



# Brainy's Articles on Technical Analysis

## Chart indicators — introduction

Article No:  
**TA-4100**  
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### Introduction

In the broad subject of **technical analysis**, just one way to interpret the share price action, and gain an understanding of what has been happening to the share price, is to use a technical analysis (chart) **indicator**. This article in Brainy's series on Technical Analysis (number TA-4100) provides an introduction to these indicators, to help the reader gain an understanding about some of the many that are available, what they are, and why they are useful. [Throughout this text, we tend to include the word *chart* (eg. *chart indicators*) to help bring clarity to the discussion for the newer students of technical analysis. Many people would omit it.]

### Quick sample — the Moving Average

The simplest chart indicator, with which many people might be familiar, is the **Moving Average**. A sample of this is shown in Figure 1 below.



Figure 1: Weekly candle chart of BHP with 30 week Simple Moving Average (SMA)  
(and Volume in lower pane).

Just by way of brief example, and with reference to the weekly chart above, we can see that BHP traded in a range of about \$32 to \$36 in the first few months of this chart, from January 2014 to about August 2014. (Don't forget, a weekly candlestick chart shows the range in share price each week.) The blue line across this chart is the 30-week Simple Moving Average (SMA) indicator. This specific indicator is based on the previous 30 weeks' close prices (we could easily change the value from 30 to any other number).

Throughout the period from January to August 2014 on this chart, the value of this SMA is about \$33, indicating that the average of the previous 30 week's close prices is about \$33. With BHP's share price falling in September 2014, to a low of about \$24 in January 2015, the SMA curve has also fallen. The falling SMA can be interpreted as indicating that the share price was "tending to fall" over this period — an indication of a **price downtrend**. The SMA again levelled out in mid-2015 at about \$28.

Now some people might think that a chart indicator like this moving average simply tells us the obvious about the share price, and that it doesn't really indicate anything new. However, many people find that the moving average, for example, actually enables a quicker understanding of what's been happening.

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It is also important to realise that there are a number of uses for the moving average (not discussed in this article). For example, it is helpful when using computer-based software to run a “market scan” across a number of stocks, to find those with, for example, “a rising Moving Average over 5 successive weeks”.

### **Why use an indicator?**

Firstly, it is worth re-stating that the price charts summarise the opinions of the market participants regarding so-called *fair value* for the share price. The price charts can tell us a story about what “Mister Market” has been thinking. It pays to understand the stories in the price charts — this is *technical analysis*. The more insight we can gain into the share price history, the more we can understand the opinions of the market participants, and the underlying balance of supply and demand of the shares. And this can help give us greater confidence about the more likely scenarios for future price movements. Don't forget that we are not trying to predict future share prices. We are trying to **anticipate the likely future movements** so that when a price move happens, we won't be surprised by the move, and we might be able to take advantage of the move (even before it happens).

It can be very useful to be able to interpret a technical analysis indicator, for the following reasons:

- An indicator can give a greater insight into what has been happening with the share price, and therefore a greater understanding of the opinions of the market participants. For example, a repeated pause in a trend at a particular price level, or an increasing tendency to move up faster or slower (or downwards). (eg. Momentum indicator).
- An indicator can help to identify a price trend (uptrend or downtrend), and to quantify the strength or nature of the trend — is it strong or weak? is it likely to last or not? (eg. ADX.)
- An indicator can help us understand the strength of a move in a particular direction, especially if the volume is factored into the indicator (eg. Money Flow).
- An indicator can help us understand if the share price has moved further in one direction than it normally would under normal share trading activity (eg. rising momentum, or a volatility indicator like Bollinger Bands). Greater price movements can hint that someone knows something, or that there is a general swell of opinion that is tending to move the share price.
- An indicator can help us understand if the share price is over-sold, and that a turn-around to the upside might be likely. And conversely, if the share price is over-bought and that a turn-around to the downside might be likely. (eg. RSI, Stochastic).
- An indicator, or a combination of two indicators, can be used to help provide a buy or sell signal or trigger for a potential stock purchase, or for an exit. For example, two different moving averages (plotted together on the price chart) can provide signals.

