

Bollinger Bands

Bollinger Bands are named after John Bollinger, market analyst for CNBC/Financial News Network. They are a refinement on the concept of percentage bands or envelopes. Instead of the bands being a fixed percentage of the moving average value, they vary depending upon the volatility of the market. This helps to overcome the problem we saw in the previous section, when the volatility of price action in a market changes.

Calculation

The calculation of Bollinger Bands requires a computer. However, the idea is quite simple. The bands are statistically defined around a simple moving average. The computer first calculates the moving average and then calculates the band lines as standard deviations from the moving average.

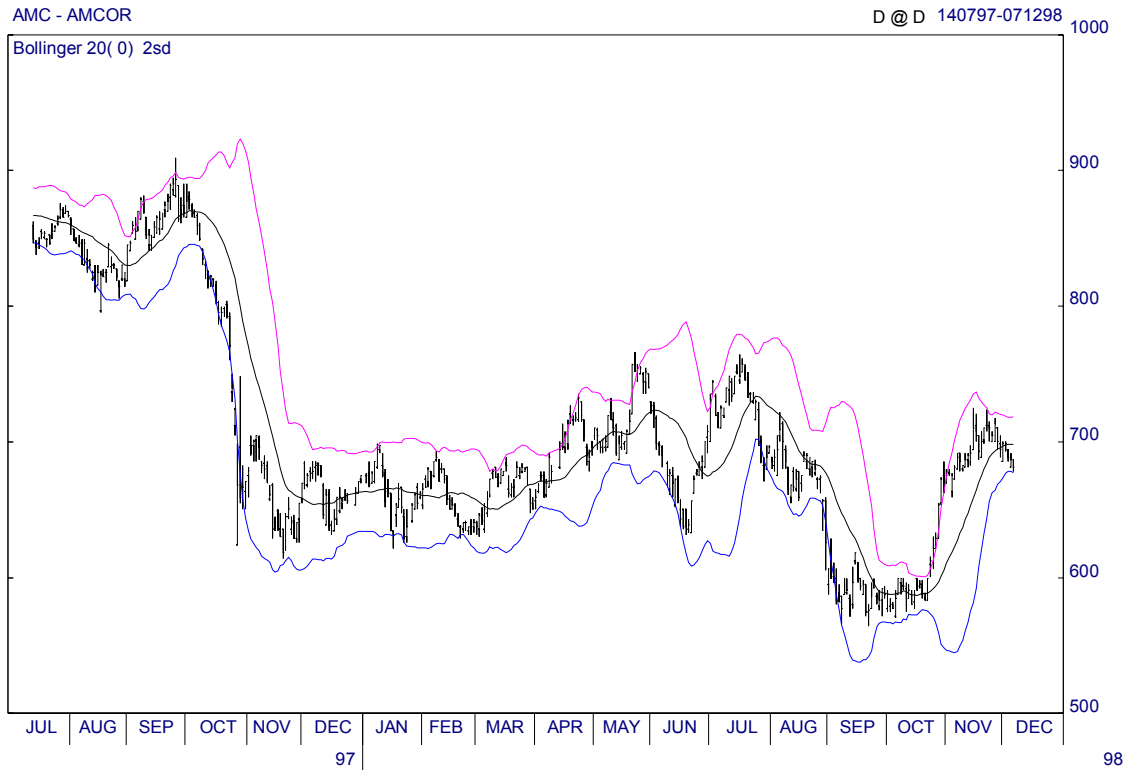
The suggested settings for Bollinger Bands are:

- Basic use on intermediate term trends: 20 day moving average, with bands at 2 standard deviations.
- For short term trends: 10 day moving average, with bands at 1.9 standard deviations.
- For long term trends: 50 day moving average, with bands at 2.1 standard deviations.

Periods of less than 10 days for the moving average do not seem to work well.

