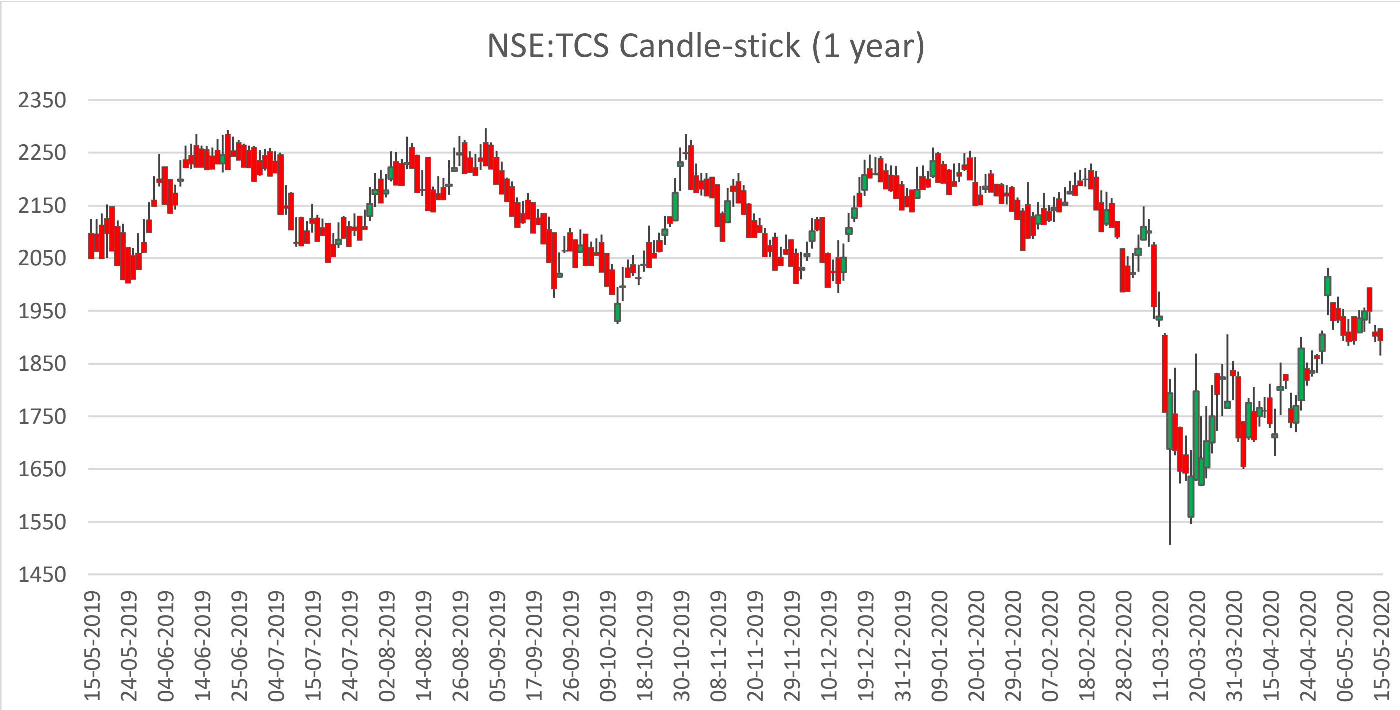
Technical Analysis: Tata Consultancy Services Limited (TCS)

