Bollinger Bands, a popular tool among investors and traders, helps gauge the volatility of stocks and other securities to determine if they are over- or undervalued. Developed in the 1980s by financial analyst John Bollinger, the bands appear on stock charts as three lines that move with the price. The center line is the stock price's 20-day simple moving average (SMA). The upper and lower bands are set at a certain number of standard deviations, usually two, above and below the middle line. The bands widen when a stock's price becomes more volatile and contract when it is more stable. Many traders see stocks as overbought as their price nears the upper band and oversold as they approach the lower band, signaling an opportune time to trade. While valuable, Bollinger Bands are a secondary indicator that is best used to confirm other analysis methods. Below, we guide you through how to interpret Bollinger Bands, when the tool is best used, and what other indicators are best matched with it. Bollinger Bands is a technical analysis tool used to determine where prices are high and low relative to each other.These bands are composed of three lines: a simple moving average (the middle band) and an upper and lower band.The upper and lower bands are typically two standard deviations above or below a 20-period simple moving average (SMA).The bands widen and narrow as the volatility of the underlying asset changes. Image by Sabrina Jiang © Investopedia 2021 John Bollinger, CFA, CMT, has been a major influence in technical analysis and is best known for developing Bollinger Bands in the 1980s. Bollinger combined his background in mathematics and engineering with financial market analysis to create this tool, which uses a moving average and the statistical measure of standard deviation to assess the volatility and trends of stock prices. The tool has since become a staple in technical analysis. He is also the founder of Bollinger Capital Management, a money management company, and has been a prominent commentator and analyst on market conditions. Investopedia / Joules Garcia The three lines that make up Bollinger Bands are based on a security's price moves. The center line is the intermediate-term trend and is typically a 20-day SMA of the closing prices. The upper and lower bands are plotted a distance from the SMA set by a certain number of standard deviations, usually two, above and below the center line. To calculate the bands, you first determine the number of periods used for both the SMA and standard deviation, and the number of standard deviations for the upper and lower bands should be from the center line. While the settings can be adjusted based on your strategy, most times, you would use a 20-day SMA and two standard deviations. The upper band is found by adding two standard deviations to the center SMA line, while the lower band is calculated by subtracting two standard deviations from the center line. The bands automatically widen when price volatility increases and narrow when volatility goes down. You don't need to break out your calculator and graph paper: Many popular trading platforms, like TradingView, include this technical indicator as a standard feature. Thus, you can easily overlay Bollinger Bands onto price charts. You can also usually customize the Bollinger Bands' settings (increasing or lowering the periods and standard deviations) to fit your needs. Given that the bands are plotted two standard deviations away from the SMA, they can indicate when prices are statistically high or low. Many traders consider the area near the upper band to be overbought territory—the price is poised to fall—and a potential resistance level where sellers may step in. Conversely, the area near the lower band is often seen as oversold—the price is poised to go up—and a potential support level where buyers could enter the market. Option traders and investors use Bollinger Bands to assess market volatility and identify potential entry and exit points. The tool is premised on the idea that prices tend to remain within the bands' upper and lower limits. One use is for trend analysis. The direction of the middle band can indicate a trend's strength: when the middle band is heading upward, this suggests an uptrend, and the converse when heading downward. In addition, the width of the bands reflects market volatility. Narrow bands indicate less volatility, which means a significant price move could be imminent. This is known as a "squeeze." Conversely, wide bands indicate more volatility. Another way to use the tool is to figure out when an asset is overbought and oversold. As the price touches or moves outside the upper band, it could be overbought, suggesting a potential selling or short opportunity. Similarly, if the price touches or falls outside the lower band, the asset may be oversold, indicating a possible buying opportunity. The bands can also help find price targets. For instance, after a price "bounces" off the lower band, the upper band becomes a potential exit point if the price trend reverses. Likewise, after a price move that touches the upper bands, the lower band becomes a possible target if a reversal occurs. Another strategy is called the "Bollinger Bounce." This is based on the idea that prices tend to return to the middle band. Traders may buy or sell based on the rebound from the upper or lower bands toward the middle band, especially in a ranging market. Below is a table of different ways the Bollinger Bands can move, what they indicate, and how traders often react. We then go through these moves in more detail so you understand the strategies better. Bollinger Bands Cheat Sheet Bollinger Band Action What This Indicates Potential Reaction Upward middle band Indicates an uptrend Buy or hold long positions Downward middle band Suggests a downtrend Sell or hold short positions Narrow bands (squeeze) Less volatility; potential for significant price move Prepare for a breakout; consider entry points Price touching or moving outside the upper band Potentially overbought (poised to fall in price) Consider selling, shorting, or tightening stop-loss orders Price touching or falling outside the lower band Potentially oversold (poised to go up) Buying or tightening stop-loss orders Price bounces off the lower band The upper band becomes a potential exit point if the trend reverses Consider taking profits or setting up a trailing stop-loss Price touches the upper band The lower band becomes a potential target if the reversal occurs Consider taking profits or setting a trailing stop-loss Price rebounds from upper or lower bands toward the middle band Potential buying or selling opportunity, especially in ranging markets ("Bollinger Bounce") Enter long or short positions; set stop-loss orders Price move starting at the upper band and continuing outside it, with increased volume Signals a potential breakout Enter long positions; set stop-loss orders below recent lows Decisive move below the lower band, with high volume Could mean a breakdown or the start of a new bearish trend Enter short positions; set stop-loss orders above recent highs Widening bands after a squeeze Could indicate an imminent breakout Prepare for entry, watch for confirmation signals Widening bands Signals increase in volatility and the potential beginning of a strong price trend Adjust risk management; consider trend-following strategies Tightening bands (squeeze) Suggests a period of lower volatility and consolidation; often a precursor to a major price move or breakout Prepare for a breakout; consider entry points; tighten stop-loss orders Longer squeeze Could indicate a more potent breakout coming Prepare for a larger price move; increase position size Tightening bands Could mean there's no consensus in the market about the future price direction Adjust risk management; wait for clearer signals before entering positions Using two standard deviations in constructing Bollinger Bands is based on the statistical properties of the normal distribution and the concept of volatility. In this context, standard deviation measures how far prices typically deviate from SMA, the middle band. By setting the upper and lower bands two standard deviations away from the SMA, Bollinger Bands create a range expected to contain approximately 95% of the security's price movements over a given period. This assumption is based on the statistical rule that about 95% of the data points will fall within two standard deviations of the mean for a normally distributed data set. Choosing two standard deviations provides a statistically significant measure of volatility while remaining practical for market analysis. The bands can adapt to changes in volatility, making them suitable for various market conditions. When prices move outside the upper or lower bands, this suggests that the security is trading at a statistically high or low level relative to its recent price history. This indicates potentially overbought or oversold conditions, respectively. However, prices can remain outside the bands for extended periods during strong trends. By examining the relationship between the price and the upper band, you can look for overbought conditions, check for potential price reversals or a slowdown in momentum, find out when volatility is expanding, set price targets based on mean reversion strategies, and determine the strength of a trend. When the price touches or pushes through the upper band, this is often read as the security is overbought. This is because the asset is priced higher than its typical valuation range, indicating a potential reversal or slowdown in momentum. When the price reaches or goes above the upper band, this indicates increased volatility. Since Bollinger Bands adjusts to volatility, a widening gap between the upper and lower bands means that the market is experiencing wider price fluctuations, which could be due to economic and market news, earnings reports, and other market events. For investors using mean reversion strategies, the upper band can act as a price target in a ranging market. If the price oscillates between the upper and lower bands without a clear trend, hitting the upper band can signal to sell or go short because traders expect the price to move back toward the middle band or below. In addition, when there's a strong uptrend, the price might repeatedly touch or stay above the upper band for extended periods. This persistence above the upper band might indicate strong buyer enthusiasm and signal that the trend is likely to continue. However, traders and investors often look to confirm this with other indicators or techniques. The upper band can also be the site for a breakout. A price move that starts at the upper band and continues to push