency grid with miniature charts that pop up as you float your cursor over the grid so you can see the relationships of all the currency pairs at a glance. The charts offer a wide variety of indicators, and unique to BBForex is our 3-D chart application, which compares percentage changes of your choice of multiple forex currencies to one common reference.

Good Trading,

John Bollinger, CFA, CMT  
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