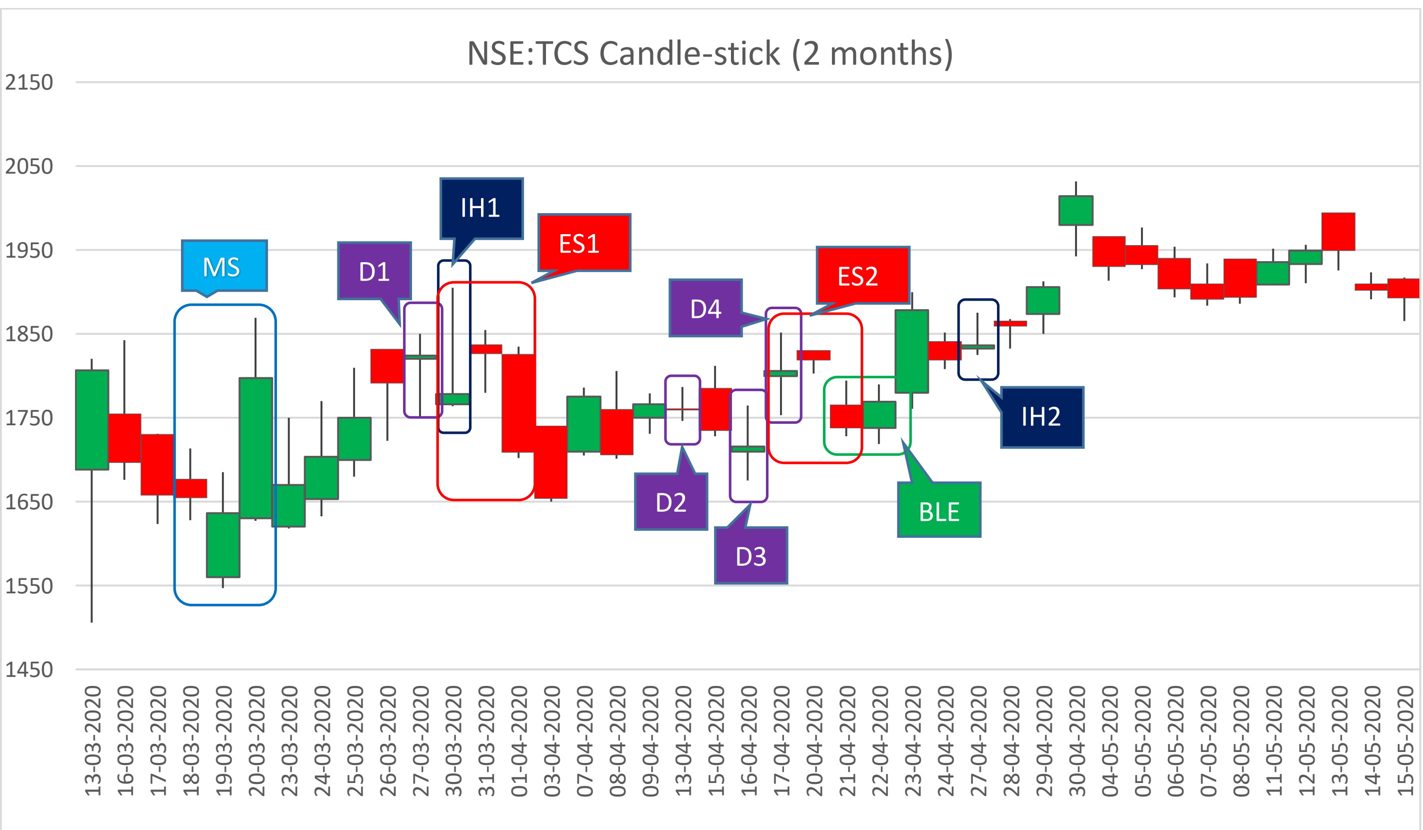
Jun 20, 2020

Ayan Banerjee
Roll No. 16EC8020

Investment Management and Stock Market (MS842) Assignment Part-II

Assignment 1: Collect the last one year closing price plot candlestick, identify few candlesticks.





Legends

MS: Morning Star, D1 to D4: Doji, IH1 to IH2: Inverted Hammer, ES1 to ES2: Evening Star, BLE: Bullish Engulfing,

1. **Single Candlestick pattern**
    a. **Doji:** Doji candlestick pattern has their opening and closing price are very close to each other. The candle thus looks like a plus sign with a chance that the highs and lows wicks of the candle being of different lengths. Dojis often indicate indecision in the market.

       Doji is shown by D1 to D4 in the above figure. D1 indicated indecision in the market before going to down trend. The reverse is true for D3. Whereas D2 indicates indecision in the market before the next big move.

    b. Inverted Hammer: Inverted hammer is one candle pattern with a shadow at least two times greater than the body. This pattern is identified by the small body. They are found at the bottom of the decline which is evidence that bulls are stepping in but still selling is going on. The color of the small body is not important but the green body has more bullish indications than a red body. A positive day is required the following day to confirm this signal.

