Applications of Moving Averages

We have begun to understand how Moving Averages are derived. This knowledge is vital to allow us to appreciate what we are going to discuss in this article. In this article, we are going one step further and we will discuss on how to use a combination of Moving Averages and also Moving Averages in combination with other indicators. There are a few strategies that we will be discussing over here and they are as follows.

1. Moving Averages as Support and Resistance
2. Moving Average Crossover
3. Moving Average Convergence Divergence (MACD)

Moving Averages as Support and Resistance

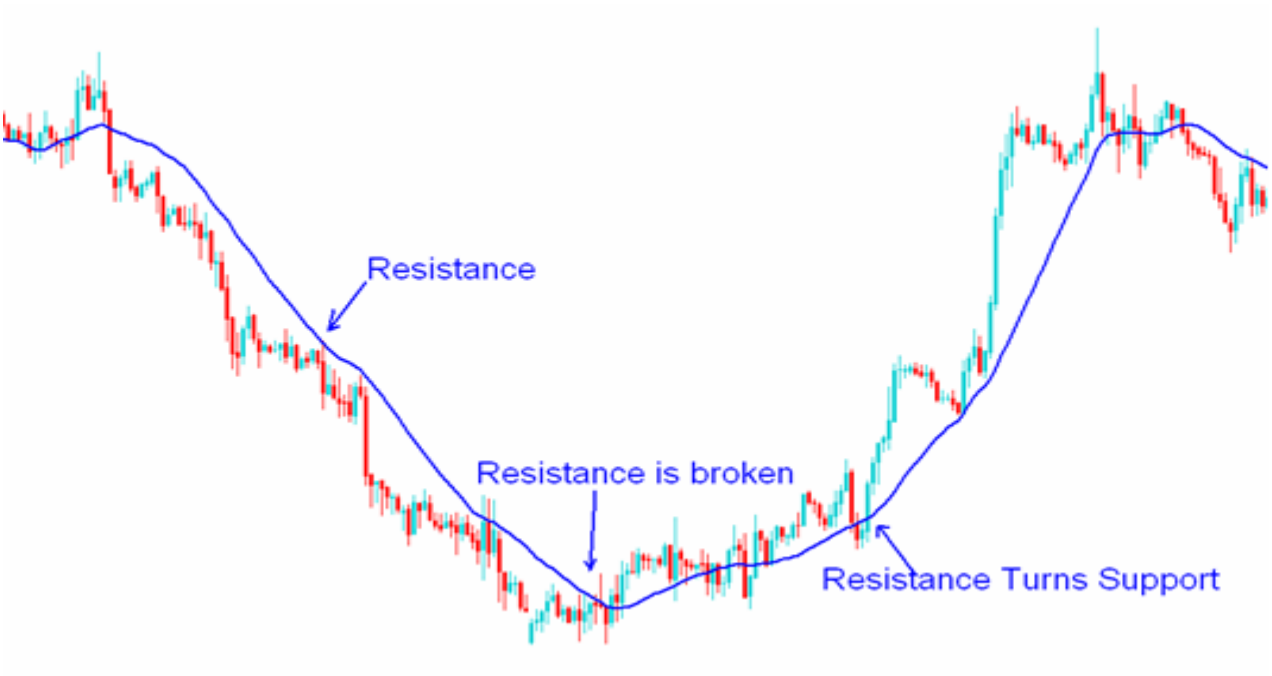

Figure 1

By choosing the appropriate Moving Average, this line can form the support and resistance of the asset. As we can see in Figure 1, the same Moving Average can act as both resistance and support. In a downward trending asset, the Moving Average will act as the resistance while in an upward trending asset, the Moving Average act as the support. As there can be different time periods of Moving Averages, the longer the time period, the stronger the support/resistance it will be. In other words, the strength of 5 Day Simple Moving Average has lesser strength as a support/resistance compared to a 200 Day Simple Moving Average.

