



Brainy's articles on Technical Analysis

Moving Average (MA) explained

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Introduction

Amongst all of the technical indicators in common use, the Moving Average (MA) indicator must be about the most common. It is very useful, and can be combined with other indicators.

In this article in Brainy's series on Technical Analysis (number TA-4205) we take a look at the Moving Average (MA) and how it is calculated.

Overview

The Moving Average (MA) will be familiar to people who dabble in statistics, where it is also known as a rolling average, or running average. In Technical Analysis, it is called the Moving Average.

It is calculated for a set of numbers, and is basically the average of the **last "few" values**. Now, the last "few" values could be anything from the last one or two values, up to the last 500 or 1000 values or more. In Technical Analysis, when it is calculated for share prices, it is calculated as at a certain date. And it is calculated for every date within a date range resulting in not just one number for the MA, but a series of numbers. This will become easier to understand in the text below.

MA — Moving Average

How do we calculate a Moving Average (MA)?

In Figure 1 at right we have a price chart of the CBA bank. This chart is a Weekly chart from 10 August until 29 September 2009. Each (black) dot on the chart represents the Close price for each week (these are the upper dots on the chart, not the lower ones). The last black dot (for the week commencing 28 September — see the time axis across the bottom) has a price of \$52.17 as indicated in the tag on the price axis to the right (this was the price at about 2pm on the day when this snap shot was taken, and it is not the real closing price at the end of the week which has not yet arrived). Normally we will look at a line chart or candle chart of prices, but this "point" chart helps us to better understand the MA concept.

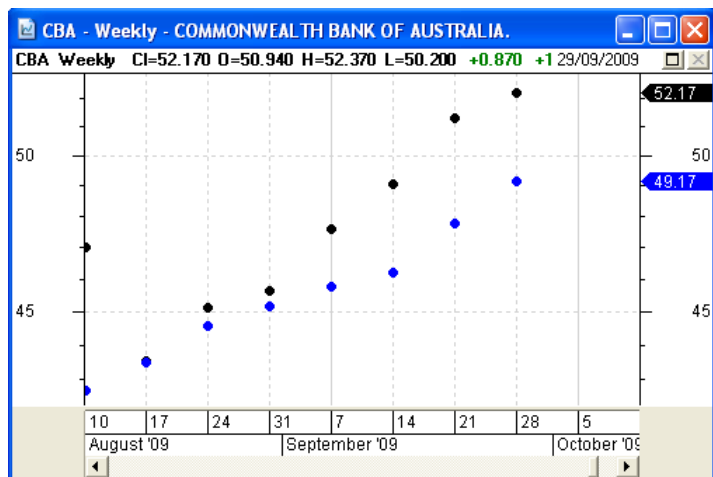


Figure 1: The 5-week simple Moving Average (MA)

The series of (blue) dots on the chart in the figure is actually the 5-period Moving Average (MA). We could also call this the 5-bar MA, or the 5-week MA. We would normally look at a continuous line for the MA, but drawing it like this as dots will help to better explain the concept. The *very last dot* is the Moving Average of the *last five Close prices* on the chart (\$49.17 — see the tag on the right-hand price axis). To calculate this value, all you need to do is take the last 5 values of the Close price, and calculate the average — that is, add them up and divide by 5. Fortunately, computers can easily do this calculation for us and quickly display the chart.

	\$52.17
	\$51.30
	\$49.09
	\$47.60
	\$45.68
Sum =	\$245.84
Average =	\$49.17

Figure 2: The 5-period MA calculation.

The actual calculation of the 5-period MA in this example is shown in the table in Figure 2 at right. The last five Close prices have been obtained, and listed. The total (or Sum) of these is shown as \$245.84. Now we divide this value by the number of entries (ie. divide by 5), to get the average value of \$49.17. This explains the last MA dot on the chart in Figure 1 above. The same