       Shown by IH1 and IH2, the security has a positive day in the next day.

2. **Two-candlestick pattern**
    a. **Bullish Engulfing:** The bullish engulfing pattern is a two candlestick pattern which appears at the bottom of the down trend. As the name suggests, this is a bullish pattern which prompts the trader to go long. The prerequisites for the pattern are as follows:
        i. The prior trend should be a downtrend
        ii. The first day of the pattern (P1) should be a red candle reconfirming the bearishness in the market
        iii. The candle on the 2nd day of pattern (P2) should be a green candle, long enough to engulf the red candle

       It is shown by BLE in the above figure. The bullishness is expected to continue over the next few successive trading sessions, driving the prices higher and hence the trader should look for buying opportunities. Thus, trade should be started on P2 after confirming the pattern with stop loss set to lowest low between P1 and P2, i.e., Rs. 1,719.15.

3. **Three-candlestick Pattern**
    a. Morning Star: The morning star is a bullish candlestick pattern which evolves over a three-day period. It is a downtrend reversal pattern. The pattern is formed by combining 3 consecutive candlesticks. The morning star appears at the bottom end of a down trend.

i. The first candle in the morning star formation is a big bearish candle which clearly defines the down move.
ii. The second candle is a small candle, which is ideally a Doji candle.
iii. The third candle is a large bullish candle which closes near the top of the day.

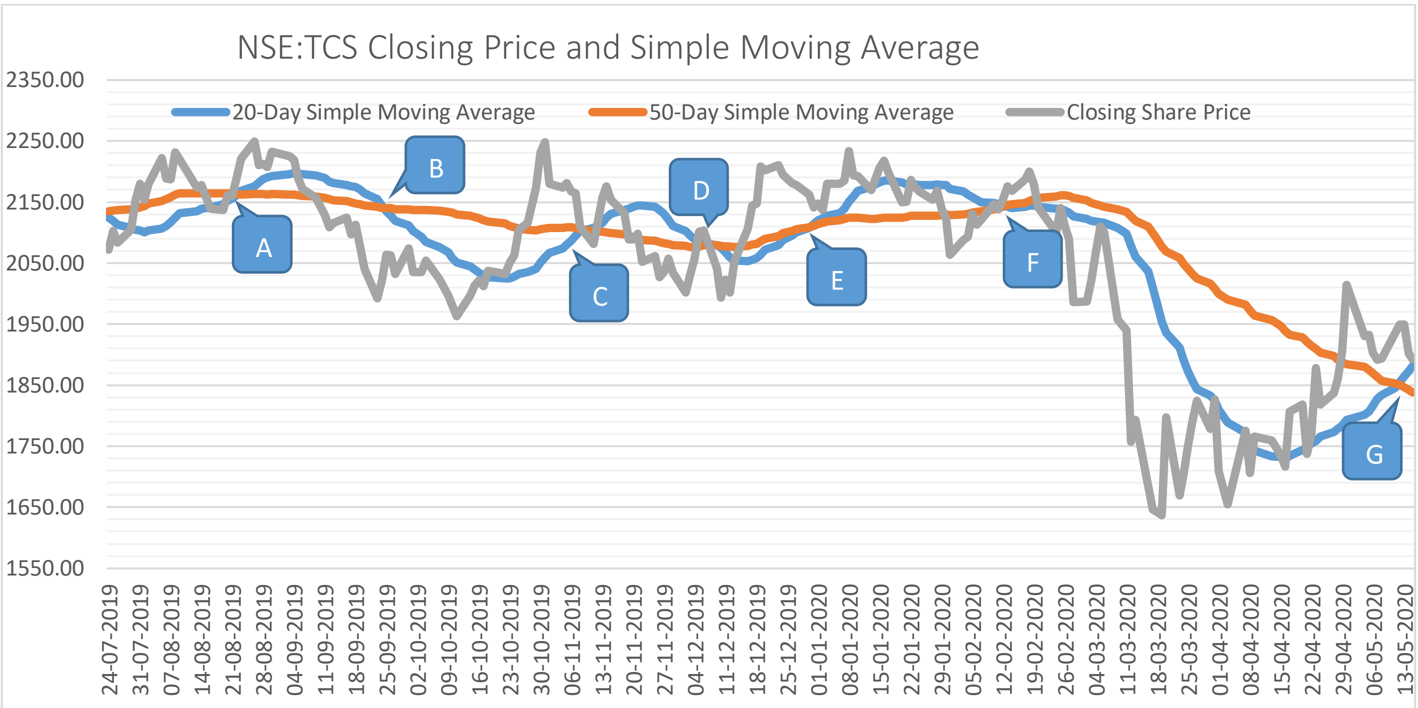
It is shown by MS in the above figure. As it denotes bottom reversal a trader may buy shares on day 3 with stop loss set to lowest low of those 3 days, i.e., Rs. 1,546.75.

