Brainy's Articles on
Technical Analysis
Introduction

Article No:
TA-2000
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"Price charts summarise the underlying opinions and emotions of the market participants. Every chart tells a story.

It pays to understand the stories in the price charts."

Introduction

On the first reading of the above statements, many people might question the wisdom. However, there are a number of reasons why these statements are very true, and we endeavour to explain that in this series of eBook Articles on Technical Analysis. If you are really sceptical about the above statements, then make sure to study the next section *"Opinions are in the charts"*.

In this article in Brainy's series on Technical Analysis (number TA-2000) we take an introductory look at the subject of technical analysis, and we outline the major aspects of it. This should help put things into perspective so that you can feel comfortable with small amounts of progress, and build up your knowledge and expertise over time. It might take some time to come to grips with the subject because it covers several somewhat different aspects.

Why use technical analysis?

Firstly, note the first paragraph at the top of this page. The price charts can tell us a story about what "Mister Market" is thinking. The more insight we can gain into the share price history, the more we can understand the opinions of the market participants. And this can help give us greater confidence about the more likely scenarios for future price movements. We are not trying to predict future share prices. We are trying to anticipate the likely future movements so that when a move happens we won't be surprised by the move.

Opinions are in the charts

At the top of this page we have stated that the price charts summarise the underlying opinions and emotions of the market participants. To help explain how and why this is the case, consider the following simple example in Figure 1 at right.

In this **weekly**[1] price chart (from October 2013 to May 2014), we can see that in late 2013 there were no buyers of CBA shares who thought the stock was worth more than $80. When the price rose this high in October 2013, sellers stepped in to take profits. That is, the opinion of market participants was that CBA was not worth any more than $80. The $80 price level was a *resistance level*.

This caused the price to fall away, but trade mostly higher than about $73 (actually, about $72 to $72.50). So this price level was a floor (or *support level*) for the price. And for the next few months it traded no higher than about $78. That is, the opinion of market participants was that CBA was worth between $72 and $78 — no lower and no higher than this range.

This was the case until April 2014 when buyers started falling over each other to buy the stock (for

Figure 1: Weekly price chart of Commonwealth Bank (CBA) from October 2013 to May 2014.

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1   On a candlestick chart, the term *weekly* says that each candle on the chart summarises the price action in one week. Each candle indicates the Open price for the week, the Close price, and the Highest value and the Lowest value during the week.

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whatever reason). This caused the price to push above the $80 level, and keep rising in a strong *uptrend*. That is, the opinion of market participants was that CBA was now worth more than $80.

So, the opinions and emotions of market participants are summarised in the price charts. The price charts tell a story, and it pays to understand the stories in the charts. This is widely known as *technical analysis*, and is widely studied and utilised by many successful investors and traders.

Technical analysis — quick overview

Technical Analysis is basically the study of share price charts in the belief that the value of a company's shares is already reflected in the share price (this is one tenet of **Dow Theory** — more on this later). Whether you are completely convinced of this, or still a little sceptical, this article helps to shed some light on the subject.

To the uninitiated, the entire subject of technical analysis might seem huge and somewhat complex. There are many, many aspects that can be considered, including:-

   •   Price charts in different *periods* (eg. intraday, daily, weekly, monthly, quarterly).

   •   The *volume* in each period — that is, the number of shares bought/sold in the period.

   •   The actual number of *trades* in a period (eg. each day, week, month, etc.).

   •   *Patterns* on the price chart.

   •   Specific *candlestick patterns*.

   •   *Indicators* (eg. Moving Average, MACD, Momentum, RSI, P-SAR, Stochastic, RSC, MMA).

   •   Cycle analysis, Elliott Wave, Fibonacci, W.D.Gann.

The good news is that the student of technical analysis does not need to study all aspects. It is possible to study something like just 10% or less of the total subject matter and be able to use it effectively.

A basic note about time periods

The first thing that the newbie to technical analysis needs to understand is that a **daily (line) price chart** (like in the sample in Figure 2 at right), is simply the close price every day, marked as a dot on the chart, with all the dots joined together with very short straight lines. It does not indicate the range in price in each day. The sample here also includes the daily volume as vertical bars in the lower portion of the chart.

Similarly, a **weekly (line) price chart** indicates the close price at the end of each week, and shows nothing about the range in price during the week. More about all this later.

What is Technical Analysis?

Right from the start, let's not kid ourselves — the subject of technical analysis is a very broad one. It covers a lot of things, and there are varying definitions for some aspects. But if we tackle it sensibly, it is easy to understand key elements of the total subject. And in order to succeed, we only need to understand some of them — definitely not all of them.