outside of it can signal one, especially if there's been an increase in trading volume. This indicates that the asset is starting a new trend or accelerating an existing one. You could use this signal to trade in the direction of the breakout. The lower band of the Bollinger Bands helps identify oversold conditions. It is also a reference line for those using mean reversion strategies or looking for potential reversals. If prices stay below this band, this could mean the start of a new bearish trend, especially if there's a lot of trading volume. When the price of an asset touches or falls below the lower band, this could mean the asset is undervalued or that the selling pressure has gone too far, potentially leading to a reversal or pause in the downward trend. Just as touching the upper band signals an increase in volatility, the price reaching the lower band indicates greater volatility in the context of a downward move. However, when the bands narrow after a period of wide fluctuation, there's decreased volatility, which might mean a significant price move as the price consolidates. For investors employing mean reversion strategies or looking for bounce-back opportunities, the lower band can be used as a target for buying prospects. The rationale is that if the price has moved down to the lower band, it might rebound toward the middle band or higher, especially in a ranging market without a strong downtrend. That said, if the price stays below the lower band, this signals a strong downtrend. Continual contact with the band or new lows below could indicate the bearish sentiment is strong and likely to continue. However, you should confirm this with other indicators to avoid false signals or traps. A decisive move below the lower band can signify a breakdown or the start of a new bearish trend, especially if the volume is high and there are other bearish signals. Since further declines could occur, you can use this as a potential signal to sell or enter a short position. When the bands widen, this signals an increase in volatility because the standard deviation of the price increases. Thus, the price moves are more significant than in the recent past. Economic announcements, earnings reports, geopolitical events, or sudden shifts in market sentiment can be behind these changes. Traders see increased volatility as an opportunity for substantial gains and a risk of greater losses. The widening of the bands could signal the beginning of a substantial price trend. As volatility increases, the chance of a significant and sustained price move in one direction also increases. However, you should confirm this with other indicators or price patterns before proceeding. When the bands widen after a period of contraction during a "squeeze," many consider this a sign that a breakout is about to occur. While the bands themselves do not indicate the direction of the breakout, investors can assess the potential direction by comparing the price's movement to the bands and other indicators. The increased volatility signaled by widening Bollinger Bands might prompt investors to reassess their risk management strategies. They might cut their positions or diversify their holdings to manage the higher risk associated with greater price fluctuations. A contraction of the bands suggests that the market is experiencing less volatility. Price movements are more contained, and there may be less trading volume or market interest in the short term. This reduced volatility period can be seen as a time of consolidation. While tightening bands indicate less volatility, market analysts often consider this a precursor to major price moves or breakouts. Traders monitor squeezes closely since they suggest the market is building energy for a significant change. The longer the squeeze, the more potent the subsequent breakout is expected to be. This is based on the principle that periods of low volatility are frequently followed by periods of high volatility. However, this doesn't mean you'll know where the breakout will head. During a tightening period, traders may adjust their risk management strategies, such as pulling in stop-loss orders to reflect lower volatility while preparing for a potential increase ahead. The tightening of Bollinger Bands could also mean there's no consensus among market participants about the future direction of the price. This indecision can result in the price oscillating within a tighter range until new information arrives or the market forces a breakout. The effectiveness of this tool depends on the asset involved, the settings used, and other factors: Asset involved: Each security has different volatility characteristics, affecting how well the tool helps with predictions. Assets that typically experience sudden shifts in volatility might not have the expected behavior within the bands. Parameters: The default setting for Bollinger Bands is a 20-period SMA with bands set at two standard deviations away. However, this may not be the best option for all trading scenarios or time frames. Adjusting the settings could improve their effectiveness but requires a good understanding of the markets and assets. Other indicators: Bollinger Bands are most effective when used with different tools and indicators. For instance, volume indicators and momentum oscillators like the relative strength index (RSI) or moving average convergence divergence (MACD) can give the needed context or help confirm signals from the Bollinger Bands. Outlier situations: The bands are based on a statistical measure of standard deviation, which assumes that asset price returns follow a normal distribution. However, financial markets are known for having fat tails that sometimes lead to unexpected moves beyond the bands. There are several, including the Keltner channels, moving average envelopes, the Donchian channels, the average true range, and the standard deviation indicator. Each tool offers a different view of the market's changes. First, Bollinger Bands are a lagging indicator, which means they respond to rather than predict price changes, potentially informing you of changes after they've already happened. In addition, they can generate false signals during highly volatile market periods when the bands expand. Third, the standard settings of Bollinger Bands (20-day simple moving average and two standard deviations) might not be the best for all trading scenarios. Finally, Bollinger Bands are often more effective when used with other indicators, such as volume or momentum oscillators. Relying only on Bollinger Bands without further confirmation can lead to poor trading decisions. You should consider using them with other technical analysis tools to confirm trends and signals. Employing momentum oscillators like the RSI or MACD can help identify whether the market is overbought or oversold as prices reach or break through the bands. In addition, volume indicators can tell you about the strength behind a move, as significant price changes with a high volume could confirm signals from the Bollinger Bands. You can also adjust the settings of the Bollinger Bands by increasing the period of the moving average or the number of standard deviations, which might filter out less significant price moves. Bollinger Bands is a versatile technical analysis tool that can provide greater clarity about market volatility and price trends. By framing price movements with upper and lower boundaries set at standard deviations around a central moving average, the indicator adapts to volatility in real-time, offering a visual representation of how prices are moving relative to historical norms. While it's valuable for highlighting potential reversals, breakouts, and trend strengths, Bollinger Bands is usually more effective when used with other indicators and methods. Bollinger Bands (BB) is one of the world's most popular technical analysis indicators. Being a volatility indicator, Bollinger Bands reflect the dynamic range of price movement. The greater the distance between the lines, the higher the volatility. Bollinger Bands can be used as a supportive tool that helps to pinpoint the beginning and the end of the prevailing trend. All in all, it is a indicator that a lot of traders have added to their trading setup. There is, however, one disadvantage to Bollinger Bands, and it is the amount of space they take when applied to the price chart. As an indicator that is plotted directly on the price chart, it doesn't go well with other indicators that require a lot of space, e. g. Fractals, Alligator or Moving Averages. Turns out, there is one indicator that does all of the above but in a more elegant and concise manner. Meet Bollinger Bands Width. Bollinger Bands Width on the IQ Option platform Bollinger Bands Width (BBW) is a technical analysis tool that is derived from Bollinger Bands. BB Width takes the information that regular Bollinger Bands represent as three separate lines and combines it into one line. Put shortly, this tool calculates the distance between the upper and the lower bands. And here is how to make it a part of your trading system. Bollinger Band Width works as an oscillator. When the volatility is high, the distance between the upper and the lower Bollinger bands goes up, and so does the Bollinger Bands Width. When the market is flat, and the distance between the bands decreases, the indicator will also go down. Volatility is not the trend, and on its own high/low volatility doesn't provide buying/selling signals. However, it is an important metric that, along with the trend direction and trading volume, can help you determine optimal entry and exit points. BBW is the diffference between the upper and the lower bands Periods of high volatility intermingle with periods of relatively low volatility. The higher the volatility, the higher the potential upside but also the risk. The lower the volatility, the lower the potential upside and also the risk. You can, therefore, determine the riskiness of the deal you are about to enter by using this indicator. Keep this in mind so that you can adjust the risk-return ratio in accordance with your trading style. Bollinger Bands Width is good at determining market volatility, and that's it. When it comes to trend direction and other metrics, it is worth using different indicators. Trend-following and volume indicators can become a good addition. Unlike regular Bollinger Bands, Bollinger Bands Width comes as a single line (instead of three separate lines). More than that, it is placed below the price chart in a separate window. It is, therefore, cannot be used as a dynamic support and resistance level, which is commonly the case for BB. One more limitation, that is not unique to Bollinger Bands Width, but is rather a common