### **Secondary analysis — the indicators**

As explained in another eBook article, *primary analysis* is based on the raw price action, while *secondary analysis* tools manipulate the raw price data. Technical analysis indicators are derived by some sort of calculation based on the share price (basically using a formula). Such as the Moving Average, which is the sum of a certain number of recent close prices, divided by the number of close prices that we are studying (in this case, a rather simple formula).

Technical analysis chart indicators tend to be categorised under the following four headings because these different categories tend to give different perspectives into the share price movements by looking at the different characteristics of the price movements:

- Trend indicators;
- Volatility indicators;
- Momentum indicators;
- Volume indicators.

If you want to use several indicators to assist you with a trading or investment decision, it is important to use indicators from each of these groups. If you use two or three *trend indicators*, which might all



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give a similar signal, then you are missing out on the clues that indicators in the other groups could give. In some circumstances, you will find that indicators in each of these groups might conflict (ie. some might give a buy signal, while the others do not). This is for good reason. But when different indicator types concur, the signal might be more reliable.

One thing to watch with indicators is that some tend to be *lagging* indicators, while only some are *leading* indicators. The lagging indicators basically move after the price action, and confirm a price movement, whereas the leading indicators change before the price changes.

### What do indicators look like?

Some indicators can be applied directly onto the price chart, while some indicators are generally displayed in a separate pane of the price chart — as shown in Figure 2 below.

In this weekly candle chart of BHP, the blue curve that's drawn onto the price is the 30 week Moving Average (MA). The values of the MA are in the same order as the price, and so it is appropriate to place this onto the price pane. In this example, the price varies on this chart from about \$28 up to nearly \$36.

However, the lower pane of the chart shows the MACD indicator (Moving Average Convergence Divergence). The actual values for the MACD are in dollars and cents, but it represents a difference in the share price (it's actually the difference between two moving averages of the share price). The values in this example are actually in the range of negative 70 cents up to about 80 cents. So we could not put the MACD curves directly onto the price pane, without using a different vertical scale. And even

if we did do this (because we can, actually), it would clutter the price chart and make interpretation difficult. It is clearer to show it in a separate pane, and the normal place to show it is under the price pane (where the volume pane would normally appear).

Without wanting to complicate things, you might have noticed something across the middle of this chart sample. It is an *indicator ribbon*. In this case it is the MACD Ribbon, and simply tells us whether the MACD (the heavy blue line) has been "below", or "above", it's Signal line (the thinner green line). The indicator ribbon is often a nicer way to apply an indicator to the chart, because it can be easier to interpret at a glance.

### Where to from here? What next? How to go forward?

For those who can see the benefits of technical analysis indicators, and who want to learn more, there is a challenge — which ones to use?

There are many indicators available, and for various reasons there are more indicators being devised from time to time.



Figure 2: Weekly chart of BHP with Moving Average on the price pane and MACD in the lower pane.



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To help get started, the following are amongst the most popular indicators, and tend to be the easiest to understand.

- Trend indicators:
  - Moving Average (see the examples in the figures above)
  - Multiple Moving Average
  - MACD (Moving Average Convergence Divergence) (see sample in Figure 2 above).
  - P-SAR (Parabolic Stop and Reverse)
  - ADX / DMI (Directional Movement)
- Volatility indicators:
  - Bollinger Bands
  - ATR (Average True Range)
- Momentum indicators:
  - Momentum
  - OBV (On Balance Volume)
  - RSI (Relative Strength Index)
  - Money Flow
  - Price Rate of Change
  - Coppock
  - Stochastic
- Volume indicators:
  - Volume plus moving average of volume
  - Volume Rate of Change
  - Volume oscillator.

### Summary

In this article we have introduced technical analysis (chart) indicators, and helped explain that there are many available, but that they are very useful aids in understanding the stories in the price charts. This topic is a very broad one, and readers are encouraged to refer to other eBook Articles for more details, and to other resources if needed for even more detail.



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