Brainy's Articles on

Technical Analysis

Candlesticks explained

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Introduction

Perhaps one of the first things that might confuse the people who are new to Technical Analysis is the concept and use of candlesticks and/or bars on price charts.

The most common chart type for many people is the simple Line Chart (as in Figure 1 at right). This chart is for the company known as Ansell Limited (stock code is ANN) over a 5 day period from 12 August 2008. It simply shows us the single Close price for each of the 5 days, and these price points on the chart are joined together by individual straight line segments.

Figure 1: Line chart over 5 days.

Another chart type is the OHLC chart — Open High Low Close — as shown in Figure 2. This chart shows exactly the same stock and time period as the Line chart, except that it shows more information.

And yet a third chart type is the candlestick chart, as in Figure 3. This chart is functionally identical to the OHLC chart, but with a different appearance. This sample chart also has Volume included in the bottom portion of the chart window.

In this article in Brainy's series on Technical Analysis (number TA-3110) we look specifically at the candlestick chart type. But we also briefly look at the key differences between the chart types, and reasons for using one type and not another

Figure 2: OHLC chart.

Over the page we also take a look at the history of candlesticks, and study the individual elements of the candlesticks themselves, and how we can interpret them — the candle body, the upper and lower tails (or wicks), and their significance.

Some references on this topic are included in the footnotes, and readers should also refer to Article TA-3700, *"Candlestick patterns"*, for more information on specific candle patterns.

Chart types overview

Firstly, understand that for each day's share trades the following share price details are captured:

- Opening price;
- High — the highest price for the day;
- Low — the lowest price for the day;
- Closing price at the end of the day (ie. the last price);
- Volume — the number of shares traded on the day;
- Trades — the number of buy/sell transactions that were executed (for some stocks there are no trades on some days, and for others there are thousands).

Figure 3: Candlestick chart.

This is important to understand because any one stock might have thousands of "sales" (or trades) each day. So the Daily price chart summarises the price action for the entire day. Similarly, on a Weekly chart, each bar or candle on the chart summarises the price action for the entire week.

Now, notice the following with regard to these three charts above right:

- The Line chart only shows the Close price each day, and no other information about the price action. There is no indication of the range in price within each day, and the Volume is omitted from the bottom of the chart for simplicity.

- Both the OHLC and the Candle charts show the Open, High, Low and Close values for the day. That is, they indicate the range in price from the lowest to the highest. The only difference is the way in which they are drawn — their appearance.
- Why use one and not the other? This is personal preference. Some people find they can more easily interpret and understand one of these than the other. Some people would argue that the candlestick charts are much more popular these days than the OHLC charts.

Candlestick origins

Candlestick charts are said to have been developed in the 18th century by legendary Japanese rice trader Homma Munehisa from the town of Sakata[1]. He is reputed to have used candlestick charts to record rice trades within specific time periods, and then to predict future rice prices in the developing rice futures exchange, including the Dojima Rice Exchange in Osaka (reputed to be one of the world's first futures exchanges[2]).

The Japanese feudal war-time origins of candlesticks helps to explain the Japanese names given to a number of candle patterns — eg. doji, marabozu (meaning close cropped or close-cut — a candle with no shadows), hirami (meaning pregnant woman), “advancing soldiers”, etc.

The history of candlesticks has references to war-like situations. Some people use green and red coloured candles instead of white and black respectively — reputedly the red is drawn from the red of blood in battle[3] (as in the battles of the bulls and bears when related to real life battles).

The candlestick

The candlestick itself is comprised of the following elements:

- The candle body (a simple rectangle):
  - Which can be black or white (or red or green).
  - It can be very tall in size, or it can be short.
  - In some cases, the candle body is so short it appears to have no body at all (eg. what we call a doji pattern).
- An upper wick (also called a tail or shadow);
- A lower wick (or tail, or shadow).

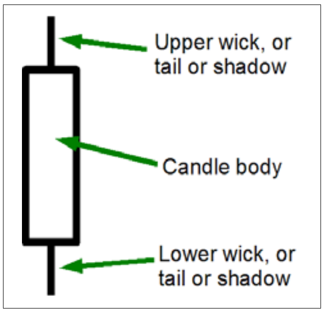

Figure 4: The candlestick.

What does the candle tell us?

On a Daily price chart, the candle summarises the price action for the day. In more general terms, the candle summarises the price action in one "period". The "period" could be a day (on a daily chart), or a week (on a weekly chart), or any other period on the relevant chart.

Note the following regarding the sample price chart of BHP in Figure 5 below:

- This is actually a 1-minute line chart with a single candle superimposed.
- The 1-minute line chart shows the price action through the day. There were actually 9,958 trades during the day (not shown on the chart). The squiggly line on the chart is joining up the “close” price at the end of each the 360 one-minute intervals. The price Opened at $43.57 at 10am, then fell to a Low of $43.28 around the middle of the day, then rose to a High of $43.68 late in the day, then fell a little in the last few minutes to Close at $43.65.

