Understanding Technical Analysis : Moving Average Convergence Divergence (MACD)

Apart from candlestick chart pattern indicators, traders or analysts often use the Moving Average Convergence Divergence (MACD) and Relative Strength Index (RSI) in technical analysis of financial security. Like the candlestick chart indicators, MACD is also used to identify any trend pattern movement.

What is MACD?

Momentum Oscillator	• MACD is a momentum oscillator indicator which is used to identify trend formation
Moving Averages	• MACD shows a relationship between two moving averages of a financial instrument. • It combines price points of an instrument over a specified time frame, divided by the number of data points, to give a single trend line

Simple Moving Average (SMA)	Exponential Moving Average (EMA)
• The most basic MA, which is just a straight calculation of the mean price of a set of values over a given time periods. • If you were to calculate the SMA for a ten-day period, you would take the summed value of the last ten days and divide the result by ten.	• A type of moving average that gives more weight to recent prices which involves three steps. • The SMA is computed first. Next, we must calculate the multiplier for weighting the EMA. The final step involves the use of formula to compute the current EMA.

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How MACD works?

MACD is generated by subtracting the long term EMAs (26 period) from the short term EMAs (12 periods) to form the main line known as MACD line. This MACD line will eventually be used to create another line known as the **signal line**.

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MACD Line
- ❖ Formula : 12 day EMA - 26 day EMA
- ❖ Function : Determine the upward or downward momentum

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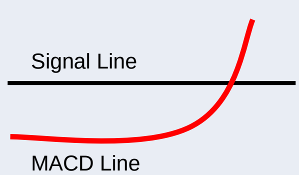
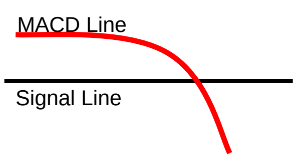
Signal Line
- ❖ Formula : 9 days EMA of MACD line
- ❖ Function : Act as the benchmark line to indicate the change of price direction

How to read MACD?

MACD is a momentum oscillator indicator which is used to identify trend formation. As MACD shows a relationship between two moving averages, any trading signal or indication from MACD usually observed through two techniques, MACD crossover or MACD divergence.

MACD Crossover

MACD can be read when the two lines cross over each other

	**Bullish Crossover** When the MACD line crosses above the signal line, it triggers a bullish signal and shows a signal for traders to buy the financial instrument.
	**Bearish Crossover** When the MACD line crosses below the signal line, it triggers a bearish signal and shows a signal for traders to sell the financial instrument.

MACD Divergence

Divergence is when the MACD line forms highs or lows that diverge from the corresponding high and low of the financial instrument's price. In other words, divergence occurs when the MACD lines contradict with the price movement of the financial instruments.

Bullish Divergence

A bullish divergence occurs when the MACD line forms a low followed by a higher low to indicate the upward momentum. At the same time, the price of the financial instrument forms a low followed by a lower low.

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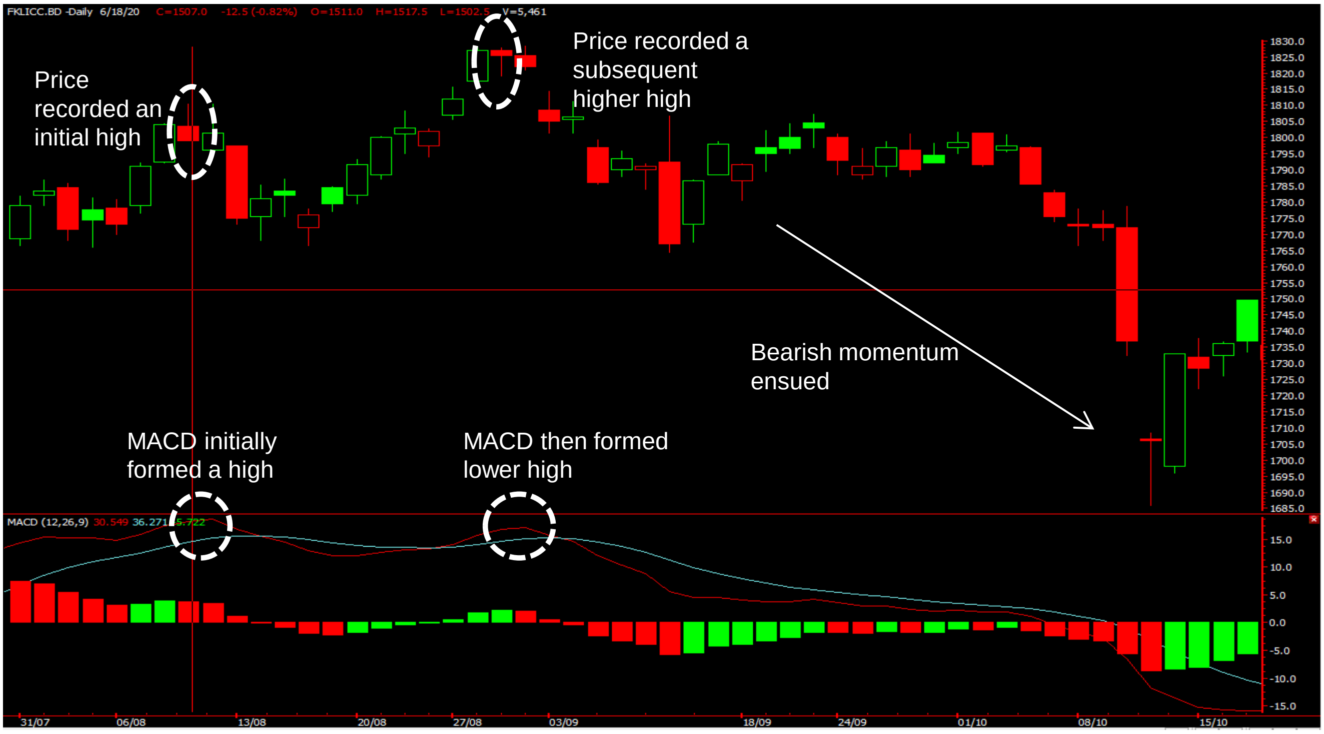
Bearish Divergence

A bearish divergence occurs when the MACD forms a high followed by a lower high to indicate the downward momentum. At the same time, the price of the financial instrument is forms a high followed by a higher high.



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