

There are hundreds of indicators currently available, with analysts constantly working on new calculations to try and get an edge in the markets. Looking at all these in detail is beyond the scope of this course, but we will take a quick peek at one of the most popular and widely-used indicators out there - the moving average.

There are two main types of moving average:

- Simple
- Exponential

SIMPLE MOVING AVERAGE (MA OR SMA)

Unsurprisingly given its name, the simple moving average simply plots the average price of a market over a specified period of time. Let's look at a daily Crudeoil chart with a 10-period MA overlaid on top:



In this case, to get the simple moving average for a particular day, all you need to do is add up the closing price of the last ten periods (or days in this case) then divide them by ten to get the average. Join those averages together and you'll get the green line above. Fortunately, you generally don't have to do these calculations yourself - most charting packages have the option to add moving averages to the chart automatically.

Notice how the 10-period moving average seems to follow the price, but the line is smoother and lags somewhat. Now look what happens when you add a 20-period MA to the chart:



The 20-period moving average is even smoother and lags even further behind the price. Which isn't particularly surprising when you consider it's taking into account the last 20 periods rather than the last ten. For this reason,

technical analysts would say that the 20-period MA is slower than the 10-period MA. Now let's add a 50-period MA:



It's even smoother, with even more lag. Of the three moving averages, the 50 MA is the slowest while the 10 MA is the fastest.

EXPONENTIAL MOVING AVERAGE (EMA)

Unsurprisingly given its name, the simple moving average simply plots the average price of a market over a specified period of time. Let's look at a daily Crude oil chart with a 10-period MA overlaid on top:



Now here's the 50 EMA and the 50 MA:



Because of how it's calculated, the EMA is more sensitive to price spikes in recent periods, but less sensitive to price spikes in periods that are further away. This can be useful information when using moving averages to trade, as we'll see in the next section.

So now that we've explored the mechanics of moving averages, you may be wondering how you can apply that information in your trading. In this section we'll take a look at some ways of interpreting moving averages and forecasting market behaviour.

DERIVING TREND DIRECTION USING MOVING AVERAGES

Generally, in an uptrend, the shorter-period or faster moving averages will remain above the longer-period or slower ones. You'd expect that because the slower moving averages will take longer to react to the trend. In this four-hour Gold chart, for example, during the uptrend the 10 MA is at the top, followed by the 20 MA then the 50 MA.



In downtrends the reverse is generally true, as shown in this daily Gold chart, where the 50 EMA is at the top, followed by the 20 EMA and 10 EMA.



Notice how the 20 EMA and 10 EMA touch in the middle of the trend, so this method - like all technical analysis - is not foolproof. However, when combined with other techniques such as trend lines and channels, it can be a useful way of identifying the general direction a market is headed.

MOVING AVERAGE CROSSOVERS

Let's go back to the four-hour Gold chart, but this time removing the 50 MA:



As we've seen, the 10 MA is usually above the 20 MA in an uptrend, but below it in a downtrend. The points where the moving averages cross therefore, can be useful places to enter and/or exit trades. In general,

you would go long when the shorter term MA crossed above the longer term MA and reverse your position when the longer term MA crosses above the shorter term MA.

If you were to follow this strategy for the uptrend above, you would've gone long on 9 June when the MA crossed, then exited the trade on 21 June when they crossed again - in this case making a healthy profit.

Note that this method should only be used when the market is in a strong uptrend or downtrend. If the market is consolidating or trending sideways, it's likely you will be hit with a large number of crossover signals which are unlikely to be profitable.

USING MOVING AVERAGES AS SUPPORT AND RESISTANCE

Just like trend lines or channels, moving averages can be used as dynamic support and resistance levels, with the added benefit you don't have to draw them yourself. Let's have a look at the daily Gold chart again with just the 10 EMA added this time.



As you can see the 10 EMA resistance level held for most of the downtrend. However, there was a point in mid-September where the price broke quite significantly above the line. This turned out to be a fakeout as the downtrend continued towards the end of the month and into October.

It's for this reason that many traders add more than one moving average to a chart. If we include the 50 EMA as well, we can see that - although the 10 MA level was broken - the 50 MA level held during that brief rally in September.



Adding the 50 EMA also throws up a strong crossover signal at the end of a period of consolidation in November and early December, just before the market goes into an uptrend.

In the next section, we'll go on to discuss the importance of combining a selection of moving averages and other technical analysis tools to improve the accuracy of your analysis.