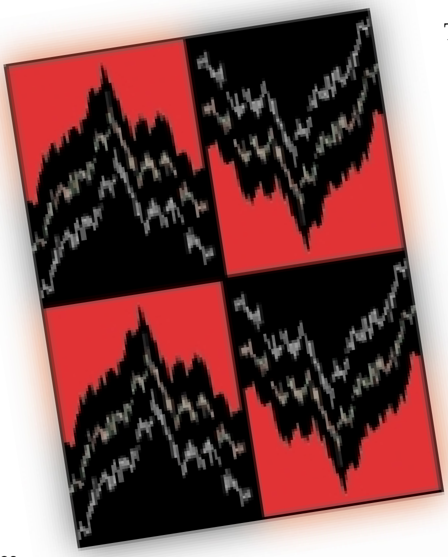
The Fundamentals of Technical Analysis *Patterns and Predictions*

By Jordan Kotick, Vice President, JP Morgan Chase

This article will discuss the mindset and key tools of the technical analyst. It will serve as a building block for subsequent pieces that will deal with primary technical applications and their use in real time.

Market timing, charting, behavioural finance and quantitative analysis are all pseudonyms for the oldest form of security analysis currently in existence: technical analysis. Be they active or passive many, if not the majority, of market participants are not aware that this is a methodology with a history. In fact, it dates back to the 1600s where it was originally used by Japanese rice farmers to monitor and forecast crop prices.



It gained momentum in the West during the early part of the twentieth century when internal data and information on companies was not publicly available. It has been reported that Charles Dow, first editor of the Wall Street Journal and founder of the Dow Jones Company, would approach companies to ask about their business in order to carry out market research and forecasting. The general response was purported to have been: "our business is none of yours." He thus began to study price action instead, eventually creating the Dow Jones Industrial Average and the Dow Jones Rail Average (now called the Transportation Average).

Tracking, hypothesising and synthesising theories on or about price movements led to an acceleration of successful market forecasting in the West. Technical analysis bloomed, growing throughout the 20th century and continuing into the 21st. Clearly the existence, effectiveness and growth of this market methodology supports the adage that there is something to be said for that which has stood the test of time.

Technical analysis is primarily a timing tool that is particularly helpful at minimising risk. While the fundamental side of the financial equation addresses the what and why of market dynamics, the technical side is primarily concerned with the when and where. In other words, the technician, while having a tepid interest in the cause, is much more focused on the effect.

The foundation of technical analysis is the belief that market psychology is the key driving force behind all market moves and, further, that it is the porthole into ascertaining where the market sits in relation to the supply/demand equation. What is a market if not a place where people agree on price but disagree on value? Further, since value fluctuates over time and is subjective in essence, the Aristotelian First Cause of these fluctuations must be the ebb and flow of market participants namely: psychology.

Primary Tenets of Technical Analysis

The first key component of technical analysis is the belief that the market discounts everything (price is the final arbiter). This suggests that prices reflect every possible influence, including politics, economics, news and mass psychology. Studying price movements is therefore both necessary and arguably sufficient from an analytical viewpoint.

The second key element to the technician is the importance of trend analysis. Indeed most, if not all, would argue that the most important question to be addressed for any market participant is "what is the degree of the Primary Trend?" Once a trend is clear, the probability of that trend continuing is high. This applies to all timeframes, the essence of which is the Newtonian presumption that a trend remains in play until the evidence emerges suggesting that it is no longer in play. Market participants who keep this in mind are often able to stay in a trend longer than most, while minimising whipsaw, until clear signs of a trend change emerge.

The third key is that history/psychology repeats itself. Human psychology does not change. Emotions cycle from greed to fear and optimism to pessimism during peaks and troughs. Or, to think of it syllogistically, if you accept that history repeats itself (a Non-Random Walk down Wall Street) and if you can visually show history (which is what a chart is), it must be the case that patterns/cycles/repetitive behaviour occurs.

Key Misnomer

Too many are under the illusion that technical and fundamental analyses are mutually exclusive, leading to an overabundance of antagonism between advocates and analysts on either side. However, both market approaches have a proven track record and there is no reason they cannot be used in conjunction. Though I may be in the minority, I believe that the clash between fundamentalists and technicians is as fallacious in principle as it is unprofitable in practice. Making money in the markets is difficult enough – why discard any methodology that can be of use?

The technician may be anticipating specific moves for which the catalyst is often an economic release or piece of news. There is never an excuse for not knowing what development can affect one's chosen market, even if the result is only a 15-minute, intraday knee-jerk reaction – which may be enough to run stops. At a minimum, being aware of fundamentals may help with timing. For example, instead of buying or selling US Treasuries at 8:15 am on the first Friday of the month, why not wait half an hour until the US employment numbers are out of the way? Secondly, since the technician believes that the market's reaction to news/data is more important than the release itself, how can the reaction be judged if one does not understand the essence of the data?