Now, technical analysis basically centres on the study of the share price data (actually, both the price and volume) and the

Figure 2: Simple daily line chart of CBA

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price chart, for purposes such as the following:

- Identifying a trend (either *up trend*, or *down trend*, or even a "non" trend), so as to ride the trend. See Figure 3 below, and Figure 4 over the page, for sample price charts with trend lines included.

- Identifying specific patterns that have occurred in the past and which might occur again with a somewhat predictable outcome (eg. *support* and *resistance* – see more details further below).
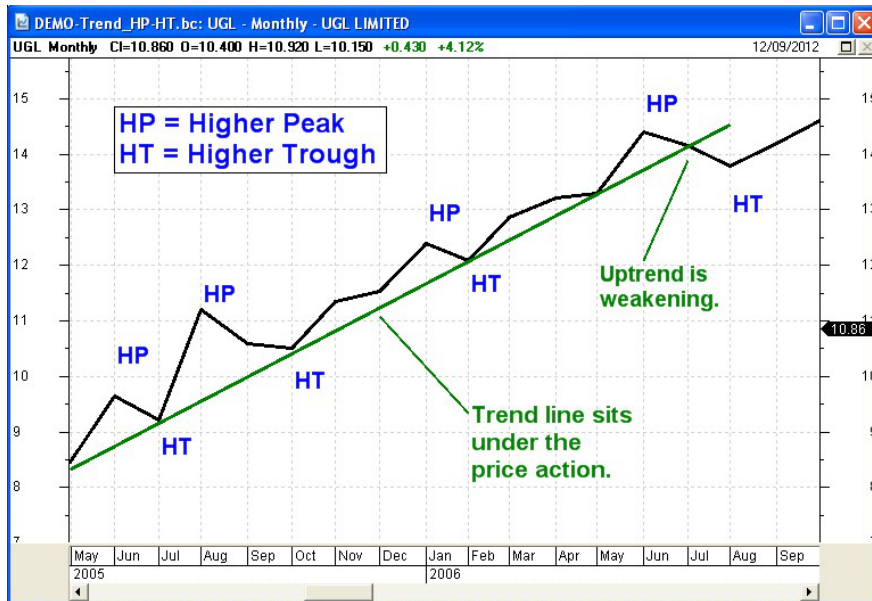

Figure 3: Sample of an up trend.

One way to depict the major headings in the study of technical analysis is as follows:

Primary analysis:

- price charts and chart types
- trends and trendlines
- support and resistance
- volume
- chart patterns
- candlestick patterns

Secondary analysis and chart indicators:

- trend indicators — moving average, regression line, Parabolic SAR;
- volatility indicators — Bollinger Bands, Average True Range;
- momentum indicators — RSI, MACD, ADX/DMI, Coppock;
- volume indicators — rate of change, volume oscillator.

Specialised topics:

- Fibonacci
- Cycles
- Elliott Wave
- Gann

Charts are unnecessary?

At this stage it is useful to point out that the study of technical analysis does not have to include the act of studying a real price chart. Many people use computational methods to study the price data without looking at a chart. So if you prefer to use these methods, the underlying theory still applies.

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Primary analysis

The portion of technical analysis that is referred to as *primary analysis* is to do with the study of the raw price data — that is, the price charts without manipulation of the price. It excludes chart indicators (like moving average, etc.) and any other tool that somehow manipulates the price data.

This basic raw price data might be viewed on a simple *line price chart*, or on a *candlestick chart* (see samples of both in Figure 4 at right). And some people prefer to use OHLC charts (Open High Low Close), not shown here.

It is common to view both daily and weekly price charts, and often monthly as well. A weekly line chart simply shows the close price at the end of each week, with the time axis across the bottom of the chart. The line on the chart is simply a "join the dots" exercise, where every week's close price is connected up with short line segments. If viewing a small time period, the straight line segments might be apparent. If viewing a very long time period, then the line might appear to be just a squiggly line.

On a weekly candlestick chart, each candle simply summarises the price action throughout the week, with the four important values indicated — Open, Low, High and Close. See the figure at right (and see separate eBook Article on candles for more details).

Primary analysis includes the search for *trends*, and for levels of *support* and *resistance* on a price chart. The support or resistance levels indicate price values (or zones) where the share price has paused in the past for whatever reason.

In Figure 4, an uptrend is apparent in the period from June to October 2009, and a line of support is apparent at about $50 in the period October 2009 to March 2010. This is because the market participants were all convinced that the stock was worth more than $50 (this is the opinion of the market participants captured in the price chart).

