John Bollinger's Market Timing Charts

Each week we post a package of stock-market timing charts. The package was created to provide easy access to the most important stock-market timing tools. The charts use daily data, mostly from the US markets, and present a variety of technical analysis tools. Comments and suggestions are welcome: BBands@BollingerBands.com

There are currently 32 charts in the package. The charts are divided into several sections based on the indices:

- S&P 500 Index (8)
- NYSE Composite Index (11)
- Sentiment (3)
- Finance Stocks(1)
- Russell & NASDAQ Indices (4)
- Sector Grid (1)
- Commodities (1)
- Dow Jones Industrial Average—theoretical calc(1)
- Interest rates (1)
- World Stock Markets (1)

Short descriptions follow:

The first three charts feature the S&P 500 with Bollinger Bands and BB indicators. Chart 1 has %b in the indicator clip, chart 2 has BandWidth and chart 3 depicts BBTrend and its components. These charts are useful for diagnosing tops and bottoms as well as locating Squeezes, which mark the beginnings of trends, and Bulges, which mark the ends of trends. These three charts are the core of our work.

Chart 4 features the S&P 500 and the Volatility Index, VIX, which has become known as Wall Street's "Fear Gauge". The VIX and its related products have become prime drivers of stock-market action; high levels indicate panic, low levels complacency.

Chart 5 looks at the term structure of volatility and is really a sentiment indicator. The comparison is 30-day volatility estimates versus 3-month estimates. The higher the indicator, the more bullish/complacent sentiment is; the lower, the more bearish.

Chart 6 depicts the S&P 500 with three key moving averages; one month, a quarter, and a half year. The indicator clip displays ratios between exchange traded funds based on the S&P 500 (SPY, large cap), the S&P 400 (MDY, mid cap) and 600 (IJR, small cap) indices. These are measures of the strength of larger stocks versus mid-cap and smaller stocks. When the lines are rising smaller stocks are out-performing, when the lines are falling the market's emphasis is on larger stocks.

Chart 7 presents a timing tool developed by Chartcraft's Abe Cohen, the percent of stocks above a key moving average. Chartcraft calculated the percent of stocks over their 50-day simple moving averages on the NYSE. We take a modern approach, eliminating the non-operating companies found on the exchanges (preferred stocks, bond funds, closed-end funds, etc.) by calculating this indicator for the S&P indices, the S&P 500 (large cap) and S&P 600 (small cap). The extremes are thought to mark overbought and oversold conditions.

Chart 8 presents our take on two of the late Jim Alphier's indicators that were originally published in *Barron's*, Urgent Selling and Prolonged Liquidation. These are counting indicators that tally up days versus down days. The solid reference lines are the signal lines for Urgent Selling (the blue line) and the dash-dotted lines are the signal levels for Prolonged Liquidation (the black line).

Charts 9 through 19 feature the NYSE Composite Index and indicators derived by tabulating NYSE trading activity.

Chart 9 presents a volume histogram and 50-day average volume for the NYSE. Below is a momentum indicator learned from Steve Achelis, the founder of MetaStock, the 12-day rate of change of the NYSE Composite. It is one of the simplest and best momentum indicators I know of.

Chart 10 has the NYSE advance-decline line in the indicator panel. The advance-decline line is a basic and valuable intermediate-term measure of the internal strength of the market. It is comprised of a cumulative sum of the difference between the number of issues advancing on the day and those declining each day.

The indicator in chart 11 is a histogram with the percent of advancing stocks plotted above zero and the percent of declining stocks plotted below. It is labeled Breadth Thrust after Martin Zweig's ideas about the forecasting value of days with large pluralities of advancing or declining stocks, especially when multiple occurrences occur in short time spans. Reference lines at +90 and -90 are provided. There is a 10-day moving average of advances minus declines plotted in blue, which is a classic market timing tool that has gone by many names.