1 http://en.wikipedia.org/wiki/Candlestick_chart
2 http://www.candlestickforum.com/PPF/Parameters/1_279_/candlestick.asp
3 http://www.hotcandlestick.com/candlesticks.htm

- A single blue coloured candle is superimposed on the chart at right. It summarises the price action for the day — so it is a daily candle. As the close is higher than the open, the candle is coloured white (ie. not coloured in or black).

Note these other important points about candles:

- The body can be fairly long, or it can be extremely short (as in a Doji candle — see below).
- The upper or lower wick might not be present at all, or can be very long.
- The total candle from the top of the upper wick to the bottom of the lower wick indicates the total range of price for the period.

Figure 5: A composite chart - A single daily candle on a 1-minute line chart.

White candle (or green)

With reference to Figure 6 at right:

- The body of the candle is white (or can be green).
- The bottom of the body indicates the Open price for the "period".
- The top of the body indicates the Close price for the "period".
- The top of the upper wick indicates the High price for the "period".
- The bottom of the lower wick indicates the Low price for the "period".

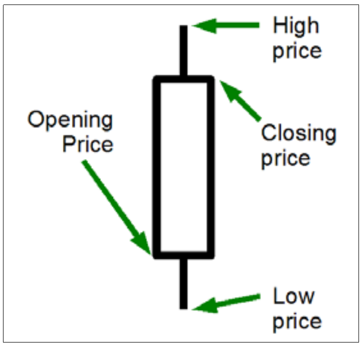

Figure 6: The white candle.

Black candle (or red)

With reference to Figure 7 at right:

- The body of the candle is black (or it can be red).
- It is very similar to the white candle except:
  - The top of the body is the Open price.
  - The bottom of the body is the Close price.

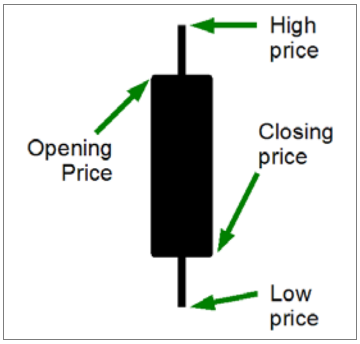

Figure 7: The black candle.

Doji candle

One of the most basic special candles is the Doji candle as shown in Figure 8 at right. See the comments below under “Basic Interpretations” for information about how to interpret this special candle.

It should be noted that the Doji candle is just one of many special types of candles. There are many other possibilities with their own specific names.

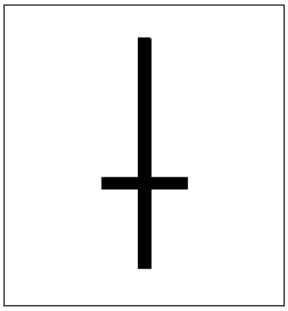

Figure 8: The Doji candle.

The tug of war — the bulls and bears

Before we talk too much about how to interpret candlesticks, let's briefly consider how the buying and selling of shares on the share market is akin to an auction. During the trading session, the potential buyers and sellers of any one stock will determine the price at which they are happy to transact the stock. And they will all potentially have different values in mind. So the highest bidder, and the lowest potential seller, will transact the stock if they can agree on price. If there is no agreement in price, then there is no sale.

If there is an excess of buyers who want the stock, then they might out-bid each other in order to make sure they secure a purchase. In this case, the price of the stock will potentially rise higher and higher during the session until the keen buyers are all exhausted and the price will stop rising. This keenness to buy can even over flow into subsequent trading sessions (days and weeks).

If there is an excess of sellers then the converse applies. An excess of sellers is basically the same as a shortage of buyers, and in this case the price will potentially fall until we run out of sellers. An excess of sellers tend to pull the price lower.

This tug of war between buyers and sellers is reflected in the candlesticks on the candle price charts. Understanding this concept will help to understand the ideas regarding the long and short bodies and tails on candles.

Basic interpretations

At a rather basic level, the following interpretations can apply to a candlestick chart:

- A tall body with no tails or wicks indicates a strong move. A tall white candle is bullish, suggesting that buyers were bidding prices higher during the period. Conversely, a long black candle is bearish, suggesting that sellers were keen to sell during the period, and an absence of buyers allowed the price to drop as sellers were keen to sell.
- A long upper wick suggests that buyers were keen to buy during the period; but only up to a point beyond which they lost interest, and the prices fell as sellers continued to sell. This is also referred to as a rejection of higher prices. Conversely, a long lower tail suggests that the sellers outnumbered the buyers early in the period; but extra buyers stepped in before the end of the session to close the session well above the session lows. This is also considered a rejection of lower prices (because the buyers thought it was worth more and were bidding the price higher).
- A very short body as in the Doji candle in Figure 8 above indicates general agreement by the end of the session. If the tails are relatively short, it suggests basic agreement on price. If one or both tails are long, it suggests that there was potentially strong disagreement on price during the period, but by the end of the period there was agreement on price compared to the previous period.

Summary

In this Article in Brainy's series on Technical Analysis (article number TA-3110) we have looked at the basics of candlesticks, their history, the candlestick components and how to interpret them. Refer to Article TA-3700, *"Candlestick patterns",* for more information on specific candle patterns.