The idea is that the bands will tend to contain the vast majority of price action. The bands will also quickly expand and contract as the volatility of price action varies. So, if the market is volatile, it will be given a wide envelope and if volatility falls away, the envelope will narrow.

The chart below shows how Bollinger Bands look when plotted on a bar chart. This is the same stock that we used for the example of percentage bands in the previous article. Notice how the bands automatically widened as the volatility picked up in the April/August period.



Example of Bollinger Bands

Using Bollinger Bands

Bollinger Bands are not intended for giving trading signals on their own. Rather, they are designed to assist in answering the question of whether prices are high or low on a relative basis. This is used to confirm the signals given by other indicators.

Thus, firm buy and sell signals are not generated by price touching the band lines. Instead, Bollinger bands give the following indications:

Indication 1

When the bands converge tightly, a significant expansion of volatility may be expected soon. This usually takes the form of a trending move. However, there is an important caveat: The market often starts off in a false move, before reversing and the main move getting under way.



Example of Bands Tightening – BHP

In the chart above, we see that the bands tightened significantly in June. As the bands expanded, price set off downwards in a typical false move. Price then reversed and trended upwards into mid July. The day that gapped up into the bands two days after the low was made, coincided with a buy signal on the RSI, showing how the Bollinger Band action may be used to confirm the signal from another indicator.

In November, the bands narrowed significantly again. As the bands began to expand, there was a weak false upward move, which only reached the moving average before the sharp down trend began. RSI had given a bearish divergence signal in late October and was already trending down when the down trend got under way.

Indication 2

Moves that begin at one band tend to travel to the other band. This can be of some assistance in taking profits.

A good example is the move that started in June in the above chart, which carried through to the upper band in July. Although the move reached the upper band early in July, the RSI was not overbought at that time. However, when the upper band was reached again in mid July, it was time to act on the overbought RSI.

Indication 3

The action of price near the edges of the envelope is very important. A move outside the bands is an indication of strength and suggests continuation. This indication is negated, though, if price immediately reverses back into the bands.

In the above chart, we see examples of this indication. In early September, price punched decisively through the lower band. However, price immediately gapped back above the lower band, cancelling any suggestion of strength. This action can be contrasted with the situation in November and December. Price initially cut the lower band and reacted back into the bands. However, on the next occasion that it cut the lower band, it continued to hug the lower band in a strong down trend.

Indication 4

If price hugs either of the bands in a trending move, the move is likely to continue while there is no divergence on a momentum oscillator. However, if price hugs either of the bands in a trending move and a divergence forms on a momentum oscillator, this should be taken as a signal to close any trade in the direction of the trend.

An example of this sell signal is seen on the above chart in late October. As price rose, hugging the upper band, the RSI also trended upward. However, in Late October a bearish divergence formed on the RSI and was completed the day after the high was made for the move.

It should be borne in mind that there will not be such a signal at the end of each move, but it tends to be reliable when it appears. For example, on the above chart, there are other trending moves ending in June, July, and December, without development of a divergence on RSI. Instead, there was a simple cross out of overbought or oversold in each case.

Bollinger Bands Case Study

There are several good applications of Bollinger Bands in the chart below, which is a longer term study, using a 50 day moving average and bands 2.5 standard deviations.

Price hugs the lower band through October/November 1997. In October it punched through the lower band, but subsequent action did not jump back decisively, suggesting that the trend would continue. However, by late November, price got right down to the lower band and a bullish divergence appeared on the RSI, telling us it was time to close any short positions.



Bollinger Bands Case Study - Boral

Through the early part of 1998, volatility fell away and the bands gradually tightened. In March, there was a sharp move up. However, RSI went sharply overbought and completed a head and shoulders pattern, which suggested that the move was a false one and the real move would be down.

We then saw a strong down trend, with price hugging the lower band. Until June, there was no divergence on the RSI. However, in June there had formed a large and a small bullish divergence, warning us to close our short positions.

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