A New Breed of Oscillator

Monest Value Indicator – Part 1

Oscillators claim to bring a universal way of short-term valuation of any financial asset, pointing out overvalued situations, also called overbought prices, and moments of undervaluation, often called the oversold area. Classical oscillators do have their merits, but they all seem to struggle with the same ever-recurring disadvantages, which we will address in this articles series.

Oscillators

Anyone using technical analysis is familiar with the concept of an oscillator. An oscillator tries to capture a short-term valuation of its underlying series. Almost all classical oscillators like RSI, MACD, Stochastic, … fall into two categories. Range compression oscillators (like RSI) basically try to squeeze a price chart into a fixed range like [0, 100] or [-1,+1], while smoothing oscillators (like MACD) use moving averages to get rid of noise. In technical analysis though, none of these classical oscillators interprets the relative value of a stock, which accounts for almost all of their shortcomings.

Range compression oscillators, for one thing, just give you the same information you see when you squint your eyes looking at the original price chart. They also have a stickiness problem, meaning that as they try to fit trends of any length into the same narrow range, trends more often than not get compressed in the small oversold or overbought

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zones. This gives extended overbought or oversold signals, while the trend just marches on, making those signals as good as useless. Smoothing oscillators, moving averages being their primary building blocks, have the same lagging(°)* problems any good old fashioned moving average has.

To make things worse, they all need parameters which leave them open to a lot of subjectivity both in their usage as well as their interpretation. This also puts traders back testing these oscillators in harm's way, as they might fall victim to curve fitting. This lack of transparency is seen in the myriad ways they are used, while in fact they are often nothing more than a small, distorted, version of the original price chart.

Well, that was not such a nice description of one of the most popular families of indicators in technical analysis, now was it? This leaves us with the simple question: can we cope with the lag, stickiness and subjectivity, to come up with a better oscillator? The answer is yes and the solution to this problem of building such an oscillator lies in the statistics of what short-term value really is.

Universal Value

Value, and its relation to price, is a matter of future price gain. Future prices will emerge from what other people do after your order gets filled. Any transaction is an agreement over current price with a disagreement over future prices. Or as Buffett puts it: price is what you pay, value is what you get. If value for us is determined by future transactions, it cannot be known the moment we put in our order. Only afterwards will it become clear as the position starts showing us a profit or a loss.

Though future long-term value may be estimated by fundamental analysis, short-term future value depends mostly on the perception of those people closely watching the most recent price action. That is, people just having their order filled or wanting to put one in. Consensus and our perception of value, after all, originates from comparing things to each other. And previous prices are the closest thing to compare price with, both in time and in place (on a chart).

So we need to start building our oscillator on the premise of people changing their perception as prices change. First and foremost, when a higher candle is established with regards to the previous one, the perception of people close to the action, will be that the stock got more expensive. Now if it keeps going up, perception will change to too expensive and a gamblers fallacy

F1) Monest Value Indicator, MACD and RSI

In Figure 1 you can see the Monest Value Indicator next to the classic oscillators MACD and RSI. Rounded rectangles and circles show false positives, i.e. false or dubious signals. Rectangles show good signals (true positives). As a first exhibit it seems as if the Monest Value indicator has more accurate and sharper, i.e. clearer signals.

Source: www.chartmill.com

will kick in, making people believe the change of a down period goes higher the more up period´s they see.

Now suppose the stock became more expensive. Our oscillator should show a higher value. But what if, for the next two periods price stayed at this new higher level? Your first thought may be that the oscillator should stick to its level. In fact that is what many existing oscillators do. Perception though will shift to that of less expensive the longer prices stay at that higher level. So if a stock goes from nine to ten from one period to the next, it becomes more expensive and a good oscillator should peak. But as it stays at ten, the oscillator should start to drop, as ten becomes consensus, rather than expensive.

Just remember, we are talking short term here, a few days tops. But as we will see it is in this shorter time frame one can get really good entries to hop on board of a trend in a longer time frame.

Infobox

(°) Lag is the effect by which the oscillator turns after price does, just like moving averages do.

(†) One of the faulty assumptions on which for instance, Bollinger Bands are based.

Monest Value Indicator

So we want a short-term consensus about price to put price changes in perspective to that consensus. To obtain that goal we will use an idea from statistics where a normalisation process is used to obtain a standardised distribution. Here is why. First of all, absolute prices do not mean a thing. We have to look at their relation to recent prices. Secondly, different markets have different volatility. A price change of one implies a lot more volatility with a five dollar stock, than it does in the case of a 50 dollar stock. Furthermore price series on financial markets do not show normal distribution. So we have to look for a characteristic that is normally distributed if we want to use statistical analysis (†)*. Finally, we want our valuation model to behave as an oscillator but without the lag, the stickiness and without the subjectivity in both definition as well as interpretation.

First we establish a five day consensus as the five period moving average of the midrange of each period, i.e. (high+low)/2. Next we will offset all OHLC data to this five day consensus line. We do this by subtracting the consensus value from the open, high, low and close, giving us an new open, high, low and close with the same relative position but, this time, around a straight zero consensus line. Picture it this way: imagine we pull both ends of the consensus line, which is meandering through prices (figure 2-1), and stretch it to a straight line, while all candles keep their relative position to this line (figure 2-2). Finally we will divide all consensus adapted OHLC data by a five day moving average of the true range, divided by five, to account for volatility (figure 2-3). Figure 2 shows this process in two steps. From the original candlestick chart (1) to the standardisation in two steps (2 and 3). The close on the result of the final step is the eventual Monest Value Indicator (MVI).

True Range

The true range mentioned above is nothing more than the daily range, adjusted for gaps. It is the difference between the true high and the true low. The true high being the largest of the current bar's high and the previous bar's close. The true low, in the same way, is calculated as the lowest of the current bar's low and the previous bar's close. It comes down to the original true range of Welles Wilder, but a bit easier formulated (I think). The volatility used in the standardisation process is the five day simple moving average of this true range. More commonly called the five bar average true range.

F2) Construction of Monest Value Indicator

Figure 2 shows the construction of the MVI in two steps. First standardising towards consensus (flattening the chart), next normalising the chart for dispersion.

Source: www.chartmill.com