place for all technical analysis tools is its inability to provide accurate results 100% of the time. As any other indicator, BBW will from time to time send false signals. Setting up the indicators is easy: 1. Click on the 'Indicators' button in the bottom left corner of the screen, 2. Go to the 'Other' tab, 3. Find Bollinger Bands Width in the list of available indicators, 4. Click 'Apply' without changing the setting. The indicator is ready to use! Now, when you know how to set up and use Bollinger Bands Width in trading, you can proceed to the platform and give it a try. Find out yourself whether it suits your trading style! How can financial brands set themselves apart through visual storytelling? Our experts explain how.Learn MoreThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explain how.Learn MoreThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explain how.Learn MoreThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' Favorites In trading, market participants use two contrasting types of analysis. Fundamental analysis examines market news, economic/social/political forces, and earnings data to predict how an asset's price will move. Technical analysis, on the other hand, uses charts and various technical indicators to forecast market conditions. One of the essential tools used for technical analysis in securities trading is Bollinger Bands ®. Its primary incentive is to help the trader establish a trend's direction, spot potential reversals, and monitor volatility. The following guide will examine the indicator, what it is and what it measures, how to understand Bollinger Bands on charts and interpret those findings, as well as the pros and cons of using this technical analysis tool. Best Crypto Exchange for Intermediate Traders and Investors Invest in cryptocurrencies and 3,000+ other assets including stocks and precious metals. 0% commission on stocks - buy in bulk or just a fraction from as little as $10. Other fees apply. For more information, visit etoro.com/trading/fees. Copy top-performing traders in real time, automatically. eToro USA is registered with FINRA for securities trading. 30+ million Users worldwide eToro is a multi-asset investment platform. The value of your investments may go up or down. Your capital is at risk. Don't invest unless you're prepared to lose all the money you invest. This is a high-risk investment and you should not expect to be protected if something goes wrong. Take 2 mins to learn more. Bollinger Bands is a popular technical analysis tool developed in the mid-1980s by American financial analyst and technical trader John Bollinger. Specifically, Bollinger Bands are a type of trading band or envelope. Trading bands and envelopes have the same objective: to supply proximate definitions of high and low that can be utilized to create rigorous trading approaches, for example, in pattern recognition. The bands contain a volatility indicator that measures a security's relative high or low price compared to previous trades. Volatility is measured using standard deviation, which changes with increases or decreases in volatility. The bands widen when there is a price increase and narrow when there is a price decrease. Due to their dynamic nature, Bollinger Bands may be applied to various trading instruments, such as stocks, commodities, futures, and Forex. Bollinger Bands include three separate trendlines: the upper, middle, and lower band. The middle band is a moving average, and the trader chooses its parameters (most commonly the 20-day simple moving average is used). The upper and lower bands are positioned above and below the moving average band. The trader can adjust the number of standard deviations they prefer the volatility indicator set at. Subsequently, the number of standard deviations determines the distance between the middle, upper and lower bands. The bands' position provides information on the trend's strength and the possible high and low price levels that may be anticipated shortly. As Bollinger Bands offer unique insights into price and volatility, traders can find several uses for them, including determining overbought and oversold levels, as a trend-following tool, monitoring for breakouts, and deciding entry and exit points for a trade. Bollinger Bands are a relatively simple trading tool and are incredibly popular with professional as well as at-home traders. However, using only the bands to trade is a risky strategy since the indicator focuses on price and volatility while ignoring various other relevant information. Bollinger bands: upper, middle (20-period SMA) and lower band. Source: Fidelity.com History of Bollinger Bands Bollinger Bands were developed in the mid-1980s by John Bollinger for trading stocks. They emerged from the demand for adaptive trading bands and the observation that volatility was dynamic rather than static, as was widely regarded back then. The rapid acceptance of Bollinger Bands was in part due to the airing they received on the Financial News Network, where John Bollinger served as the chief market analyst from 1983 through 1990. Bollinger Bands got their name on-air on a segment hosted by Bill Griffeth as Bollinger used a chart that depicted them. Griffeth asked what they were called as Bollinger explained their use, and unprepared, at a loss for words, Bollinger burst out Bollinger Bands. He trademarked this term in 2011. Read also:What is Value Investing?What is Momentum Investing?How to Buy and Sell Stocks?Dividend Investing for Beginners10 Best Stock Trading Books for Beginners15 Top-Rated Investment Books of All Time Bollinger Bands are composed of three lines: The first line is the middle Bollinger Band is a 20-day simple moving average (SMA) of the closing price. For instance, to calculate a 20 period moving average, you add up an asset's closing prices for 20 successive days and divide that value by 20; The following line is the upper Bollinger Band. You calculate the upper Bollinger Band by taking the middle band and adding twice the daily standard deviation to that amount; The final line is the lower Bollinger Band. You calculate the lower Bollinger Band by taking the middle band minus two times the daily standard deviation. The standard deviation measures how spread out numbers are from an average value for a given data set. Standard deviation is the square root of variance. The variance itself is the average of the squared differences of the mean (the simple average of a given set of numbers). It is a mathematical measurement of average variance and appears prominently in economics, statistics, finance, and accounting. The Bollinger Bands formula is as follows: Middle band: Simple Moving Average (SMA) of the closing prices over a specified period (typically 20 days). Upper band: Middle Band + (2 x Standard Deviation of the price over the same period). Lower band: Middle Band – (2 x Standard Deviation of the price over the same period). This formula creates the three lines that form the Bollinger Bands, with the upper and lower bands representing volatility levels above and below the moving average. Though Bollinger Bands are an effective technical analysis indicator, they have limitations. Bollinger Bands are based on an asset's simple moving average, which uses past data points, so the bands will always react to price moves rather than predict them. Simply, Bollinger Bands are reactive, not predictive, and are often referred to as a lagging indicator. Bollinger Bands can also be inclined to provide false signals. For example, a false breakout happens when an asset's price passes through the trade entry point. It signals a trade but then moves back in the other direction, resulting in a losing trade. Traders should understand that standard settings will not suit all strategies when trading with Bollinger Bands. For example, long-term position traders may prefer to use a more significant number of periods and a higher standard deviation. In contrast, day traders and swing traders may use a lower number of periods and lower standard deviation. For this reason, the Bollinger Bands indicator is best utilized in conjunction with other indicators and technical analysis tools as part of a comprehensive trading strategy. Best Crypto Exchange for Intermediate Traders and Investors Invest in cryptocurrencies and 3,000+ other assets including stocks and precious metals. 0% commission on stocks - buy in bulk or just a fraction from as little as $10. Other fees apply. For more information, visit etoro.com/trading/fees. Copy top-performing traders in real time, automatically. eToro USA is registered with FINRA for securities trading. 30+ million Users worldwide eToro is a multi-asset investment platform. The value of your investments may go up or down. Your capital is at risk. Don't invest unless you're prepared to lose all the money you invest. This is a high-risk investment and you should not expect to be protected if something goes wrong. Take 2 mins to learn more. The following strategies are the primary uses of Bollinger Bands: A common strategy utilizing Bollinger Bands is identifying overbought or oversold market conditions. For example, when the security's price continually touches the upper Bollinger Band, the market is thought to be overbought and due for a sell. On the other hand, when they continually touch the lower band, the market is perhaps oversold, triggering a buy signal. Using the bands to indicate overbought/oversold conditions depends on the concept of mean reversion of the price. Mean reversion assumes that if the price varies considerably from the mean or average, it eventually reverts to its long-term average levels. Mean reversion trading attempts to capitalize on a security's extreme price changes, assuming it will regress to its previous state. Mean reversion strategies can work well in range-bound markets, as prices can be seen noticeably bounce between the two bands. However, Bollinger Bands don't always give accurate buy and sell signals. For example, during a strong trend, the trader is at risk for placing trades on the wrong side of the move since the indicator can suggest overbought or oversold signals too soon. To fix this, a trader can look at the overall direction of the price and then only take trade signals that align them with the trend. For example, only take short positions when the upper band is tagged when the trend is down. If preferred, the lower band can still be used as an exit, but a new long position is not opened because that would mean going against the trend. Identifying overbought and oversold markets. Source: economictimes.indiatimes.com Another popular strategy to use with Bollinger Bands is called a squeeze strategy. A squeeze occurs when volatility falls