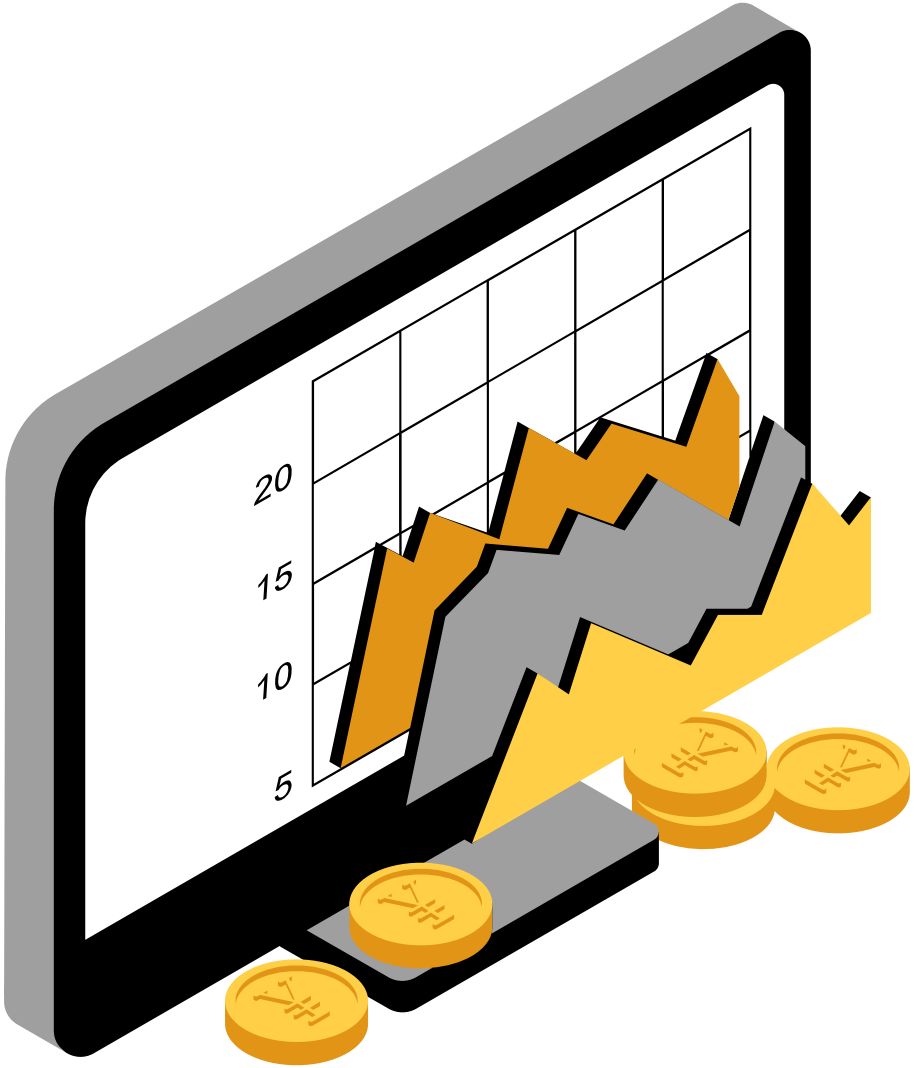


MOMENTUM

The Momentum Indicator is a straightforward one-line technical indicator that is used to estimate the strength of momentum that exists in the market. It is calculated as the difference between the current closing price and the closing price N periods ago. So, if we have selected the time frame of 24 periods, we will see that the momentum indicator value is the current closing price minus the closing price 24 periods ago. It is built on the assumption that the greater the difference in a given time frame, the stronger is the momentum in the asset price.

Momentum indicator can take a positive value as well as a negative value and therefore works like an unbounded oscillator around zero. If the value is positive, that means the closing price is higher than what it was N periods ago and if that difference is significant, we can say that the asset is in a strong uptrend. Similarly, if the closing price is lower than it was N periods ago, we can say that the asset is in a downtrend. The larger the negative value, the stronger is the momentum in the asset price. For a sideways market, the difference between the current closing and the closing N periods ago will not be that significant and as a result, the number will be around zero or a lower positive or negative value.

ELEMENTS

Momentum indicator mainly has two elements. First is the time frame and second is the momentum indicator line itself. We have to define a fixed time frame for which we intend to calculate the indicator. This has to be defined as several candles and we can use short term or long term periods of time.