However, using just one Moving Average alone might not give us enough indication that there is a reversal. We can combine Volume as an additional indicator. As Moving Averages are lagging indicators, they will not be able to react fast enough to reversals in prices. The change in Moving Average will

usually take a few more bars before showing a reversal. Hence, if we combine with the information of Volume, it can reduce the lag time that we have as we can see if there are large volume of buying to break the resistance or selling to break the support.

Moving Average Crossover

In part 1, we discussed about just using one Moving Average. In reality, most traders use more than one Moving Average when doing their analysis. Some may use two, three or even more Moving Averages, each with a different time period. The most widely known is the 5 Day Simple Moving Average used in combination of 25 Day Simple Moving Average.

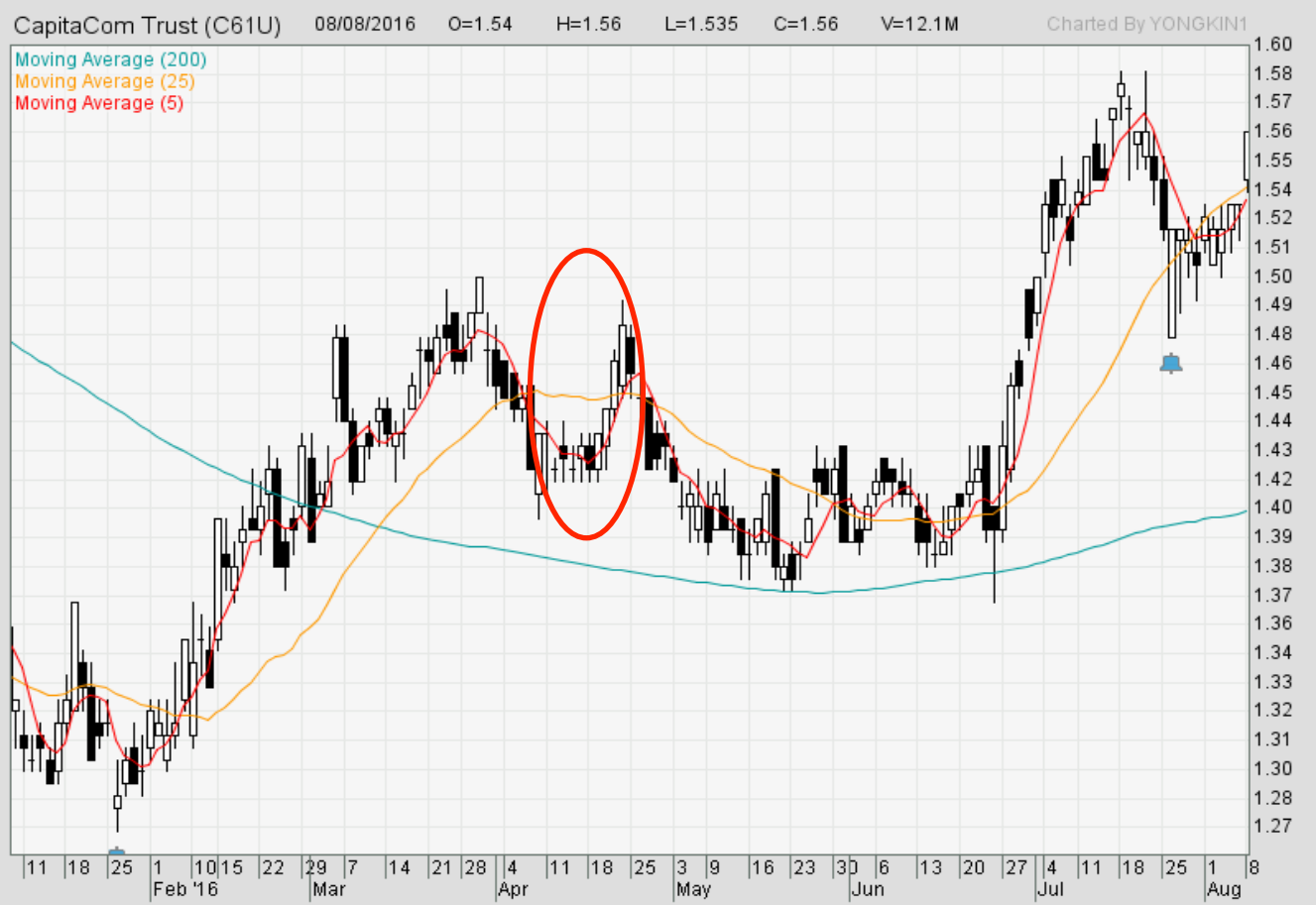

Figure 2

In Figure 2, the 5 Day Simple Moving Average (5 Day SMA) is the red line, 25 Day Simple Moving Average (25 Day SMA) is the orange line and 200 Day Simple Moving Average (200 Day SMA) is the blue line. Notice how the price rises when a Moving Average of a shorter time period crosses over a Moving Average of a longer time period and price falls when the Moving Average of a shorter time period crosses over a Moving Average of a longer time period. This strategy of using Moving Average Crossover is a simple and yet effective way for us to know when to do swing trading. We can buy/cover short when

the 5 Day SMA crosses the 25 Day SMA and exit or short when the 5 Day SMA crosses the 25 Day SMA. In addition, we can even switch the Simple Moving Averages to either Weighted or Exponential Moving Averages for those who are more aggressive to capture fluctuations.

In this Figure, I added the 200 day Simple Moving Average to show that how the Moving Average of a longer time period has greater strength than the Moving Averages of shorter time period. In this Figure, we can see that both the 5 Day SMA and 25 Day SMA crosses the 200 Day SMA and the overall trend becomes an uptrend.

We can also combine the usage of other indicators to help us further validate the trade. Sometimes, there can false signals being generated like the one in the red circle in Figure 2. Moving Averages are unable to capture those sudden price changes and hence will generate those false signals.