to low levels, and the price starts moving sideways in a tight consolidation, narrowing the Bollinger Bands. A trader can visually identify a squeeze when the upper and lower bands get closer together, constricting the moving average. A squeeze is a sign of decreased volatility and is considered by investors as a possible sign of future increased volatility and potential trading opportunities. Conversely, the further away the bands move from each other, the more likely the chance of a decline in volatility and the more significant the possibility of exiting a trade. If there is a positive divergence: when the indicators are heading upward while the price is heading down or stays neutral – it is a bullish sign. On the other hand, if there is a negative divergence: when the indicators are falling while the price moves higher – it is a bearish sign. A breakout to the upside signals traders to initiate long positions or exit short positions. Conversely, a breakout to the downside signals traders to open short positions or exit long positions. A stop-loss order is traditionally placed outside the consolidation on the opposite side of the breakout. Importantly, however, these conditions should not be taken as trading signals. The bands give no signs of when the change may take place or in which direction the price might move. According to Bollinger, it is necessary to look to other indicators to determine breakout direction. He suggests using the relative strength index (RSI) along with one or two volume-based indicators such as the intraday intensity index or the accumulation/distribution index. The squeeze and breakout to the upside. Source: Investopedia.com Bollinger Bands help determine how strongly a security is rising (uptrend) and when it's potentially losing strength or reversing. This data can then be used as guidance in making trading decisions. The following are the recommendations for the use of Bollinger Bands in an uptrend: If the price is in a strong uptrend, it will reach the upper band regularly, indicating that the stock is plunging higher, and traders can take advantage of the opportunity to make a buy decision. If the price fails to do that, it shows the uptrend may be losing momentum; Prices can drop for periods of time, even during uptrends. These are known as pullbacks. If the price pulls back during an uptrend but stays above the moving average (middle) line and moves back to the upper band, that implies a lot of strength; The price shouldn't touch the lower band when it's in a strong uptrend. If it does, that's a possible indication of a reversal or that the stock is losing strength. Most technical traders pursue to benefit from solid uptrends before a reversal occurs. If an asset fails to reach a new peak, traders tend to sell it to avoid incurring losses from a reversed trend. They track the behavior of an uptrend, whether it shows strength or weakness, and use this as a sign of a likely trend reversal. Bollinger Bands also help determine how strongly a security is falling (downtrend) and when it's potentially strengthening or reversing (to the upside). This data can then be used as guidance in making trading decisions. For example, the following are the recommendations for the use of Bollinger Bands in a downtrend: If the price is in a strong downtrend, it touches or moves along the lower the upper band regularly, indicating that the stock is plummeting, and traders can exploit the opportunity to sell. If the price fails to do that, it shows the downtrend may be losing momentum; Prices can rally for periods of time, even during a downtrend. These are known as pullbacks. When there are price pullbacks (highs), and the price stays below the moving average (middle) line and then moves down to the lower band, that implies selling strength; The price shouldn't touch the upper band when it's in a strong downtrend. If it does, that's a possible indication that a trend is slowing or reversing. Many technical traders avoid trading during downtrends, except for looking for opportunities to buy once the trend reverses. The downtrend can last from anything between minutes and hours to months or even years. Traders should attempt to recognize any sign of downtrends sufficiently early to protect their investments. If the lower bands show a steady downtrend, investors must be mindful to avoid entering into long trades that will prove unprofitable. Double tops and double bottoms are essential technical analysis patterns used by traders. A double top has an M shape and signals a bearish price movement. A double bottom has a W shape and indicates a bullish reversal in trend. An M-top is a sell signal. It happens when price action spikes the upper line then recovers down, establishing the first high. Then after a while, another high is established, and this time it is below the upper band. The second high must not be higher than the first one, and the second high mustn't touch or spike the upper band. Bearish reversal. Source: Stockcharts.com A W-bottom is a buy signal. It happens when price action spikes the lower line and then recovers, establishing the first low. Then after a while, another low is established, and this time it is above the lower band. The second low must not be lower than the first one, and the second low mustn't touch or spike the lower band. This bullish trading setup is confirmed when the price action moves and closes above the middle line (SMA). Price will likely rise to a new high. Source: Stockcharts.com As with most other technical analysis tools, Bollinger Bands, too, come with its own set of unique advantages and disadvantages. Therefore, it's crucial to understand where this momentum indicator excels and where it fails to get the most out of its use. Works well in non-trending market conditions;Excellent tool for measuring volatility, which can easily be seen as the Bollinger Bands narrow or widen;Helpful at identifying new trends and the end of trends, making them a genuinely multi-purpose indicator;Useful at identifying overbought and oversold conditions;Useful at identifying significant movement on the market;Simple to apply and relatively straightforward;When automatically plotted by a trading platform, the bands are user-friendly and can add another dimension to chart analysis for traders.The bands will not be able to predict price patterns as a lagging indicator. Rather it follows recent market movements suggesting that traders may not get signals until the price movement is already underway;Bad at identifying cycle turns, giving a lot of false signals;Keep in mind that John Bollinger himself strongly alluded to Bollinger Bands be used in conjunction with other forms of technical analysis tools, as they don't contain all of the data necessary for proper analysis of price action. To sum up, Bollinger Bands are a valuable technical analysis tool. As a trend indicator, Bollinger bands are used to analyze volatility and dynamics of the price on the market – both beneficial when opening and closing trades quickly in a turbulent market. Bollinger Bands can also assist in predicting trend reversals. However, traders should remember that Bollinger Bands are based on historical information. Therefore, the bands can only react to price movements but not predict future price movements. Disclaimer: The content on this site should not be considered investment advice. Investing is speculative. When investing, your capital is at risk. Bollinger Bands, developed by John Bollinger in the mid-1980s, are a popular technical analysis tool used by traders to analyze the markets. Bollinger Bands consists of three bands: the middle line (simple moving average), the upper line, and the lower line. The middle band essentially serves as a base for both the upper and lower. Bollinger Bands are a trend indicator that detect the volatility and dynamics of the price on the market. During periods of low volatility, the bands are narrow, while Bollinger Bands expand drastically during periods of high volatility. The consensus is that when the price reaches the upper band, it is considered as overbought, and when the price approaches the lower band, it is deemed to be oversold. As Bollinger Bands offer unique insights into price and volatility, traders can find several uses for them, including determining overbought and oversold levels, as a trend-following tool, monitoring for breakouts, and deciding entry and exit points for a trade. As a lagging indicator, it will not be able to predict price movements. Therefore, traders may not get signals until the price movement is already underway. Moreover, Bollinger Bands cannot be used as a standalone trading method. They are merely one indicator designed to provide traders with data regarding price volatility. John Bollinger suggests using them in conjunction with other non-correlated indicators that provide more direct market signals. Keltner Channels and Bollinger Bands are both used in market analysis but differ in their construction and interpretation. Keltner Channels are formed using an exponential moving average and the Average True Range to set the channel boundaries, focusing on trend direction and overbought/oversold conditions with smoother band movement. Bollinger Bands, on the other hand, use a simple moving average and standard deviation to determine their boundaries, making them more sensitive to market volatility and useful in identifying volatility, trends, and potential market extremes. Donchian channels and Bollinger bands are both technical analysis tools but differ in their construction and focus. Donchian channels are formed by taking the highest high and the lowest low over a set number of periods, highlighting price breakouts and extremes. Bollinger Bands, on the other hand, use a moving average with upper and lower bands set based on standard deviation, focusing on volatility and potential overbought or oversold market conditions. The Double Bollinger Bands Strategy uses two sets of Bollinger Bands, one with a standard deviation of 1 and another with 2, to analyze market trends and potential trade points. This strategy helps traders identify strong trends, periods of consolidation, and potential breakouts by observing price movements between these bands. It's effective in spotting overbought or oversold market conditions. The Bollinger Bands Day Trading Strategy involves using Bollinger Bands as a primary tool for short-term trading decisions within a single trading day. Traders observe how prices interact with the bands to make buy or sell decisions. For example, a price touching the lower band may suggest a buy opportunity, assuming oversold conditions, while touching the upper band might indicate a sell signal, suggesting overbought