Primary analysis also includes the study of various patterns on the price chart — like *triangles*, *wedges*, *pennants* and *flags*. And also candlestick patterns.
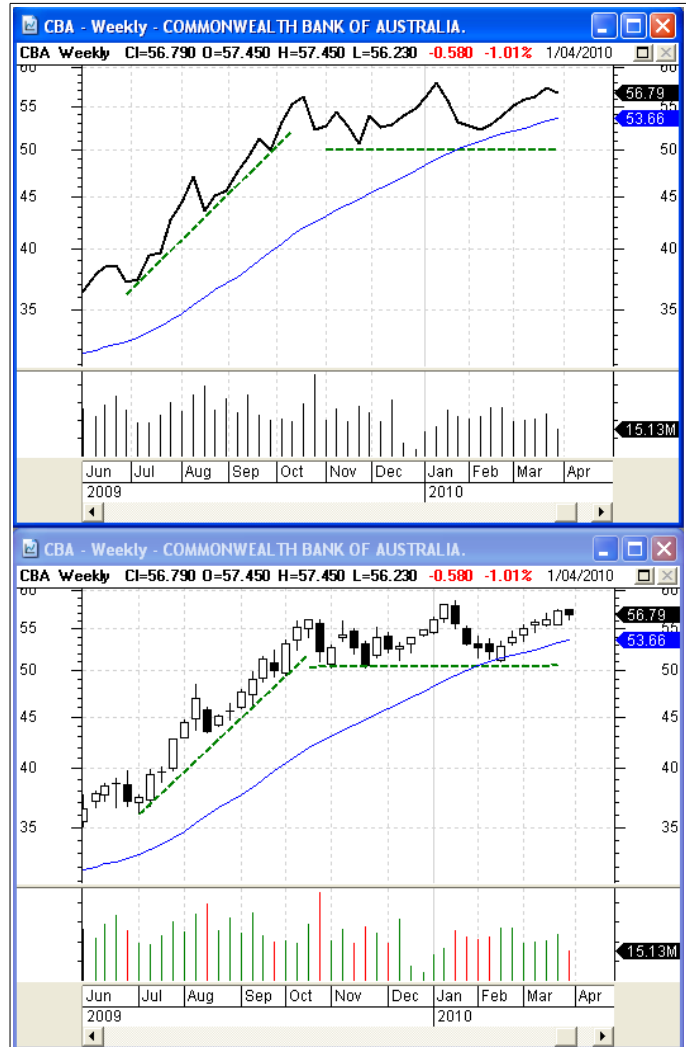
Figure 4: Two weekly price charts of CBA — a line chart and a candle chart, with trend lines drawn, and a support line, and a 30-week Simple Moving Average.

Secondary analysis

The branch of technical analysis referred to as *secondary analysis* includes the study of chart indicators such as the popular Moving Average, and many, many others. A Simple Moving Average is shown on the two sample charts in the figure above. Within the study of chart indicators, the indicators tend to be grouped under different classifications — trend indicators, volatility indicators, momentum indicators and volume indicators. And there are many different indicators and variations.

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The underlying calculations for these indicators might consider just the closing price for each period. Some indicators consider the range in price — that is the difference in price between the high and low of the period. Some indicators also factor in the volume traded in the period. Some indicators use simple underlying formulae, whereas others use rather complicated formulae.

Specialised topics

There are a few topics that are not included above under the headings of Primary Analysis, or Secondary Analysis, and which are grouped here under the simple heading of specialised or advanced topics. This includes the following items.

- *Fibonacci* — The application of the Fibonacci number sequence and ratios. On a price chart, the implementation of Fibonacci principles can be done in a number of ways.

- *Cycles* — The study of a range of cycles (eg. seasonal, government related, demographic, etc.). There are potentially many different cycles that can impact on financial markets. What's important and useful is to understand how they impact on the markets, and to be able to anticipate them as they come around again.

- *Elliott Wave* — The study of apparent patterns of waves in the cyclical nature of the market's price charts. This is difficult to explain here without launching into a somewhat long-winded explanation and theory.

- *Gann* — The study of the teachings and principles of W.D.Gann.

Many technical analysts go for years without looking at these topics. Fibonacci is the most useful of these in the short term, and is worthy of consideration. The others can be parked in the too-hard basket until sometime down the track.

How to go forward?

Now that you know that the field of technical analysis includes the above topics, you might be wondering how to move forward. You might be wondering what to do next to learn something useful about technical analysis. If you are completely new to technical analysis, there are some pointers in Brainy's Article TA-1100, "*Beginners start here*".

Summary

In this article in Brainy's series on Technical Analysis (article number TA-2000) we have taken an introductory look at technical analysis, and briefly explored the major aspects of technical analysis. It is possible to learn enough about technical analysis to be able to gainfully apply it within just a few months. Like many subjects, further study can improve one's competence in technical analysis, but it is possible to master some aspects, and then leave the rest well alone.

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