b. Evening Star: The evening star is a bearish equivalent of the morning star. The evening star appears at the top end of an uptrend. Like the morning star, the evening star is a three candle formation and evolves over three trading sessions.

i. The first candle is a long bullish candle.
ii. It is followed by a small candle which ideally should be a Doji candle.
iii. The third candle is a long bearish candle which signals the end of the bull move.

It is shown by ES1 and ES2 in the above figure. The expectation is that the bearishness will continue over the next few trading sessions. Therefore, one should look at shorting opportunities.

Assignment 2: Calculate 20 and 50-day simple moving and exponential moving average and plot along with price chart and interpret the signal.

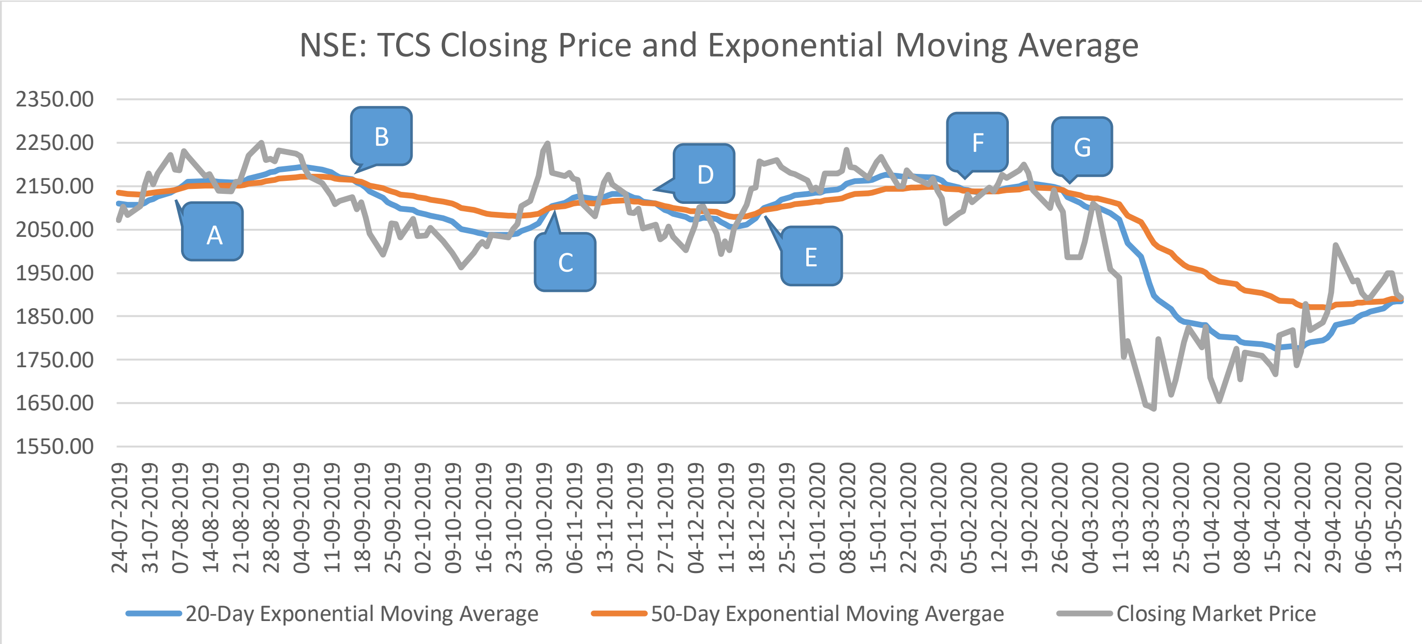


Moving average gives trend of market price – if the market price is going up or down. We can also determine if a share to buy or sell based short-term and long-term moving averages. If –