conditions. This strategy often incorporates other indicators for confirmation and is popular for its ability to adapt to different market volatility levels. The best settings for Bollinger Bands typically depend on the specific market and trading style, but a common starting point is a 20-period moving average with a 2 standard deviation for the upper and lower bands. This setup is versatile, providing a balance between sensitivity and reliability for many markets and time frames. However, traders often adjust these parameters based on the volatility of the asset and their individual trading strategies. For scalping, a common Bollinger bands setting is a shorter period moving average, like 5 or 10 periods, with a 2 standard deviation for the upper and lower bands. This configuration provides a more responsive indicator suited for the fast-paced nature of scalping, allowing traders to identify quick market movements and potential entry or exit points. However, these settings should be adjusted according to the specific market and the trader's personal strategy. The best indicator to use with Bollinger Bands is the Relative Strength Index (RSI). It helps confirm overbought or oversold conditions when prices touch the bands, adding more reliability to potential trade signals. This strategy typically involves looking for price movements that touch or breach the Bollinger Bands and confirming these signals with the RSI. For instance, a price touching the lower Bollinger Band while the RSI is below 30 may indicate an oversold condition, suggesting a potential buy opportunity. Conversely, a price at the upper Bollinger Band with an RSI above 70 might signal an overbought condition, indicating a potential sell. This combined approach helps filter out false signals and enhances the reliability of trade setups. Tight Bollinger bands occur when the upper and lower bands come close together, indicating low market volatility. This often precedes significant price movements, as markets tend to alternate between periods of low and high volatility. Traders watch for a breakout from tight Bollinger Bands as a potential signal for entering trades, with the direction of the breakout suggesting the trade direction. A Bollinger Band squeeze is identified when the bands narrow significantly, indicating low volatility and a potential upcoming breakout. Best Crypto Exchange for Intermediate Traders and Investors Invest in cryptocurrencies and 3,000+ other assets including stocks and precious metals. 0% commission on stocks - buy in bulk or just a fraction from as little as $10. Other fees apply. For more information, visit etoro.com/trading/fees. Copy top-performing traders in real time, automatically. eToro USA is registered with FINRA for securities trading. 30+ million Users worldwide eToro is a multi-asset investment platform. The value of your investments may go up or down. Your capital is at risk. Don't invest unless you're prepared to lose all the money you invest. This is a high-risk investment and you should not expect to be protected if something goes wrong. Take 2 mins to learn more. Bollinger Bands are a type of statistical chart that characterises the prices and volatility of a financial instrument over a period of time using a formula. Bollinger Bands formula was developed by technical trader John Bollinger in the 1980s. These charts are used by financial traders in the process of decision-making. Bollinger Bands are also an important component of technical analysis. Bollinger Bands are a type of price envelope which defines the upper and lower price range levels. An important benefit of Bollinger bands is that they help determine whether prices are high or low on a relative basis. They help the investors by providing the necessary information on the probability of identifying if an asset is oversold or overbought. Bollinger Bands plot two bands around a moving average – an upper bollinger band and a lower bollinger band. The bollinger bands calculation uses standard deviation to set the width of the bands. Wider bollinger bands indicate higher volatility while closer bands indicate lower volatility. Bollinger band indicators help traders make decisions about overbought and oversold conditions. When price touches the upper bollinger band, it may be overbought and ready for a pullback. When price touches the lower band, it may be oversold and ready for a bounce. See this video below for a detailed explanation on Bollinger Bands. Video on Bollinger Bands Trading Strategy Bollinger Bands are a type of price envelope. An envelope is a technical tool that consists of two parallel lines, which are usually plotted above and below a moving average or another reference line. The distance between the upper and lower lines is typically a fixed percentage or a specific number of points. Bollinger Bands are envelopes plotted at a standard deviation level above and below a simple moving average of the price. The distance of the bands is based on the standard deviation, and they adjust to volatility swings in the underlying price. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 54 Bollinger Bands display a graphical band and volatility in a two-dimensional chart. It is represented by three different lines which are drawn with one below and one above the security price line. Its specific period moving average is denoted as the midline to form an envelope. These lines show a band or a volatility range in which a particular security's price is moving up or down. Volatility is shown on the basis of the standard deviation for a particular security. This is denoted by the upper and lower lines or bands as the standard deviation is a measure of volatility. The distance of the bands is based on the standard deviation, and they adjust to the volatility swings in the underlying price. The Standard deviation changes when volatility increases and decreases. The bands automatically widen when volatility increases and contract when volatility decreases. Their dynamic nature allows them to be used on different securities with standard settings. The image uploaded below shows how Bollinger Bands looks when it is applied on a chart. Bollinger Band was developed by John Bollinger who worked as Financial News Network's Chief Technical Analyst in the mid-80s. Bollinger Band is an envelope in the form of two lines which surround the price bars on a chart. Bollinger Bands are a tool used by traders and investors to understand market volatility. There were other efforts to capture market volatility before John Bollinger proposed his idea. Wilfrid Ledoux used the monthly highs and lows of the Dow Jones Industrial Average to predict long-term market movement in 1960. The history of trading bands got lost in time after that until it was proposed later by Hurst. Many others tried to construct similar trade bands inspired by Hurst but achieved little success. Percentage bands became popular in the 70s. It was easy to use and was a simple moving average graph that showed the highs and lows, which were plotted against a user-specified percentage. The modern Bollinger Bands are developed on the idea of Donchian Bands, which are price envelope bands showing the highest and lowest price differences for a particular number of days. Donchian Bands are, however, only taken into consideration for the recent highs and lows, which gives Bollinger Bands a clear advantage over them. It uses standard deviation, which makes it dynamic and adaptive to the market. John Bollinger founded Bollinger Capital Management, which is a firm specialising in providing technical analysis and investment advice to investors. The idea for Bollinger Bands was inspired by J. Welles Wilder Jr., who had introduced the concept of using standard deviation to measure volatility. J. Welles Wilder Jr. worked on volatility indicators and the concept of using the standard deviation to measure price volatility. Wilder introduced the concepts of the Average True Range (ATR) and the Relative Strength Index (RSI), which became widely used technical indicators. Bollinger further developed this concept into his own indicator by using the standard deviation as a measure of volatility. Bollinger Bands were first introduced to the public in the 1980s. They gained widespread recognition and popularity due to their ability to identify potential price breakouts and reversals. John Bollinger published his findings on Bollinger Bands in his book titled "Bollinger on Bollinger Bands," which was released in 2001. The book acts as a guide for investors in order to understand and effectively utilise the Bollinger Bands in various market scenarios. John Bollinger continues to be an influential figure in the field of technical analysis. He is a frequent speaker at financial conferences and has significantly contributed to the understanding and application of technical analysis concepts. Bollinger Bands have also become a widely recognised and utilised technical analysis tool. Bollinger bands are an important component of technical analysis and a popular form of technical price indicator. Bollinger Bands are made up of an upper, lower, and middle band which is a moving average. The upper and lower bands are set on either side of a Simple Moving Average (SMA). Each of the bands is plotted two standard deviations away from the Simple Moving Average (SMA) of the market, and they are capable of highlighting the areas of support and resistance. An area of resistance is encountered when the price approaches the upper band, and an area of support is encountered when the price approaches the lower band. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 55 Bollinger Bands also incorporate volatility. The general principle in technical analysis is that a trader can determine the price of the stock, that is if it is relatively low or relatively high by comparing a stock's position relative to the bands. The width of the band is also an indicator of its volatility in technical analysis. Narrow bands indicate less volatility, and wider bands indicate higher volatility.In the image uploaded below, you can observe how the price has reacted from the bollinger bands components represented in the black box. The price reacts from the SMA in the middle and bounces from upper and lower bands. The upper, lower, and middle bands create a price envelope. These bands are dynamic, which allows them to be used for different asset classes to understand price fluctuations and determine overall trends. The overall trends can be determined through technical analysis of the price. An upward trend is indicated when the price is constantly trading above the middle band, and a downward trend is indicated when the price is constantly trading below the middle band. Bollinger Bands are considered a technical analysis tool that helps traders evaluate price action and a stock's volatility. Bollinger Bands are a popular technical analysis tool used by traders and investors. Bollinger Bands are one of many indicators that are simple to understand and easy to interpret. It acts as a comprehensive guide for investors and traders to use it profitably. Another important feature of Bollinger bands is that they use standard deviation which is dynamic, and it also adjusts to market volatility. The band grows wider during volatile market periods and narrows during less volatile periods. Traders measure the width of the band in order to measure volatility. The current market price of stock also helps traders and investors in the decision-making process. An overbought market is indicated when the current market price of a stock is close to its upper Bollinger band while an oversold market is indicated when the current market price of a stock is close to its lower Bollinger band. The main objective of the Bollinger Bands indicator is to give the terms high and low a relative definition. Prices are relatively high at the Upper Bollinger Band and relatively low at the Lower Bollinger Band. Bollinger Bands can also identify potential trend reversals and breakouts. A Bullish breakout is indicated when the price breaks above the upper band, while a bearish breakout is indicated when the price breaks below the lower band. The movement of the price from one band to another signals a potential trend reversal in the market price of the stock. The Bollinger Band consists of 3 lines. They are the upper band, lower band and the middle band. Here is the formula for the 3 lines. Middle Band = 20 day simple moving average (SMA) Upper Band = 20 day SMA + (20-day standard deviation of price x 2) Lower Band = 20 day SMA – (20-day standard deviation of price x 2) Traders use the formulas to calculate the three bands. The formula for Standard deviation: Standard deviation (SD) is the square root of the summation of the numbers in the population minus the mean divided by sample size. The next step after calculating the Standard deviation is calculating the upper and lower Bollinger bands. The Bollinger upper and lower bands are calculated by multiplying SD by two and both adding and subtracting the number from the value to plot upper and lower values. The Bollinger Upper band is calculated by adding the 20-day simple moving average with the 20-day standard deviation multiplied by 2. Here is the formula for calculating the Bollinger Upper band: $BOLU=MA(TP,n)+m*\sigma[TP,n]$ The Bollinger Lower Band is calculated by subtracting the 20-day simple moving average from the 20-day standard deviation multiplied by 2. Here is the formula for calculating the Bollinger lower band: $BOLD=MA(TP,n)-m*\sigma[TP,n]$ Where, BLOU = Bollinger Upper Band BOLD = Bollinger Lower Band MA = Moving Average TP= Typical Price (High+Low+Close) / 3 N = Number of days in Moving Average (typically 20) M = Number of SD (typically 2) $\sigma[TP,n]$ = SD over last n periods of TP Most of the trading platforms calculate Bollinger bands automatically but it is still useful for traders and investors to understand and learn them. Upper Bollinger Bands in technical analysis help the traders with decision-making and they also act as a guide while investing in the stock market. Upper Bollinger Bands help traders predict if a stock is overbought. Overbuying is indicated when the stock price moves closer to the upper band. Traders consider this a signal to adjust their positions, as there could be a potential pullback. The purpose of Bollinger Bands is also to provide a relative definition of the high and low prices of a market. Upper Bollinger Bands indicate that the current market price of a stock is high, and traders usually buy when the price breaks above the upper Bollinger Band. The upper Bollinger bands can also identify potential trend breakouts and reversals. A bullish breakout is indicated when the price breaks above the upper band in technical analysis. The movement of the price from one band to another band signals a potential trend reversal in the market price of the stock. In the image uploaded below, the purple box represents potential trend reversal after touching the upper bollinger band twice. And after taking sufficient support from the lower band, the price managed to break and cross the upper band indicating a trend continuation towards upside. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 56 The upper Bollinger bands are capable of highlighting areas resistance. An area of resistance is encountered when the price approaches the upper band in technical analysis. Traders can monitor them to decide whether the price will reverse or break through resistance levels. Upper Bollinger Bands in technical analysis are used with other indicators in order to confirm trading signals and take important decisions. Lower Bollinger Bands in technical analysis help traders with decision-making and they also act as a guide while investing in the stock market. Lower Bollinger Bands help traders predict if a stock is oversold. An oversold condition is indicated when the stock price moves closer to the lower band. Traders consider this a signal to adjust their positions, as there could be a potential consolidation. There is a rapid decline in the market price of the stock, and traders usually start buying at this point. The purpose of Bollinger Bands is also to provide a relative definition of the high and low prices of a market. Lower Bollinger Bands indicate that the current market price of a stock is low and traders usually buy and expect the price to increase. The lower Bollinger bands can also identify potential trend breakouts and reversals. A bearish breakout is indicated when the price breaks below the lower band in technical analysis. The movement of the price from one band to another signals a potential trend reversal in the market price of the stock. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 57 In the image uploaded above, the first few purple boxes represent how the lower bollinger band managed to act as a strong support and the price of the stock bounced from that level. The arrow represents the breakdown of the lower band indicating trend shiftment towards downside. The lower Bollinger bands are capable of highlighting areas of support. An area of support is encountered when the price approaches the lower band in technical analysis. Traders can monitor them to decide whether the price will reverse or break through support levels. The lower Bollinger Bands in technical analysis is used with other indicators in order to confirm trading signals and take important decisions. The signals provided by the lower Bollinger band also help in successful trading. Bollinger Bands are a technical analysis tool for the purpose of trading stocks. The dynamic nature of the Bollinger Bands are applied on the chart to procure additional confirmation about the trend of the stock or any security. Here are the different ways to use Bollinger bands in trading. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 58 Indicator of volatility: The bands comprise a volatility indicator that measures the relative high or low of a security's price in relation to previous trades. Volatility is measured using the standard deviation, which changes with an increase or decrease in volatility. Standard deviation points are plotted against it to represent price fluctuations. The Bollinger band widens when there is a price increase and grows during volatile market periods. The Bollinger band narrows when there is a price decrease and also gets narrower during less volatile periods. Traders measure the width of the band in order to measure volatility.Strike.money is one of a kind scanner that scans all the stocks based on the bollinger bands giving either the widening signal (indicating increasing volatility) and narrowing signal (indicating decreasing volatility). In the image below, Strike.money has sorted and presented the list of stocks that are indicating Widening signal (upcoming volatility) The scanner enables users to sort the list based on hourly, daily, weekly and monthly time frames. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 59 In the image below, these drop down menus provide the following scanners. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 60 Overbought and oversold Strategy: Overbought and oversold is a common strategy used by traders with Bollinger bands. This strategy is used to identify overbought and oversold regions in the current market conditions. The current market price of stock also helps the traders and investors in the decision-making process. An overbought market is indicated when the current market price of a stock is close to its upper Bollinger band while an oversold market is indicated when the current market price of a stock is close to its lower Bollinger band. The trader buys expecting the price to return back to the middle band in an oversold market, and the trader sells expecting the price to return back to the middle band in an overbought market. This strategy is not preferred in strong-trending markets. Bollinger Bands Squeeze/tightening Strategy: This is another strategy used by traders while trading with Bollinger Bands. A squeeze is formed when the price moves sideways in the consolidation. The upper and lower Bollinger Bands come close to each other when the price moves in consolidation. This means that the volatility of the stock has decreased. This is not always the case and the volatility of the stock will tend to increase again after a certain period of time. The price makes a large move in either direction after the consolidation. The increase in volume on a breakout signals that the stock is no longer in consolidation and is going to form an upward or downward trend. The trader can buy or sell accordingly when the price breaks the upper or lower band.Strike.money’s scanner has sorted the list of stocks which are undergoing a squeeze in the bollinger bands. This way, a trader’s time for stock selection is saved. Customization of the basket is made in such a way that the list presents only the stocks present in F&O and Only indices. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 61 Potential Trend breakouts and reversals: The Bollinger Bands can also identify potential trend breakouts and reversals. A bullish breakout is indicated when the price breaks above the upper band, while a bearish breakout is indicated when the price breaks below the lower band in technical analysis. The movement of the price from one band to another signals a potential trend reversal in the market price of the stock. Traders consider the bullish breakout a buying opportunity and the bearish breakout a selling opportunity. Strike.money in its bollinger bands scanner provides a list of stock based on, if the price of the script is reversing from the upper or lower bollinger band. This way, the reversal stocks can be scanned and the trader’s valuable time of selection of stocks is reduced, helping him/her to focus on further analysis of the selected stocks. In the image below, an option of ‘Price crossing above the lower band’ is selected; meaning; all the stocks under the F & O section are displayed which are showing signs of reversing and closing above the lower band indicating a trend reversal towards the middle line or the upper band. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 62 The drop down menus offer; ‘Price crossing below the upper band’, displaying the list of stocks that are reversing from the upper band and has potential to travel till the middle or the lower band. Support and resistance levels: The Bollinger Bands are capable of highlighting areas of support and resistance. An area of resistance is assumed when the price approaches the upper band in technical analysis, while an area of support is assumed when the price approaches the lower band in technical analysis.The middle line of the bollinger band is also very useful. Short term traders can find potential trading opportunities when the price reacts from the middle line to travel either towards the upper band or the lower band.This way, bollinger bands are an important analytical tool. Though no indicator works thoroughly, bollinger bands have various functions a trader can take advantage of. Like already discussed; to measure volatility, potential trend reversal or continuation trades. Traders can monitor them to decide whether the price will reverse or break through support and resistance levels. Bollinger Bands are an important tool in technical analysis. They are also widely used by traders and investors to measure market volatility, identify potential trading opportunities, and determine key support and resistance levels. Bollinger bands determine trade entry and exit points in multiple ways. As the lower and upper bollinger band provide a price point of potential support or resistance area; if in case of a price reacting from the lower bollinger band with evidence of demand, traders can place entries around the demand price and place a stop order a few points below the band. Vice versa for the short position around the upper bollinger bands and placing a safe stop loss a few points above the upper band to ride a short trade. An existing long position can be exited when the price keeps approaching the upper bollinger bands indicating potential overbought conditions. Vice versa in case of price approaching lower bollinger bands.It is important to note that the price may break above the bands signalling wrong trades as well.The middle SMA is also used by traders to enter in short term trades on lower time frames.This way, bollinger bands can be used to enter fresh trades, place stop loss exit orders and also exit existing positions. A popular strategy is to trade the rebounds or reaction from the upper or lower bollinger bands. For example, if price hits the lower band and rebounds back up, traders buy on the rebound. If price hits the upper band and bounces back down, traders may short sell the bounce. Using Bollinger Bands to trade the reversals when price reaches the outer bands can be profitable. The timeframes bollinger bands work best is based on a subjective approach of trading. Trades have different styles of trading. Bollinger bands are known to work at its best on higher time frames, like hourly to daily to weekly. As the larger the time frame the lesser the chances of generating false signals. The best time period that bollinger bands work best with is a 20 day simple moving average. The Relative Strength Index (RSI) is the indicator that works best with Bollinger Bands. The relative strength index (RSI) is a momentum indicator used in technical analysis. This can, however, change with the market conditions, timeframe, and trading strategy of the trader. Price action is critically combined with hints given by bollinger bands to solidify a certain view of the future price. Yes, Moving Average Convergence Divergence (MACD) is used together with Bollinger Bands to provide a better understanding of the current state of the market. The MACD indicator is an excellent supplement to a Bollinger Bands strategy. It helps in confirming trends and entry points, confirming breakouts, and identifying the strength and direction of the price trend. Yes, it is possible to combine Bollinger Bands and the Relative Strength Index (RSI). RSI provides an additional confirmation regarding the state of the price of a stock, if it is in an overbought or oversold state. Both the indicators, if combined, can nurture a better understanding of the current situation and give better clues about the future of the stock. The Bollinger Band is not considered accurate as a single indicator. Bollinger Bands can, however, be combined with other technical indicators to provide better insights regarding the current state of the price of a stock. Bollinger bands give misleading signals in lower time frames due to higher uncertainty, volatility and fluctuations. Bollinger Bands are also based on historical price data and are considered a lagging indicator. Bollinger Bands are able to capture about 90% of the price action in a given security across all the capital markets. The width of the Bollinger Bands is determined by the standard deviation of the price data, which represents a measure of volatility. The Bollinger Bands or any indicator seems to work during backtesting. Thus, constant monitoring of the working should be done by traders and should not completely rely on bollinger bands to take certain trades. The effectiveness of Bollinger Bands can, however, vary depending on several factors, like market conditions, timeframe, and the stock. The bollinger bands work better on higher time frames as they provide crispier clues regarding the price of the script. The success rate also changes depending on the trader’s style and strategies used. Overbought and oversold is a common strategy used by traders with Bollinger bands. Traders can easily recognise overbought and oversold conditions with Bollinger Bands. An overbought market is indicated when the current market price of a stock is close to its upper Bollinger Band while an oversold market is indicated when the current market price of a stock is close to its lower Bollinger Band. The trader buys expecting the price to return back to the middle band in an oversold market, and the trader sells expecting the price to return back to the middle band in an overbought market. This strategy is not preferred in strong-trending markets. Technical indicators like The Relative Strength Index (RSI) with respect to overbought or oversold conditions are used to get strong reversal signals and to confirm the signals generated by Bollinger bands. There are five main benefits of using bollinger bands in Technical analysis. Confirmation of Trend Breakouts: Bollinger bands in technical analysis help confirm the trend breakouts. Trend breakouts are also a trade entry point. Traders can enter the trade in the direction of a breakout if the potential trend breakout is confirmed. A breakout can indicate the continuation of the current trend or the start of a new trend. A Bullish breakout is indicated when the price breaks above the upper band, while a bearish breakout is indicated when the price breaks below the lower band. The movement of the price from one band to another signals a potential trend reversal in the market price of the stock. Traders can use the bands to confirm breakout signals and make more confident trading decisions. Indicator of market volatility: Bollinger Bands are an indicator of market volatility and also measure the relative high or low of a security’s price in relation to previous trades. Volatility is measured using the standard deviation, which changes with an increase or decrease in volatility. Standard deviation points are plotted against it to represent price fluctuations. The Bollinger Band widens when there is a price increase and grows during volatile market periods. The Bollinger Band narrows when there is a price decrease and also gets narrower during less volatile periods. Traders measure the width of the band in order to measure volatility. Overbought and oversold conditions: Bollinger Bands can indicate overbought and oversold conditions in the market. The current market price of stock also helps traders and investors in the decision-making process. An overbought market is indicated when the current market price of a stock is close to its upper Bollinger Band while an oversold market is indicated when the current market price of a stock is close to its lower Bollinger Band. Traders usually buy expecting the price to return back to the middle band in an oversold market, and the trader sells expecting the price to return back to the middle band in an overbought market. Profit targets: Bollinger Bands help in setting up profit targets. Traders can set up profits using the support and resistance levels. The Bollinger Bands are capable of highlighting areas of support and resistance. An area of resistance is encountered when the price approaches the upper band in technical analysis, while an area of support is encountered when the price approaches the lower band in technical analysis. This helps the traders lock in their profits and exit when they achieve their predetermined profits. Compatibility with other indicators: Bollinger bands in technical analysis is used with other indicators in order to confirm trading signals and take important decisions. They are used with indicators like the Relative Strength Index (RSI) and the Stochastic Oscillator to strengthen trading signals or identify divergences. Bollinger Bands provide traders with valuable insights on market volatility, trend confirmation, setting up targets, and overbought or oversold conditions. Traders can make more informed trading decisions and potentially enhance their trading strategies using these insights. There are five main limitations of using Bollinger Bands in Technical analysis. Calculation based on a Simple Moving Average (SMA): The calculation of Bollinger Bands is based on a simple moving average (SMA). Older data are used more often than recent ones in the calculation of SMA. It dilutes the significance of new data and impacts the process of decision-making. This makes it difficult for traders and investors, as they must adjust it to suit