TRADING SYSTEM

The momentum indicator can be used to generate buy and sell signals whenever it crosses the zero level. The change in the indicator from positive to negative is a change in the trend from bearish to bullish and this can be considered as a buy signal. Whenever the indicator turns negative from positive, it can be treated as a change in trend from bullish to bearish and a sell signal. However, the momentum indicator does not give the best of signals by itself as it crosses the zero line way too often. Also, it does not work in a sideways market as the line revolves around zero in many ways. So, it is best used in combination with other indicators.

SUITABILITY

We can use momentum indicator for any asset – large-cap, indices, small-cap and mid-cap. We can use these for commodities and currencies and other advanced assets and derivatives too.

This is how the momentum indicator looks. We see that it is a single line that revolves around 0. If the difference between price today and 12 periods ago, in this case, is positive, it shows that the asset price has moved up and if it is negative it shows that the price has gone down. Further away is the price from zero, stronger is the trend. We see that during sideways movement, the oscillator stays very close to zero.

We can change the length of the momentum oscillator as per our strategy. A shorter momentum will result in a lot of false signals.

This is because it changes too quickly and hence it does not produce any quality signals despite a trending asset price.

There is a lot of noise using a momentum indicator for the short term. It is crossing the zero line too often to create any meaningful trading signals.

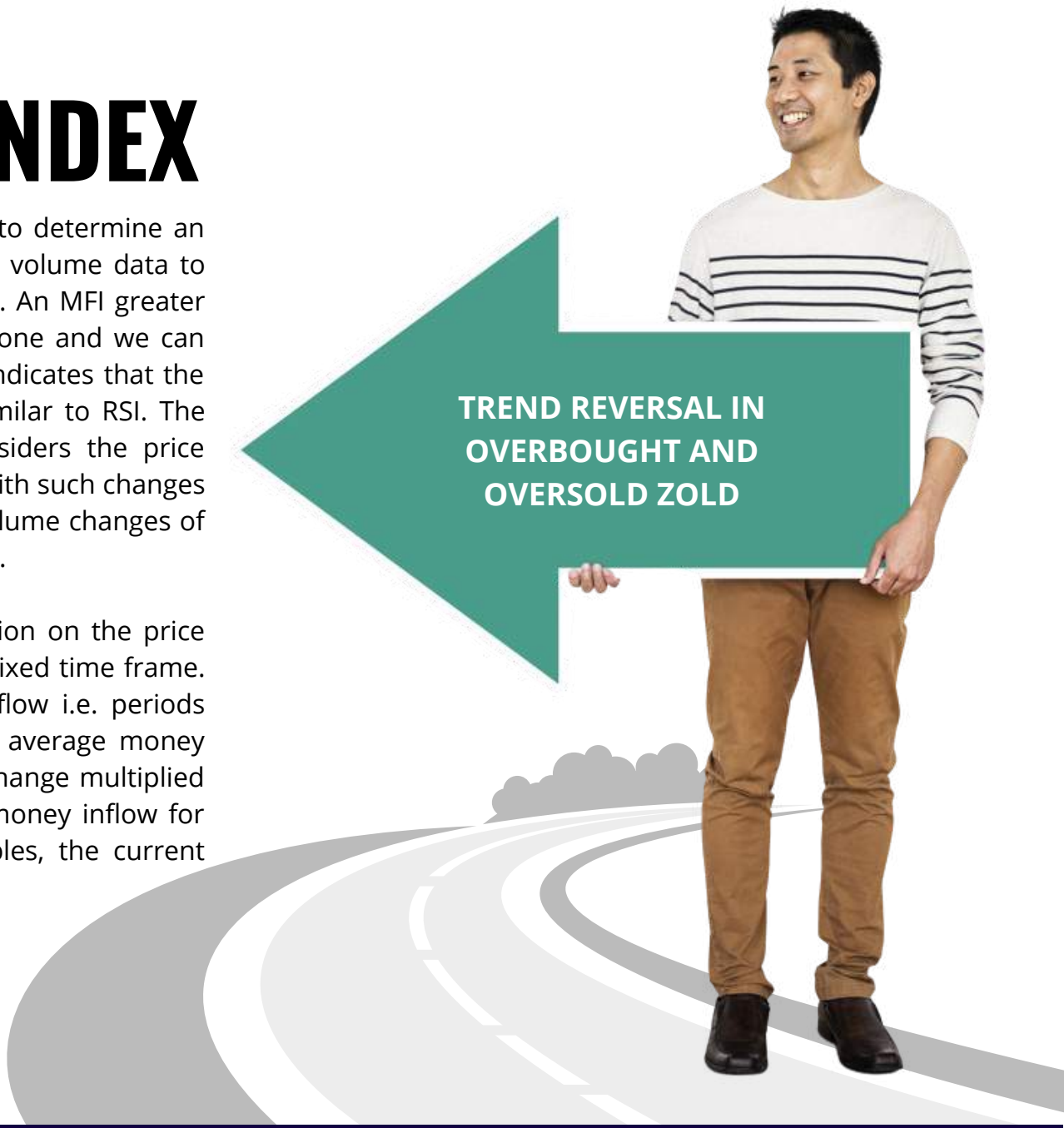
This is an example of long term momentum indicator. We see that this smoothens out a lot of movement and creates clear signals. The downside of using longer-term indicators is that they produce lagging signals occasionally.
In this chart, the indicator moves around zero when a sideways market is in motion but gives clear signals for trends. An analyst will have to figure out a way to segregate these from other clearer indicators.