- Long-term moving average crosses the short-term moving average from downside, a trader should buy shares
- Short-term moving average crosses the long-term moving average from downside, a trader should sell her shares

From the figure above, we can see on 21st August, 2019 (*A*) short-term moving average crosses the long-term moving average from downside, so a trader should sell her shares. Same inference can be drawn for 11th November, 2019 (*C*), 30th December, 2019 (*E*) and 12th May, 2020 (*G*).

We can also observe that on 26th September, 2019 (*B*) long-term moving average crosses the short-term moving average from downside, so a trader should buy shares. Same inference can be drawn for 4th December, 2019 (*D*) and 11th February, 2020 (*F*).



Exponential moving average gives more emphasis on recent closing prices, however, buy/sell decision can be made same way as simple moving average, that is, if –

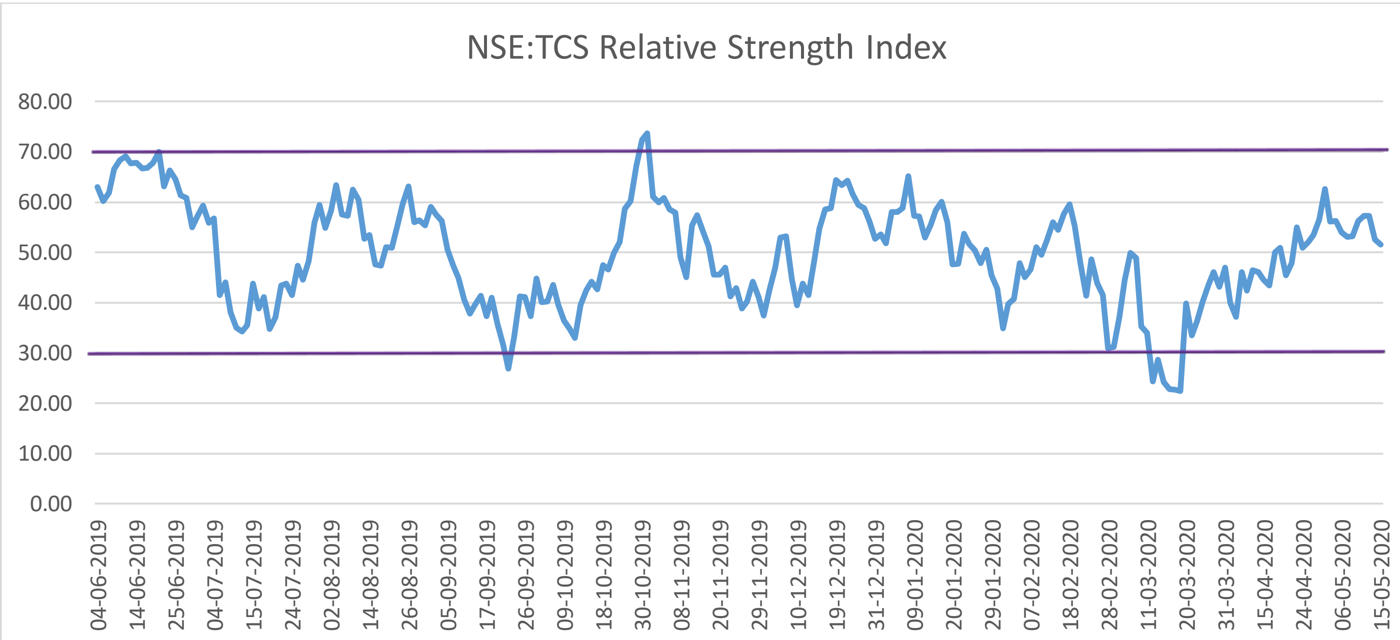
- Long-term moving average crosses the short-term moving average from downside, a trader should buy shares
- Short-term moving average crosses the long-term moving average from downside, a trader should sell her shares

From the figure above, on 8th August, 2019 (*A*), short-term moving average crosses the long-term moving average from downside, so a trader should sell her shares. Same conclusion can be drawn for 1st November, 2019 (*C*), 18th December, 2019 (*E*) and 11th February, 2020 (*G*).