their needs and also take current information into account while making trading decisions. Unpredictability of price: Bollinger Bands cannot predict price patterns. The Bollinger Bands react to changes in price movements which are either uptrends or downtrends but will not predict the prices. Bollinger Bands also follow current market movements. This means that traders do not always receive signals until the price movement is already underway. Adjustment of Standard Settings: Traders must find settings that allow them to set guidelines for specific stocks that they are trading. Traders alter the settings or use a different tool altogether if the selected band settings fail to work. The effectiveness of Bollinger Bands varies from one market to another, and traders need to adjust the settings even if they are trading the same security over a period of time. Sole indicator: Bollinger Bands cannot be used as a sole indicator. The developer of Bollinger Bands, John Bollinger, has suggested that Bollinger Bands must be used only in conjunction with other indicators. Bollinger Bands should be used in conjunction with other technical analysis tools and indicators to validate signals and make well-informed trading decisions. Traders should also consider individual risk tolerance, market conditions, and timeframes when determining trade entry and exit points. Market Conditions: Market conditions change over time and different market strategies work in different situations. Trading with Bollinger Bands based on normal market conditions will not work in volatile markets. Traders should employ different marketing indicators depending on the market condition. These are few of the limitations that traders and investors should be aware of. The limitations can be reduced by using other technical tools in adjacent to the bollinger bands and over complexity can be avoided by simple conjecture of price action and the key points received by studying bollinger bands on a particular stock. These five limitations help traders and investors make informed trading decisions and act as a comprehensive guide. No, the bollinger bands cannot be used as a support or resistance level. The lower bollinger band reflects the price of a stock which is in a demand zone whereas the upper bollinger band reflects the price of a stock in the supply side. The middle SMA also provides a short term support or resistance that can be used on lower time frames. But, they remain only the indication of a potential price level that may show activity of support or resistance and thus they cannot be solely relied on to identify the proper support and resistance. Thus they can be combined with other tools and price action to solidify the understanding of the current state of a script. Yes, Bollinger Bands is used to identify trends in the market. The Bolling Bands can identify potential trend breakouts and reversals in the market. They can also be confirmed with technical indicators like The Relative Strength Index (RSI), Stochastic Oscillator, Moving Averages, and Volume Indicators. Yes, Bollinger Bands are one of the best indicators. Bollinger Bands provide valuable information about volatility, potential price reversals, and overbought or oversold conditions. Bollinger Bands are also popular and widely used tools in technical analysis. They can, however, change with market conditions, timeframes, and the trading strategy preferred by the trader. Bollinger Bands consist of 3 lines: An upper band, a lower band, and a middle band, which is a simple moving average. Bollinger Bands: Definition, How It Works, Calculation, Trading, and Benefits 63 The moving average (MA) is a simple technical analysis tool that smooths out price data by creating a constantly updated average price. Bollinger Bands are an indicator of market volatility and also measure the relative high or low of a security’s price in relation to previous trades. The bands automatically widen when volatility increases and contract when volatility decreases. Moving Averages are used to determine support and resistance levels, generate trend-following signals and smooth out price trends by filtering out the noise from random short-term price fluctuations to provide a clearer picture of the overall price trend. Moving averages and Bollinger Bands have their purposes which complement each other in developing successful trading strategies. Traders combine these tools with indicators and other techniques that act as a comprehensive guide for traders and investors. Bollinger Bands are a technical analysis tool, specifically they are a type of trading band or envelope. Trading bands and envelopes serve the same purpose, they provide relative definitions of high and low that can be used to create rigorous trading approaches, in pattern recognition, and for much more. Bands are usually thought of as employing a measure of central tendency as a base such as a moving average, whereas envelopes encompass the price structure without a clearly defined central focus, perhaps by reference to highs and lows, or via cyclic analysis. We'll use the term trading bands to refer to any set of curves that market technicians use to define high or low on a relative basis. The earliest example of trading bands that I have been able to uncover comes from Wilfrid Ledoux in 1960. He used curves connecting the monthly highs and lows of the Dow Jones Industrial Average as a long-term market-timing tool. After Ledoux the exact sequence of trading band development gets foggy. In 1960 Chester Keltner proposed a trading system, The 10-Day Moving Average Rule, which later became Keltner bands in the hands of market technicians whose names we do not know. Next comes the work of J. M. Hurst who used cycles to draw envelopes around the price structure. Hurst's work was so elegant that it became a sort of grail with many trying to replicate it, but few succeeding. In the early '70s percentage bands became very popular, though we have no idea who created them. They were simply a moving average shifted up and down by a user-specified percent. Percentage bands had the decided advantage of being easy to deploy by hand. At any given time a 7% band consists of a base moving average, an upper curve at 107% of the base and a lower curve at 93% of the base. (Arthur Merrill suggested multiply and dividing by one plus the desired percentage.) When I started using trading bands percentage bands were the most popular bands by far. Along the way we got another fine example of envelopes, Donchian bands, which consist of the highest high and lowest low of the immediately prior n-days. Those are the main types of band/envelopes that I know of. Over the years there have been many variations on those ideas, some of which are still in use. Today the most popular approaches to trading bands are Donchian, Keltner, Percentage and, of course, Bollinger Bands. Percentage bands are fixed, they do not adapt to changing market conditions; Donchian bands use recent highs and lows and Keltner bands use Average True Range as adaptive mechanisms. Bollinger Bands use standard deviation to adapt to changing market conditions and thereby hangs a tale. When I became active in the markets on a full time basis in 1980 I was mainly interested in options and technical analysis. Information on both was hard to obtain in those days but I persisted; with the help of an early microcomputer I was able to make some progress. At the time we used percentage bands and compared price action within the bands to the action of supply/demand tools like David Bostian's Intraday Intensity. A touch of the upper band by price that was not confirmed by strength in the oscillator was a sell setup and a similarly unconfirmed tag of the lower band was a buy setup. The problem with that approach was that percentage bands needed to be adjusted over time to keep them germane to the price structure and the adjustment process let emotions into the analytical process. If you were bullish, you had a natural tendency to draw the bands so they presented a bullish picture, if you were bearish the natural result was a picture with a bearish bias. This was clearly a problem. We tried reset rules like lookbacks with some success, but what we really needed was an adaptive mechanism. I was trading options at the time and had built some volatility models in an early spreadsheet program called SuperCalc. One day I copied a volatility formula down a column of data and noticed that volatility was changing over time. Seeing that, I wondered if volatility couldn't be used to set the width of trading bands. That idea may seem obvious now, but at the time it was a leap of faith. At that time volatility was thought to be a static quantity, a property of a security, and that if it changed at all, it did so only in a very long-term sense, over the life of a company for example. Today we know the volatility is a dynamic quantity, indeed very dynamic. After some experimentation I settled on the formulation we know today, an n period moving average with bands drawn above and below at intervals determined by a multiple of standard deviation (We use the population calculation for standard deviation). The defaults today are the same as they were 35 years ago, 20 periods for the moving average with the bands set at plus and minus two standard deviations of the same data used for the average. But they weren't “Bollinger Bands” yet, that would come later when Bill Griffeth, an on-air host for the Financial News Network, asked me what I called my bands on air. I had presented a chart showing an unconfirmed tag of my upper band and explained that the first down day would generate a sell signal. Bill then asked me what I called those lines around the price structure, a question that I was totally unprepared for, so I blurted out the alliteratively obvious choice: “Bollinger Bands.” So what are Bollinger Bands? They are curves drawn in and around the price structure usually consisting of a moving average (the middle band), an upper band, and a lower band that answer the question as to whether prices are high or low on a relative basis. Bollinger Bands work best when the middle band is chosen to reflect the intermediate-term trend, so that trend information is combined with relative price level data. Soon the Bollinger Bands had company, I created %b, an indicator that depicted where price was in relation to the bands, and then I added BandWidth to depict how wide the bands were as a function of the middle band. For many years that was the state of the art: Bollinger Bands, %b and BandWidth. Here are a couple of practical examples of the usage of Bollinger Bands and the classic Bollinger Band tools along with a volume indicator, Intraday Intensity: