Introduction
Volume is crucial for confirming technical setups and support/resistance lines. But what if you could use the actual volume to figure out levels of support and resistance in the market? That is the case with Volume Profile.

Volume Profile
Volume Profile is an advanced charting study that is used among many traders. It is designed as a histogram displaying the volume traded at a certain price over a specific time period.

Exhibit 1: Price graph with Volume Profile. Source: TradingView.com

Reactive versus Proactive methods
In difference of support and resistance lines, Volume Profile is a reactive method, while the former is defined as a proactive method. This implies that Volume Profile relies on past price action or volume behavior while proactive methods are predictive and based upon current price action.

By using Volume Profile, you are applying a fundamental way of looking at the market which is based on the concept of supply and demand. The advantage of using a reactive method is that it is based on what has actually happened, instead of drawing lucrative lines. Another advantage is that it is based on volume, which is one of the most fundamental concepts of technical analysis. The disadvantage compared to using support and resistance lines is that it is impossible to make any prediction when price enters unknown territories.

Exhibit 2: Value Area of Volume Profile. Source: Tradingportalen

Finding Support and Resistances
By looking at the histogram that displays volume traded at different price levels, you will be able to find a price level or range that is traded at higher volume than other. This area, displayed in turquoise, is known as a Value Area which means that it is a price level that has been accepted by the market.

Exhibit 3: Elements of the Value Area. Source: Tradingportalen

Elements of the Value Area
The outer edges of the Value Area, also known as Value Area High (VAH) and Value Area Low (VAL), are likely to act as support and resistance as the price moves back and forth to the price level with the highest volume, displayed in yellow. This level is known as the Volume Point of Control, VPOC, and in fundamental words it is the most accurate price level for the underlying asset based on the view of all market participants during the specific time period. It is therefore likely that price will move back to this level and thus traders can have an edge betting on this.
Technical Analysis using Volume Profile

What is volume?
Volume is the number of traded shares or contracts in a security or in an entire market during a single day, a week or any other given period. This is usually illustrated in the form of volume bars, which show trends in the same way price charts do. The greater the volume, the more active the security.

Why volume is crucial
Volume is a vital aspect of technical analysis because it is a tool used to validate chart patterns and trends, yet it is often overlooked. Any movement in price, either up or down, is deemed as stronger or more forceful than a comparable move with less volume. Hence a sharp move with little volume is not a strong signal.

Practical uses of volume
Given the characteristics of volume presented above, volume can be used in a number of circumstances. Three key ways to use volume analysis follow below.

1. A rising trend should have a rising volume

First and foremost, as pointed before, volume should always follow the same trend as the price. Patterns such as head and shoulders, triangles, flags and other price patterns can also be confirmed with volume. If, for example, a stock in an uptrend is trading with less and less volume it is a sign that the trend is about to shift.

2. Watch out for exhaustion moves

After a long lasting rising or falling market exhaustion moves might arise. These are generally sharp moves in price combined with a sharp increase in volume, which signal the potential end of a trend.
On-Balance Volume, retail investors’ best friend?

Introduction

OBV stands for On Balance Volume and was developed by Joe Granville in the 1960s. OBV is a well-known momentum indicator based on volume and price action. Investors use OBV to determine trends and predict movements in the underlying asset.

Actual OBV value

Given that OBV is based on historical data which sometimes consist of longer downturns or upturns, the actual OBV value is not important, since the number can be huge, positive or negative. What matters is how OBV is acting in comparison with the price of the underlying asset.

![Exhibit 1: OBV & Volume, H&M (Hittakursvinnare)](image)

Identify trends using OBV

Investors primarily use OBV as a confirmation tool to identify the momentum of an underlying asset. It’s also used as a confirmation that investments are in line with the "smart money" market view.

Traders will use an upward trend in OBV to confirm an uptrend in the underlying stock price and vice versa for a down trend. This is a great and visual way to ensure that the volume follow the asset price, which gives support to the valuation from a technical point of view.