We can also observe that on 16th September, 2019 (*B*) long-term moving average crosses the short-term moving average from downside, so a trader should buy shares. Same conclusion can be drawn for 26th November, 2019 (*D*) and 25th February, 2020 (*F*).

Assignment 3: Calculate relative strength index, money flow index, stochastic and interpret.

Relative Strength Index (RSI)



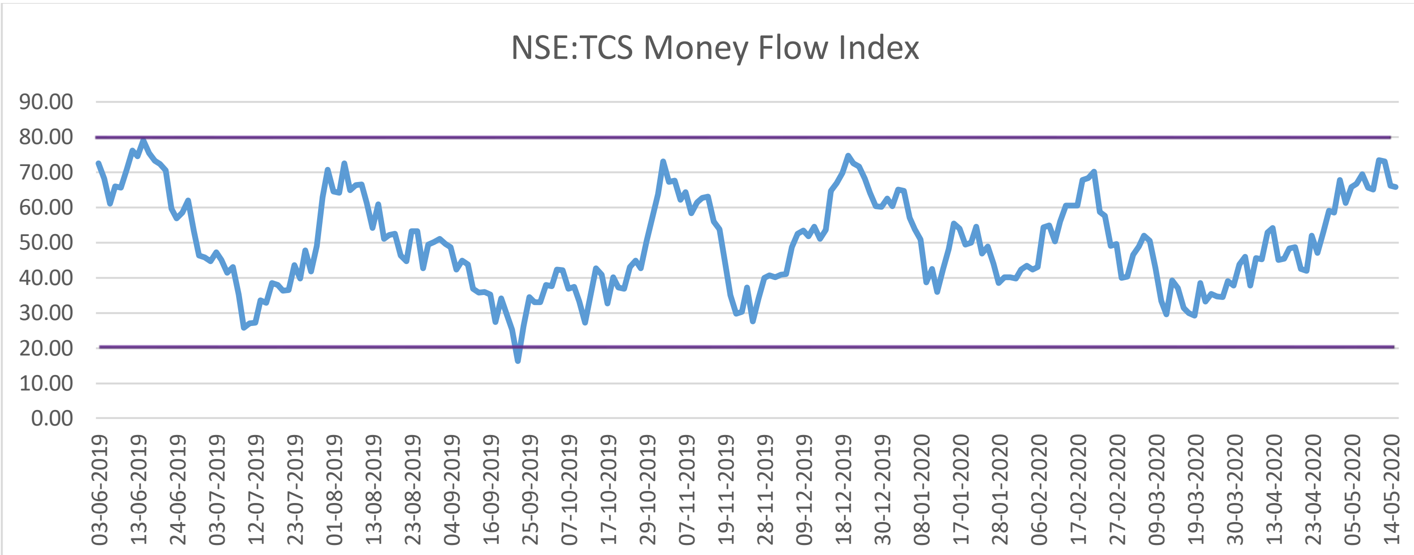
RSI is an oscillating index which tells a trader if market is overbought or oversold. If –

- RSI > 80 (or 70), market is overbought and a trader should sell her shares
- RSI < 20 (or 30), market is oversold and a trader should buy shares

In the following discussion, we have taken 70 and 30 as upper and lower bounds respectively.

- On 23rd September, 2019, RSI < 30 so a trader should buy shares
- On 30th & 31st October, 2019, RSI > 70, so a trader should sell her shares
- In the week of 13th – 20th March, 2020, RSI < 30 and a trader may buy shares in this period.