Chart 12 presents a 21-day advance-decline oscillator. The advance-decline oscillator is a classic short- to intermediate-term indicator of the market's internal strength that is often compared to price action with trading bands to generate buy and sell alerts. Divergence analysis is key here.

Chart 13 is a variation on chart 12 that uses the volume of NYSE stocks up and down each day to create the oscillator instead of numbers of advances and declines.

Chart 14 is a chart of Jim Miekka's version of the McClellan Summation index. Both the input and output equations along with the overall levels differ from the original so this work is dubbed the Miekka Summation Index here to avoid confusion. Details can be found in Greg Morris' "Market Breadth Indicators" on page 254. In addition to the traditional summation analysis, Jim's key 'all clear' reference level of 1500 is highlighted.

Chart 15 features a display of the numbers of NYSE stocks making new 52-week highs and lows each day. The green lines above zero are the number of stocks making new highs; the red lines below zero are the number of stocks making new lows. This is very valuable timing data from which a number of classic market-timing tools have been derived. For example, one of the most important warnings of a market top is an expansion of new lows while the market continues higher or consolidates at a high level. This chart also features Bill Ohama's naughtily named Titanic Syndrome signals. In our version the signals are separated into those occurring prior to a 52-week high, 'on board', and those occurring after, 'sinking'. For Titanic details please see Bill's article "Patterns that Detect Stock Market Reversals".

Chart 16 presents Abe Cohen's High Low Index in the indicator clip. The blue line is the raw data, new highs / (new highs + new lows), and the red line is the indicator, a 10-day exponential smoothing of the raw data. The High Low Index was one of the first broad-market indicators regularly used in market timing and has remained popular with market timers to this day. Recently Harold Parker and Mike Moody found this indicator to be useful as an overlay in their relative-strength research. Crosses of 70 from above and 30 from below are the classic sell and buy signals.

Chart 17 features Norm Fosback's High Low Logic Index, HLLI, an indicator that may not be intuitively easy to grasp. It is a smoothing of the <u>lesser</u> of the number of issues making new highs or new lows each day. High readings in HLLI mean that large numbers of stocks are simultaneously making new highs <u>and</u> new lows; in other words, the market is churning or 'out of gear', and is an indication of a potential trend reversal. There are markers on the price chart highlighting Hindenburg Omen signals, a market-timing approach that includes HLLI.

Chart 18 features a pair of classic overbought / oversold indicators for the broad market, the Arms Index, which is also known as the TRading INdex or TRIN, and the Open Arms Index. These indicators portray the balance between advancing and declining issues and up and down volume and are most telling at market extremes where all the volume has been concentrated in the advancers or decliners. We feature the 10-day 'open' calculation where each of the components are averaged before the indicator is calculated. Both the TRIN and the Open Arms Index have been rebased to zero from one and the scale inverted so that peaks and troughs in the indicators correspond with peaks and troughs in price. To aid comparability between the

peaks and troughs we have used logs to plot the TRIN. There are reference lines at +0.3 and -0.3 which correspond to TRIN readings of 2.0 (oversold) and 0.5 (overbought).

Chart 19 presents Robert Peirce's Power Index. This indicator is based on NYSE advancing and declining issues and is used to identify overbought and oversold conditions. For example, in a bull market readings of over 160 are overbought and readings of half the subsequent peak value are oversold. In a bear market levels of greater than 120 are overbought and levels one quarter of the subsequent peak are oversold.

Taken together charts 20 though 22 present a good picture of stock-market investor sentiment ranging from individual investors' short-term view, to the pros' intermediate-term outlook. You can couple these charts with charts 4 and 5 which present another aspect of sentiment, the desire to buy insurance.

Chart 20 depicts the American Association of Individual Investors Sentiment Survey, a survey of short-term market sentiment. The green lines are the percent bullish and the red lines are the percent bearish. The black curve is Net Bulls, a formulation of my own, and the blue line is a ten-day exponential average of Net Bulls. AAII sentiment data is reproduced with permission from the American Association of Individual Investors, 625 N. Michigan Ave, Suite 1900, Chicago, IL 60611; www.aaii.com.