This is another example for long term momentum indicator. We see that this gives clear signals in trending market. These can be used in combination of other indicators to good effect. An analyst needs to spend time practicing and going through multiple charts and back testing the indicator to understand the subtle parts of it. This will make it clear for them if it works for them or not.With this we end our discussion of Momentum Indicator. An analyst needs to experiment with the same on charts to understand these better. Let us now move to the next indicator.

8 MONEY FLOW INDEX

Money Flow Index is a technical oscillator that is used to determine an oversold or overbought asset. MFI uses both price and volume data to determine its value and it oscillates between 0 and 100. An MFI greater than 70 indicates that the asset is in the overbought zone and we can expect a reversal soon whereas an MFI lower than 30 indicates that the asset is in the oversold zone. In many ways, MFI is similar to RSI. The difference between the two is that the RSI only considers the price movement of the asset and not the volume associated with such changes whereas, MFI takes into consideration both price and volume changes of the asset. MFI is also at times called volume-weighted RSI.

MFI is calculated by conducting a mathematical operation on the price and volume data of the asset. It begins with defining a fixed time frame. Then it segregates periods where there is money outflow i.e. periods when prices went up or down. Then, it calculates the average money outflow for periods when prices went down, i.e. price change multiplied by volume change. Similarly, it calculates the average money inflow for periods when prices went up. Using these two variables, the current value of MFI is calculated.



HOW THIS WORKS ?

MFI is calculated using the average money inflow and average money outflow. Whenever MFI is greater than 70, we can say that asset is in the overbought zone. However, whenever it is less than 30, we can say that that asset is in the oversold zone. In the general course, we expect MFI to stay between 30 and 70 and whenever it enters the overbought and oversold zone, we expect the price trend to come back to that 30-70 zone. Sooner or later, they do come back to the 30 to 70 channel.

TRADING SIGNALS

MFI can be used to generate trade signals like RSI. Whenever MFI is in the oversold zone, we can expect a reversal in the prices and as a result, look for other indicators to enter the asset whenever there is a price reversal. MFI does not present an exact entry point. Also, the asset can stay in the oversold zone for a while and therefore lead to losses for the trader. The same is true on the other side when the asset enters the overbought zone. This way we will use MFI to get attention to an asset and then use other indicators to confirm the entry and exit point of a trade. This is exactly how we have been using RSI.

SUITABILITY

Money Flow Index will only be used for indices, large caps, commodities and currencies. We will not use the same for small-cap and mid-cap assets.

We saw that MFI works exactly like RSI except for the fact that MFI also considers volume as compared to RSI that only considers the price. MFI looks exactly like how the RSI chart looks. It oscillates between 0 and 100. We see that there are lines at 30 and 70 which show oversold and overbought zone respectively. We see that MFI goes in oversold zone thrice and each of these times we can expect a reversal. We will use another indicator to get signals about entry and exit. MFI enters the overbought zone twice and these should also be seen as indicators of an upcoming reversal.

We see that MFI enters the oversold zone and stayed there for a while. So, like RSI, these do not generate any signals about when to enter and exit. They can enter oversold and stay there for a while. As a result, we will start tracking an asset when they enter the oversold zone. We will use another indicator to enter and exit the asset.

These are again examples of money flow index. They work exactly in the same way as RSI does and we will use them in the same manner. We will not trade only based on these but spend time to understand their movements and then use them in strategies based on backtesting. With this, we finish our discussion on the Money Flow Index.

9 MOVING AVERAGE CONVERGENCE & DIVERGENCE (MACD)

'Moving Average Convergence and Divergence is a technical indicator that is built around the concept of moving averages and the convergences and divergences. MACD is a two-line indicator- the first line is the MACD line itself and the second line is a short-term moving average of the MACD line. Here, the second line is a moving average of the MACD line and not of the closing price of the asset. The intersection between the two is used to generate trading signals.

MACD line is derived from the difference between two lines – 26 Day Exponential Moving Average and 12 Day Exponential Moving Average. The difference between the two creates the MACD line and shows the degree of convergence and divergence. We saw that when the convergence of moving averages occurs, the moving averages come together and the difference between them goes down. As a result, we can say that closer the MACD line is to zero, the more likely is it a case of convergence. Farther away is it from zero, more likely is it a case of divergence. If the MACD line is on the positive side, we can say that the divergence is on the bullish side i.e. the 12 DMA is greater than the 26 DMA. The opposite is true on the other side.

The second component is the simple 9 Day SMA of the MACD line itself and we will use crossovers to generate buy and sell signals for the same. We also have bars on the graph that show the difference between the MACD line and the 9 Day SMA.

HOW IT WORKS ?

The MACD line denotes the distance between the shorter-term and longer-term moving averages. In the process, it shows the degree of convergence and divergence in asset prices and moving averages. We compare this difference with a moving average computed on the MACD line to generate buy and sell signals.

ELEMENTS

The MACD line has multiple elements. Let us understand them one by one. Firstly, we select two-time horizons – one for the short term and another for the long term. By default, it is 26 DMA and 12 EMA. These two elements and the difference between them will help us calculate the third element which is the MACD line itself. The farther away from zero levels is the MACD line, greater is the divergence. Next, we will use the fourth element which is a short term moving average of the MACD line. We will take the MACD level in last N periods and calculate the moving average. Next, we can also change the period for which we want the MACD moving average to be calculated. Lastly, we have bars on the graph. The bars are nothing but the difference between MACD line and its moving average. We will see that whenever the MACD line and its moving average crossover, the bar goes back to zero.

SUITABILITY

These are again suitable for indices and large-cap stocks. We will avoid most indicators on small and mid-cap space as one key investor or promoter can manipulate the asset price with much greater ease.

TRADING SYSTEM

We will use the MACD indicator in two ways. Firstly, the distance of MACD from the zero lines indicates the degree of divergence. So, whenever MACD is near zero, we can say that convergence is occurring and we will combine it with other indicators to check the occurrence of the next divergence. So, it helps us identify potential convergences.

Next, we can also use MACD to create trading signals. Whenever the MACD line crosses over its moving average, we can enter or exit a trade. When the MACD line crosses the moving average from below, it is a buy indicator. Whenever the MACD line crosses over from above, it is a sell signal. However, this too has quite a few false buys and sell signals. As a result, we need to combine this other indicator.

This is how MACD looks like in practice. For beginners, this might look slightly frightening but it becomes easier once we get the hang of it. The blue line in the graph is the MACD line, the orange line is SMA of the MACD. The bars represent the difference between the MACD line and its SMA.

1. The MACD line is too close to zero. As a result, that the different moving averages are converging here and we need to watch for divergences.
2. The MACD line breaks away from the range-bound movement. We can say this is a bearish divergence. We will use other indicators to confirm a trend.

We discussed that we can use the MACD line and SMA crossover to generate trading signals. Here, we see that the two lines cross over each other multiple times. We will have to identify other circumstances based on which we will either accept or decline the trade. These crossovers as indicated on the chart are potential trade signals. Some of these will be profitable whereas others will not and we are to determine the same.

This is a complete example of how MACD works. We see all the crossovers that are potential entry and exit signal. We have marked all these short and long signals. Again, some of them would have made us a profit whereas others would have gives us a loss. We see a lot of false moves in MACD crossovers. Also, in the highlighted section, we see how the MACD line moves around zero to show convergence and then a divergence follows. With this, we end our discussion of MACD. This is also the last indicator we are covering.

We have now learnt about multiple indicators and oscillators. We saw some indicators are capable of generating reliable trading signals on their own, whereas some need to be combined with other tools.

These are the common ones that are used in practice. However, there is an endless list of other indicators and oscillators that exists. One can easily find them on the internet. However, a person can't know all the indicators. It is not advisable too. It is not required for an analyst to use all the indicators mentioned. One can only use the indicators that they are comfortable with or those that work for them. Remember, keeping it simple is always a good idea when beginning as the analyst will understand what is happening.

For a beginner, understanding these indicators should take a few days. However, becoming an expert in these take a lot of time and the only way to do that is practice. It is highly recommended for an analyst goes through hundreds of charts and tries to understand how the indicator has been working out. Another thing is to practice as we did for candlestick patterns. Also, they should try experimenting with different time frames for each indicator and how it is working for them. They can also try a combination of multiple indicators to generate signals for them. Learning the indicators is easy but spending time on the practice of the same is what requires skill and time. For any beginner, practice, practice and practice!