



## Part 2 – Indicators and Momentum Studies

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# Agenda

- MACD
- RSI
- The Stochastic Oscillator
- ATR
- Other Indicators
  - Williams %R
  - ADX/DMI
  - Parabolic SAR
  - OBV
  - Discussion/Open “forum”

# MACD

- Moving averages are the best form of trend following indicator. The MACD is a Moving average-based hybrid. It stands for Moving Average Convergence / Divergence
- This indicator is simply a combination of Exponential Moving Averages (**EMAs**) of differing time periods.

# MACD

- The calculation of the MACD is to first plot a 12 day Exponential Moving Average of the closing price:



# MACD

- Then plot a 26 day exponential moving average of the closing price:



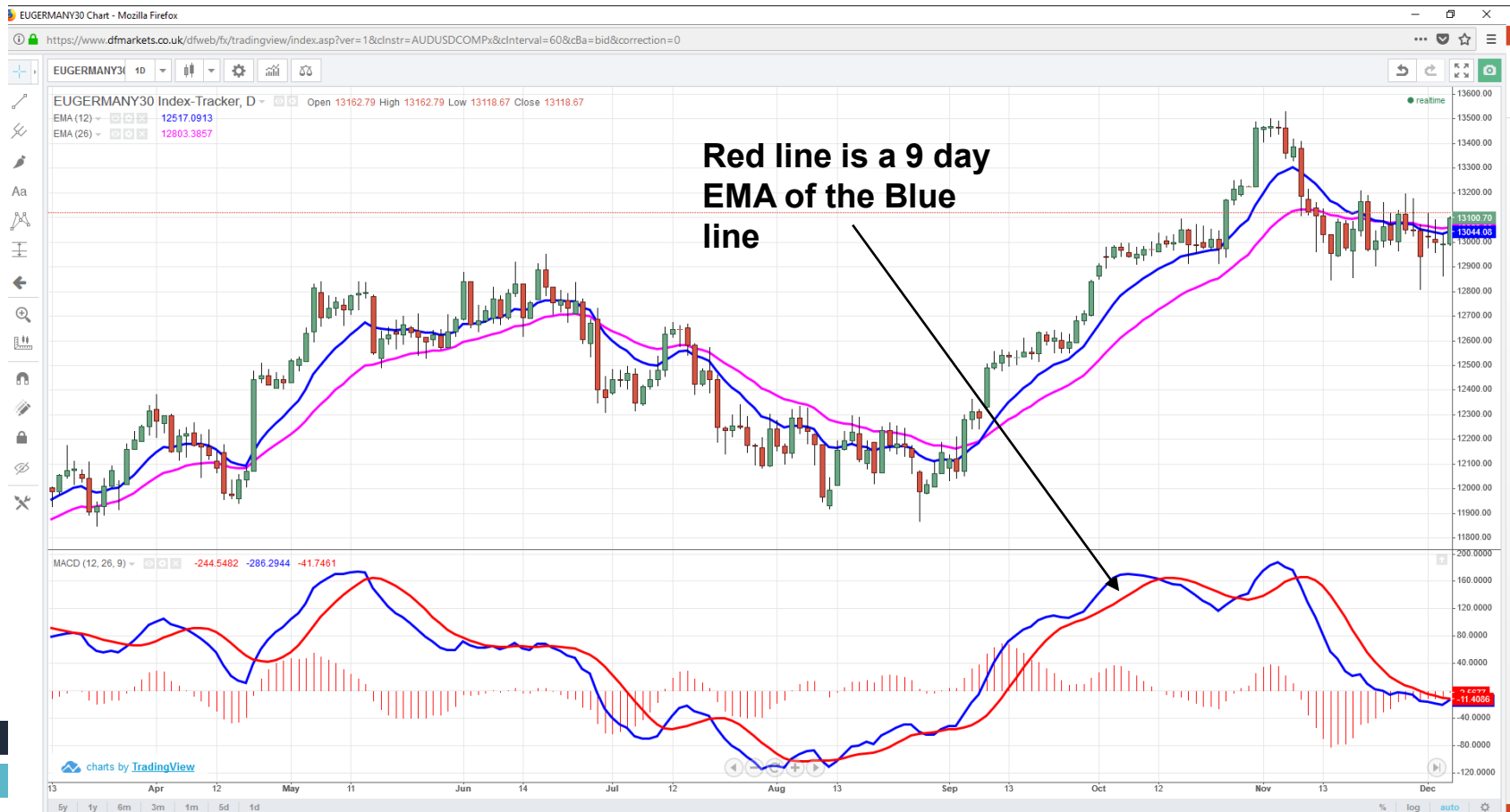
# MACD

- Then we calculate the difference between the two averages by subtracting the value of the 26 day average from the 12 day average:



# MACD

- The final step is to plot a 9 day Exponential Moving Average of this difference:



# MACD

- The purpose of this 9 day average is to smooth the output generated by the MACD line and also to provide us with a **signal** and a **lead** line.
- A basic buy signal is generated when the lead line (the first / blue line) crosses above the signal line (the red line, which is the average of the lead line).
- A sell signal is given when the lead line has been travelling above the signal line then falls below it.