Money Flow Index (MFI)



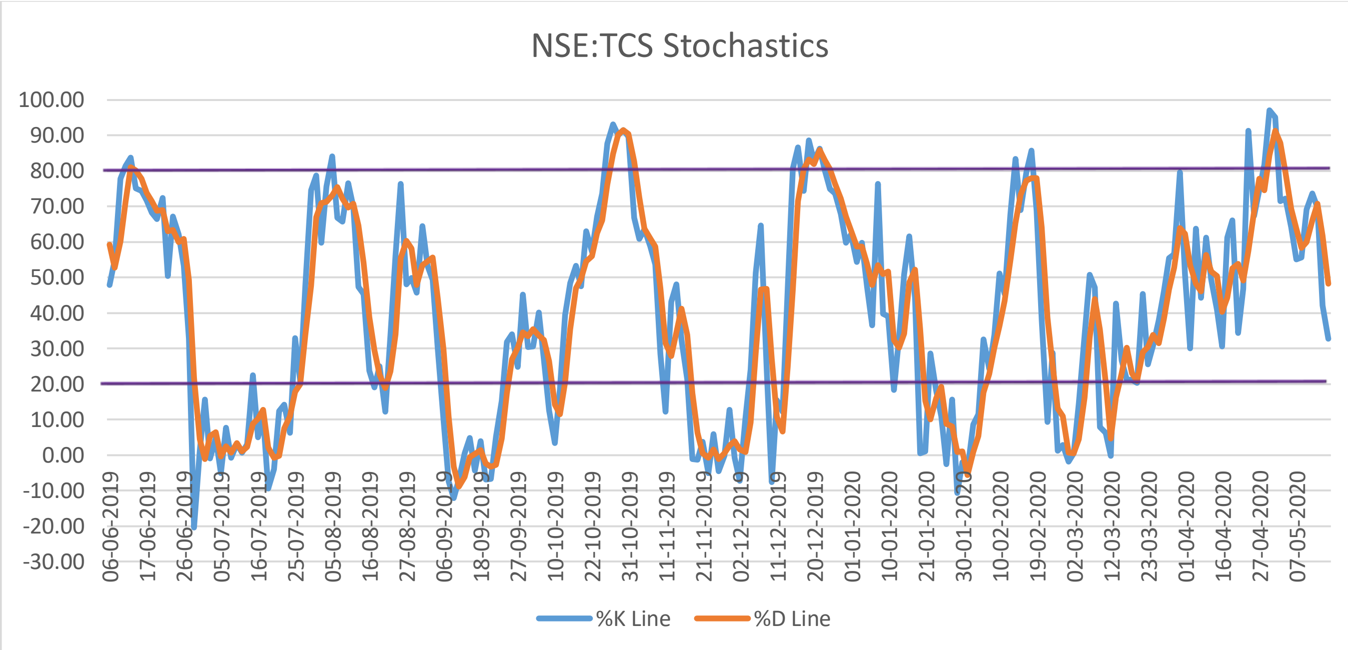
Money flow index takes into account volume action and on the basis of volume action; it attempts to measure the strength of money flowing in and out the security which now a day is also known as smart money flow indicator.

From Money Flow Index (MFI), we can determine if market for a company is oversold or overbought. If –

- MFI > 80: Market is overbought and a trader should sell her shares and avoid buying new shares
- MFI < 20: Market is oversold and a trader should buy shares and avoid selling shares

From the figure, we can say that, around 23rd September 2019, MFI < 20 and a trader should buy shares of TCS. This also supports our decision from RSI.

Stochastic



Usually stochastic oscillator reading above **80** is considered overbought and stochastic oscillator reading below **20** is considered oversold. It suggests that:

- One should book profit in buy side positions and should avoid new buy side positions in an overbought zone.
- One should book profit in sell side positions and should avoid new sell side positions in an oversold zone

From %K and %D line we can determine when to buy and sell using –

- %K line crosses %D line upside in oversold zone – Buy
- %D line crosses %K line upside in overbought zone – Sell

Thus, from the figure above one should look for buying opportunities on the following dates: 22nd July 2019, 23rd September 2019 (supports our decision from MFI & RSI), 11th October 2019, 3rd December 2019, 11th December 2019, 31st January 2020 and look for selling opportunities on the following dates: 29st October 2019, 24th December 2019 and 4th May 2020.