Moving Average Convergence Divergence

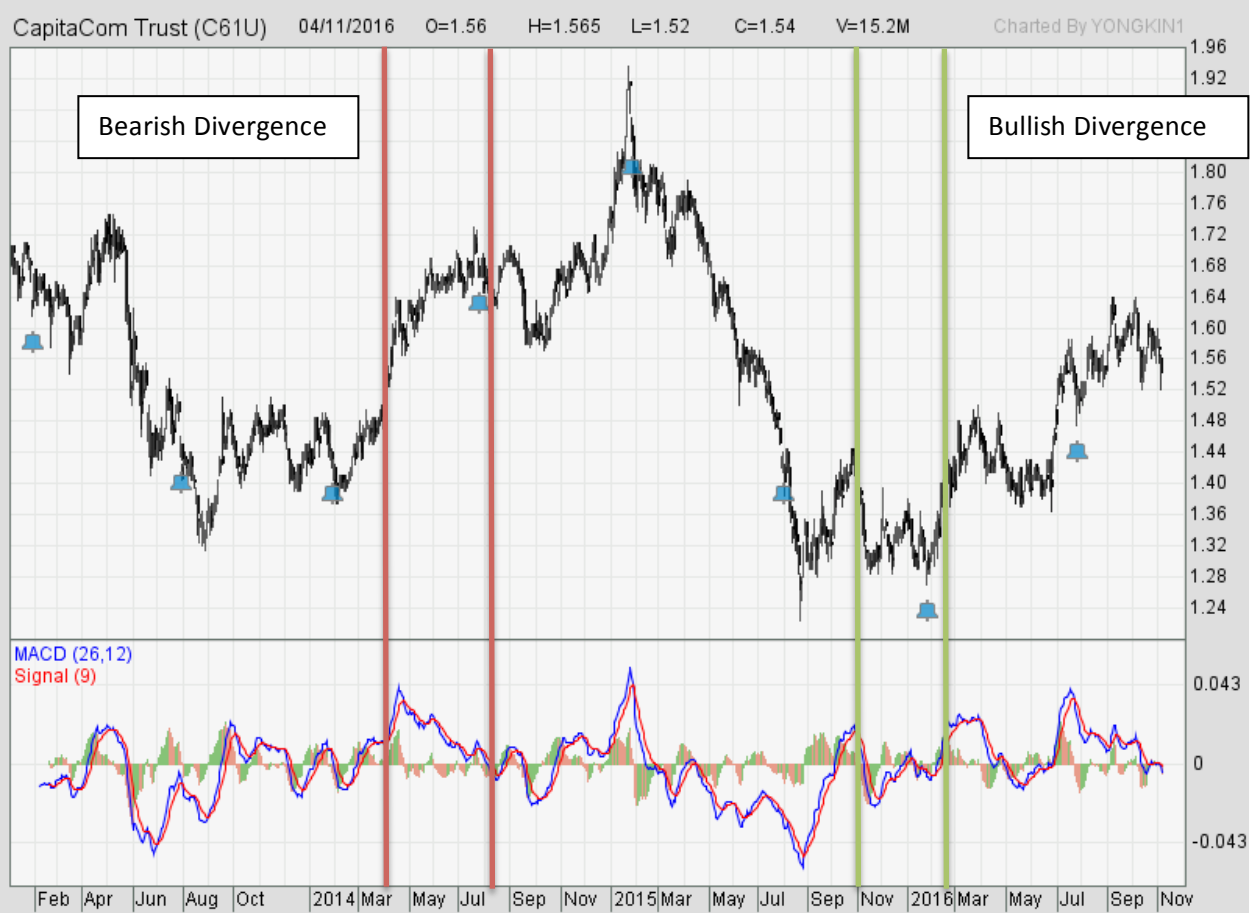

Figure 3

In this Figure, we will use this to illustrate Moving Average Convergence Divergence (MACD). MACD is made up of 4 components.

1. MACD Line (Blue Line)

The MACD line is derived by subtracting the 26 Day Exponential Moving Average (EMA) from 12 Day Exponential Moving Average (EMA).

2. Signal Line (Red Line)

This Signal Line is a 9 Day Exponential Moving Average. Both the MACD and Signal Line are plotted together.

3. Zero Line

This is the X axis of the indicator. This axis serves two purposes. Firstly, it serves as a trend indicator. Secondly, it serves as the zero point for the histogram.

4. Histogram

Histograms are the bars that extend from the zero line. They are derived by subtracting the value of the26 Day EMA by the 12 Day EMA.

Now that we know what are each components and what are they made of, we can now appreciate how they come into play to help guide our trading decisions. There are four pieces of information that MACD can present to us.

1. Reading MACD uses the same principle as reading Moving Average Crossovers. When the MACD Line crosses over the Signal Line, it is a buy signal. The opposite is true, when the MACD Line crosses under the Signal Line, it is a sell signal.
2. When the MACD Line crosses the Signal Line in any way, there will be a gap between those two lines and the distance between them forms the Histogram. The longer the bar, the greater the prices change. This shows us whether the stock is in the overbought or oversold region and it signals to us that a reversal in price is coming. From another perspective, we can see this as the momentum indicator. When the bars are long towards either side of the Zero Line, it means the momentum is high and hence signalling a reversal.
3. When both MACD and Signal Lines are above the Zero Line, it means that the trend is a positive trend. On the other hand, when both the MACD and Signal Lines are below the Zero Line, then it means that the prices are in a downward trend.
4. However, there can be situations where Divergence occurs. As indicated in the Figure above, both a Bearish and a Bullish Divergence are identified. A Bearish Divergence is where the MACD and Signal Lines are both above the Zero Line and the prices of the stock are going up. However, the MACD and Signal Lines are showing a downward movement. The opposite can happen as well, where both MACD and Signal lines are below the Zero Line and showing a upward movement while the prices of the stock is going down. This is what we call Bullish Divergence. Traders can watch out for these Divergences as it serves as huge signal that a reversal is on its way.

From what we see here, it seems like MACD alone is a powerful indicator that we can use. We can definitely add on other indicators as we like to help further validate the trade.

In this article, we discussed about how we can use Moving Averages to guide us in our trading. We have learnt several strategies like Moving Averages, Moving Average Crossovers and Moving Average Convergence Divergence. All of these can be used as a stand-alone indicator or in combination and it all depends on the traders' traits.