![Exhibit 2: Divergence, H&M (Hittakursvinnare)](image)

Divergence is the key

When the price of the underlying asset and OBV no longer acts in the same direction it may be a warning sign. Investors can use divergence to predict trend reversals, because the asset price is no longer supported by the underlying volume. The asset price and the OBV value will therefore struggle to get harmonized again. Divergence occurs due to that the price development is binary in the calculation of the OBV value.

Follow the smart money

The OBV indicator is helping investors understand in which way money flows. The main idea behind OBV is based on how "smart money" (institutional investors) acts in comparison to retail investors. When “smart money” is starting to buy an asset it’s shown in the volume. Retail investors are often satisfied with a small price increase and start to dump their holdings. Retail investors’ behaviour at small price increases can prevent the asset price from increasing further for a while, this is shown as a divergence between OBV and the underlying asset price.

Limitations

The OBV indicator is not always useful in illiquid stocks, a massive volume spike day can throw off the indicator for a long time going forward. OBV may also need to be adjusted in case of extraordinary events to get more accurate.
Introduction

Witching days refer to the days that options or futures expire. While stock options and index options expire on the third Friday of each month, index futures and single stock futures expire on the third Friday every third month. This means that every third month all four contract types expire on the same day, called the quadruple witching days. The expiration of the contracts causes investors to close out or roll out positions.

Significance of Quadruple Witching

Because investors and traders need to close out positions in all of the asset classes, movements on these days tend to be typically volatile and irregular. Transaction of large amounts of contracts increases the volume (see Exhibit 1) and can cause a distinctive behavior in the asset’s price movements. Typically this has little to no effect on indices and highly liquid stocks. However in more illiquid stocks which are affected by the expiration of options and futures, the movement might take sharp turns and this can be a good opportunity for observant short-term traders who are prepared and aware of the effects of quadruple witching.

Using Quadruple Witching to your advantage

Because certain positions need to be closed out and in certain situations hedged with the underlying stock, most movement is to be expected in the first and last trading hour. By being observant on the closing price of less liquid stocks that are affected, one might spot irregularities which can mean a large spread between the last traded price and the closing price. Noting this and holding in mind that the movement is caused by investors forced to take action, one deduces that the order flow will likely not continue the day after quadruple witching and thus the stock will restore its normal behavior. As such, a trader takes a position in the opposite direction of the sharp movement in the close or during the irregular volatility intraday, knowing that the price entered might not have been offered in a normal trading day. The irregular order flow also attracts arbitrage traders and HFT-firms who seek temporary price inaccuracies.

As with any trade however, it has a risk and other investors can use the increased liquidity and the expectation of volatility to enter or exit large positions unnoticed. Thereby showing how the volume and psychological factor can be a way to use this day to one’s advantage.

For those who are not active short-term traders, simply being aware of these dates and the process taking place will clear up any confusion next time that one’s positions are experiencing erratic movements. Similarly, those who utilize stop-loss orders for their positions might benefit from lowering or inactivating their stop-loss order during these days because of the potential volatility that can come with quadruple witching. Yet this volatility in the affected stocks can not be easily used by simply trading the VIX index as can be seen from Exhibit 2.

Despite their name, witching days are not to be feared by the average investor, as they are not established to be noticeably bullish or bearish for the markets.

Quadruple Witching dates

<table>
<thead>
<tr>
<th>Year</th>
<th>17th March</th>
<th>16th June</th>
<th>15th September</th>
<th>15th December</th>
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<tbody>
<tr>
<td>2017</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2018</td>
<td>16th March</td>
<td>15th June</td>
<td>21st September</td>
<td>21st December</td>
</tr>
</tbody>
</table>
The Linest function

What is the Linest function?

The Linest function in MS Excel if used with additional statistics, nets ten different values in ten different cells. It essentially offers ten different regressional functions from one array function. An alternative way of doing a regressional analysis on variables is using Excel Analysis Toolpak. A book which demonstrates this tool kit is Jay Abrams Quantitative Business Valuation: A Mathematical Approach for Today’s Professionals. However, on every occasion the input data is replaced, one must manually redo the regression with Excel Analysis Toolpak, which is tiresome and indicates a rigid model. Using Toolpak for regression is also very time-consuming; with Linest you can regress variables as you go in the Excel sheet.

