# Summary of Technical Indicators used by iQUANT models

-From Investopedia (except for Flare-Out Growth Ratio)

#### On Balance Volume

- On-balance volume (OBV) is a technical indicator of momentum, using volume changes to make price predictions.
- OBV shows crowd sentiment that can predict a bullish or bearish outcome.
- Comparing relative action between price bars and OBV generates more actionable signals than the green or red volume histograms commonly found at the bottom of price charts.

## Money Flow Index

- The Money Flow Index (MFI) is a technical indicator that generates overbought or oversold signals using both prices and volume data.
- An MFI reading above 80 is considered overbought and an MFI reading below 20 is considered oversold,1 although levels of 90 and 10 are also used as thresholds.
- A divergence between the indicator and price is noteworthy. For example, if the indicator is rising while the price is falling or flat, the price could start rising.

### Flare-Out Growth Ratio

- The Flare-Out Growth Formula looks for companies with good twelve-month performance that have been consolidated or corrected in the last quarter or month.
- The formula for the Flare-Out Growth Ratio is 12-month return less 3 month return less 3 x 1-month return.

## Moving Average Convergence Divergence (MACD)

- Moving average convergence divergence (MACD) is calculated by subtracting the 26-period exponential moving average (EMA) from the 12-period EMA.
- MACD triggers technical signals when it crosses above (to buy) or below (to sell) its signal line.
- The speed of crossovers is also taken as a signal of a market is overbought or oversold.
- MACD helps investors understand whether the bullish or bearish movement in the price is strengthening or weakening.

### Relative Strength Index (RSI)

- RSI reading above 0.8 is considered overbought, while a reading below 0.2 is considered oversold. On the zero to 100 scale, above 80 is overbought, and below 20 is oversold.
- Overbought doesn't necessarily mean the price will reverse lower, just like oversold doesn't mean the price will
  reverse higher. Rather the overbought and oversold conditions simply alert traders that the RSI is near the
  extremes of its recent readings.
- A reading of zero means the RSI is at its lowest level in 14 periods (or whatever lookback period is chosen). A reading of 1 (or 100) means the RSI is at the highest level in the last 14 periods.
- Other RSI values show where the RSI is relative to a high or low.

# McGinley Dynamic

- The McGinley Dynamic indicator is a type of moving average that was designed to track the market better than existing moving average indicators.
- This indicator solves the issue of varying market speeds by incorporating an automatic adjustment factor into its formula, which speeds (or slows) the indicator in trending, or ranging, markets.
- The McGinley Dynamic indicator improves upon conventional moving averages by minimizing price separations and volatile whipsaws so that price action is more accurately reflected.

# **Moving Averages**

- A moving average (MA) is a widely used technical indicator that smooths out price trends by filtering out the noise from random short-term price fluctuations.
- Moving averages can be constructed in several different ways and employ different numbers of days for the averaging interval.
- The most common applications of moving averages are to identify trend direction and to determine support and resistance levels.
- When asset prices cross over their moving averages, it may generate a trading signal for technical traders.