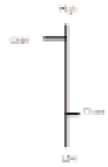
On the other side of this coin, it is a mistake for fundamentalists to ignore technicals. Too many have voiced concern and confusion when a market does not rally on ostensibly good news/data (stocks over the last couple of years) or does not fall on ostensibly bad news/data (stocks during the years before that). The bewilderment is based on the lack of understanding of the Primary Trend, which ultimately can help the open-minded decide if the market is likely to buy dips on bearish news/data (bullish trend) or sell strength on good news/data (bearish trend).

Further, a cardinal rule of trading is to always have a stop. A stop cannot be a data point or news event; it must be a price point. To find a price point, you have to look at a chart. Since all points on a chart are not created equal, why not at least understand some rudimentary ideas about charts and technicals in order to ascertain and differentiate valid stops?

Principal Types of Charts

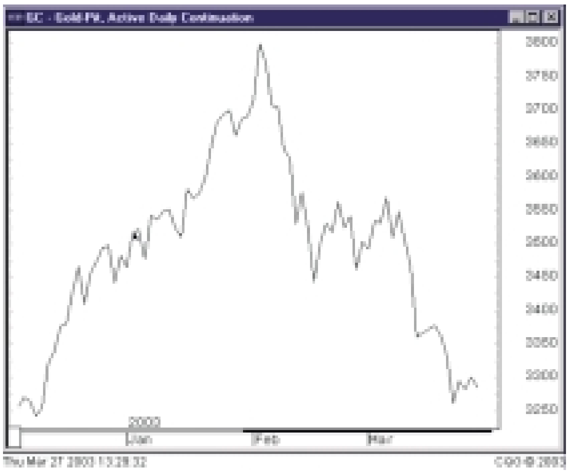
After reviewing some of the operative precepts of technical analysis, I will now turn towards the rudimentary tool of the technician, the building block of all our work: the chart. While there are numerous types of charts, the most common forms are bar charts, candlestick charts and line charts.

The Bar Chart



The Candlestick Chart

The Line Chart



Left – a traditional bar chart of Gold Futures and an expanded diagram of a single bar.

Centre – the same chart in Candlestick version with expanded diagrams of two candlesticks.

Bottom – a line chart version.

The Bar Chart

This is the most common and widely used type of chart in the West. It is a vertical line on a page (thus its name) that shows the open, high, low and close for the specified period, ranging from intraday to as long as weekly or quarterly. The mark to the left side of the bar is the opening price and that on the right side, the closing price. The high and low of the bar represent the high and low of the period, respectively. Thus each bar contains much more information that might initially meet the eye.

The Candlestick Chart

Used predominantly by Eastern chartists, this form of chart continues to gain popularity in the West. These charts are more visually friendly than bar charts and are therefore a valuable adjunct to traditional bar charts and/or a useful stand alone charting technique. The Japanese candlestick chart contains the same information as a bar chart (open, high, low, close) but presented in a slightly different way. The high and low are joined by a horizontal and vertical line so that the given period of time resembles either a square or rectangle (called the real body) along the vertical bar on the page. Further, the body of the candlestick is given a specific colour. If the close is below the open, the box is dark (usually black or red). If the open is above the close, the real body is given a lighter colour (usually white or green). Aside from being easier on the eyes (one can quickly discern if the close was above the open by the colour of the body as opposed to having to peer closely at a bar chart), specific patterns – continuation or reversal – emerge when certain candles appear side by side.

The Line Chart

The line chart is a simplified chart that takes one data point (almost always the close) and connects the subsequent points. Since most technicians feel the close is the most valuable piece of information from among the choices of open, high, low and close, this type of chart is often viewed as a strong gauge of overall price trend. The line chart reduces much of the "noise" of bar or candlestick charts. However, the price paid is that much information is lost. In essence, line charts are excellent at seeing the proverbial trending forest through the trees, but risky if used in isolation for trading purposes.

Like any market approach – or profession for that matter – technical analysis is neither an art nor a science. It is a skill that, honed over time, will help users make money or avoid losing money, whichever the desired outcome may be. Whether used in isolation or in conjunction with its fundamental counterparts, technical analysis is a critical tool for any analyst, trader or investor interested in minimising risk and maximising gains. Given the current market environment, I cannot help but think that we are entering a golden age for technical analysis, a time when market timing will continue to grow in both stature and utility. ■

Jordan Kotick, a Chartered Market Technician, is vice president, technical market strategist at JPMorgan Chase in New York. Prior to this, he worked for three years at Elliott Wave International as a senior interest rate analyst and was employed at CIBC World Markets in Toronto as a technical analyst on the research, strategy and trading desk and was a government bond trader. Jordan is a contributing author to the textbook for the technical analysis course offered by the Canadian Securities Institute and is a featured author in the recently released book, Market Analysis for the New Millennium.

He is the past president of the Canadian Society of Technical Analysts and is currently the international (IFTA) liaison for the Market Technicians Association in New York. Jordan holds an honours BA with a double major in Philosophy and Economics and an MA in Philosophy.