The syntax in Linest consists of four parts: (1) Known Y-values; (2) Known X-values; (3) Optimal constant or non-constant beta; (4) Additional regressional statistics.

What is the logic behind regression?

If a five year regression is deployed to forecast the variable Y (COGS) from the variable X (Revenue) in Exhibit 3, the equation for COGS is $Y = 0.57 \times X + 5.11$. From a theoretical perspective, this implicate that 57% of COGS are variable costs, while 5.11 MSEK are fixed costs. While this relationship might not be entirely factually correct, it still provides a gross margin in the territory of 40-45%, which is in accordance with most analyst estimates for Fingerprint. The strength and edge of using regression of COGS increases, when forecasting costs for a company with presumably a high percentage of fixed costs.

When is regression useful?

Regression is useful when you are not that acquainted with the business model and lack knowledge of its revenue and cost drivers. Furthermore, the method catches seasonal effects (or the lack of such) which can be bothersome to predict. The actual regression might be interesting from a purely theoretical standpoint. It has been observed that many suggest a lowered tax rate in the bull case even though the company might be increasing its percentage of sales in the US - which has a higher tax rate. Regression poises a vital question: are the regressional outcomes coherent with the personal thesis of how the variables covary?

Edge over the market in small-cap stocks

Most smaller companies do not have several analysts covering and analyzing every detail. The management is usually sparse with rigorous information about the business. Analyzing revenue drivers as well as the cost base can be time-consuming. The regressional method has a general framework that can be applied to all companies, and leaves no space for creative speculations. In more mature companies with less extreme-values, regression is poised to deliver usefulness, regardless if the results are used or not.
Fishnet – Catching the assets in the net

Introduction

The fishnet® method was invented by CeGe von Reis who is known from being the editor of a finance debate site. The indicator is a perfect subject since it is often used wrongly.

As displayed down under we use a series of different moving averages to create the indicator, which creates a fishnet looking pattern, therefore the name.

Principally we use the indicator in three different ways: (1) Seeking formations; (2) Seeking supports and resistances; and (3) Structures.

What is a formation?

To create a formation the stock, commodity or any other asset has to change direction. When moving in the opposite direction of its former trend the fast moving averages follow the price action close up, while the slow paced ones fall behind. For example if an downwards trending currency reverse and starts trending upwards the fishnet starts to appear due to the fast moving averages. The fast moving ones then creates what is called the floor. As the currency keeps on trend the slower paced averages, which where what is called the roof in the downwards trend, moves closer together and starts level away creating a wedge. This is where the formation theory is used; in case the fast moving averages break through the slower ones and they start a diverging interval, the previous roof is converted in to a floor and a new trend is establishing. However if the moving averages does not start to converge it indicates that the trend is weakening and the previous trend is still intact. There are lots of formations in addition to the one explained, for example, if the price is close or inside a not converging wedge it indicates that there is no trend and low price action is to expect.

Supports, resistances and structures

If we turn our attention to the two charts presented down at the bottom are there a few good examples of how you can use fishnet to detect supports & resistances easily. In the bottom left chart at the beginning we see how the German index, DAX, broke its former upwards trend and started trending downwards. After a few days it regained the strength and started moving upwards again, creating a wedge with the slower paced moving averages as we spoke about in the previous part. As a reaction to price action the fast moving average moves up over the slower paced creating a thick area of moving averages, also know as the wedge. The more dense the wedge, the stronger the support is; also know as the structure. As shown in the chart the price goes down to the most dense area twice but bounce back at both occasions. The same rule applies to resistances as seen in the middle of the chart to the right.

What it all boils down to

In conclusion we have an all-around indicator using only moving averages. It provides us with areas where we have the best chance of getting a good entry as well as a good exit. In addition to the entry-exit help it provides us with a clear view of the assets momentum. With that said should you not entirely exclude other indicators, instead use it in combination with other, strengthening your conviction to enter a trade.