Chart 21 depicts the Investors Intelligence Survey of Investment Advisors. Like chart sixteen this is a sentiment series; we display the percent of advisors bullish in green and those bearish in red. Net Advisors Bullish is drawn as a black line with its 10-day ema smoothing in blue. The II survey is a longer-term indication than the AAII survey. Robert Colby's 32.7% reference level for bullish advisors is plotted as a dashed line; bullish sentiment falling below this level is associated with long-term positive returns.

Chart 22 presents a sentiment indicator derived from option trading activity. Call options are bets on higher prices and put options are bets on lower prices. By tradition this chart compares the volume of put options to the volume of call options on the Chicago Board Options Exchange. We invert the scale so that surges in put volume relative to call volume align with troughs in the market and vice versa. We use total CBOE option activity for this chart.

Chart 23 compares the performance of the financial vehicles, the NYSE Financial Composite and a junk bond fund JNK. These series are often helpful at market tops as they tend to turn down early.

Charts 24 through 26 feature the Russell indices, the advance- decline lines and new 52-week high and lows derived from them. These charts allow an analysis of the relative performance and internal strength of stocks by size; all stocks (3000), large stocks (1000) and small stocks (2000). By using index members as the indicator inputs we eliminate the distortions caused by including non-operating company issues listed on the exchanges.

Chart 27 presents the NADSAQ Composite and its advance-decline line and new 52-week high and lows. Some regard these indicators as improved versions of the NYSE indicators due to the large number of non-operating-company listings on the NYSE.

Chart 28 displays a sector grid featuring 12 sector ETFs, along with commodity and gold ETFs and four broad-market ETFs (IJR, MDY, QQQ & SPY) to serve as benchmarks. This is a scatter plot. The x-axis is six-month momentum and the y-axis is one-month momentum. So, a very strong ETF will be in the upper right corner of the grid while a very weak ETF will be in the lower left corner. If those ETFs were to experience corrections, the strong ETF would move down towards the lower right while the weak ETF would move up toward the upper left. The labels are ranked by short-term momentum from the strongest (light green) to the weakest (dark red).

Chart 29 presents a view of the commodity markets via three commodity ETFs: DBA, DBB, DJP, GLD & USO; agriculture, base metals & commodities with gold bullion and crude oil. Each of the series is indexed to 100 at the beginning of the chart which lets you see not only absolute performance, but relative performance.

Chart 30 displays my favorite supply-demand indicator, David Bostian's Intraday Intensity. Here it is presented as a 21-day oscillator that has been normalized by dividing by total volume. This indicator was designed to track the actions of institutional investors as they accumulate or distribute stocks. The market average in the upper clip is the theoretical version of the Dow Jones Industrial Average* and is used for the Intraday Intensity calculation. 21-day, 4% trading bands are plotted as in the classic market-timing approach from the 1970s.

*The theoretical Dow is calculated by taking the daily highs for all the stocks in the average to calculate the high of the average without regard to what time of the day the highs occurred; and the same process is repeated for the low of the average. This is the way stock-market averages were calculated prior to 1982, an abandoned method that can still provide useful data.

Chart 31 presents interest rates. These are constant maturity interest rates for six US Treasury maturities ranging from three months through 30 years. The series in the indicator clip is the spread between ten year and two year yields, an indication of the stance of monetary policy.

Chart 32 presents five important international indices: From the United Kingdom the FTSE 100, from Germany the DAX, from Japan the Nikkei 225, from China the Shanghai Composite and an emerging markets index.

The data used in this package and some of the indicators have been provided by Norgatedata.com. The programming language used to create this package is Python, the charts are created with matplotlib and the development environment is PyScripter.