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Technical Analysis: Does it Really Work? How Do You Know?

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Invest **Rationally**, Not **Rashly**

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In a daily barrage of new “information” portfolio managers are often forced to make a large number of fast decisions with incomplete knowledge.

- "Big sell-off in the largest portfolio holding: is it temporary? Do we hold? Add?"
- "The government just announcement a new fiscal package: is that good for our allocations? They are rallying!"
- "Yield curve has inverted, signaling a recession. But my economist says activity is picking up. If they're wrong, what is my downside risk?"

A lot of investors rely on Technical Analysis – rather than studying fundamentals of the business - to answer many of these questions. What is technical analysis?

- Unlike fundamental analysis, which attempts to evaluate a security's value based on business results such as sales and earnings, Technical Analysis focuses on the study of price and volume
- It helps traders and investors navigate the gap between intrinsic value and market price by leveraging techniques like statistical analysis and behavioral economics
- Many investors rely on both technical and fundamental analysis for their investment decisions

Technical Analysis is a broad field that includes studying chart patterns, volume, price action etc. Some of the more popular indicators

1. **On-Balance Volume (OBV)** is used to measure the positive and negative flow of volume in a security over time. Up volume is how much volume there is on a day when the price rallied. Down volume is the volume on a day when the price falls. When OBV is rising, it shows that buyers are willing to step in and push the price higher. When OBV is falling, the selling volume is outpacing buying volume, which indicates lower prices. In this way, it acts like a trend confirmation tool.
2. **The Moving Average Convergence Divergence (MACD)** indicator helps traders see the trend direction, as well as the momentum of that trend. It also provide a number of trade signals. When the MACD is above zero, the price is in an upward phase. If the MACD is below zero, it has entered a bearish period.

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1. **Stochastic Oscillator** is an indicator that measures the current price relative to the price range over a number of periods. Plotted between zero and 100, the idea is that, when the trend is up, the price should be making new highs. In a downtrend, the price tends to make new lows. The stochastic tracks whether this is happening.
2. **Chart patterns** like H&S, rising wedge and other formations are used to divine future price movements
3. **The relative strength index (RSI)** is a momentum indicator used in technical analysis that measures the magnitude of recent price changes to evaluate overbought or oversold conditions in the price of a stock or other asset. The RSI is displayed as an oscillator (a line graph that moves between two extremes) and can have a reading from 0 to 100.

Pitfalls of the TA approach



While extremely popular with both experienced and novice investors, Technical Analysis requires substantial commitment of time and resources:

- Testing each indicator to see whether it works for the asset you are considering is time consuming and requires access to a long time series of data
- Following several indicators across a range of assets can be impractical for most individual investors

AI = Augmented Intelligence



Human intelligence is very good at strategy (the “big picture”) but AI can be helpful with the tactics (the “details”) and the numbers.

AI can crunch the numbers instantly and alert the investor to developing patterns. More than that, it's able to provide the full analysis of how impactful a particular driver has been historically (does the “Death Cross” really work for this stock?), giving the investor dramatically improved confidence to act.

TOGGLE will highlight a particular pattern ...

VIS:ARCA - Upward MACD Cross in VIS ETF: price to increase 3% as the 10D Moving Average just crossed above the 200D one

by Toggle A.I. Aug-12-2021

Technical Analysis indicators for **VIS ETF** crossed above 0. Historically, this led to a median increase in **VIS ETF** price of **3% over the following 1M**, as shown in the chart below. TOGGLE analyzed **24** similar occasions in the past to produce the median projection and the confidence band below [\(How do you do this?\)](#), most recently on **2021-08-11**. This insight received 7 out of 8 stars [\(What are stars?\)](#) in our quality assessment.



Testing patterns



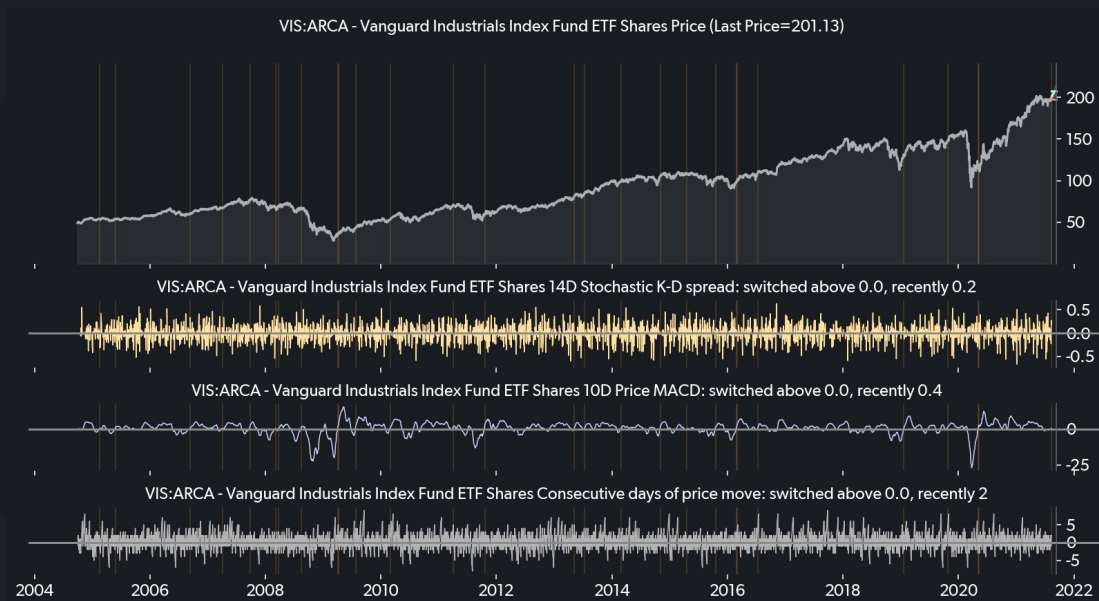
... and test it

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	1W	2W	1M	3M	6M
Median	0.48%	2.00%	3.22%	5.70%	7.66%
Hit Ratio	66.67%	88.24%	83.33%	79.17%	61.90%

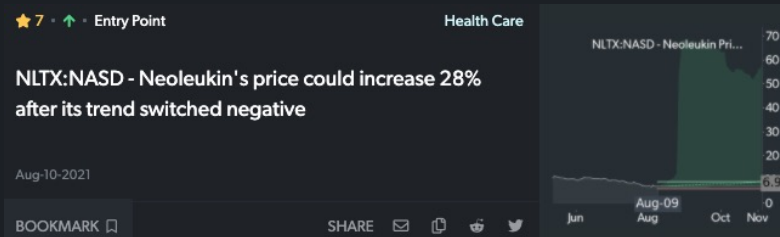
TOGGLE found **1M** to be the optimal trade horizon for this driver, after testing a range of possible alternatives. To find the optimal one, it examined the magnitude and accuracy of actual returns, also known as the Hit Ratio (What is the Hit Ratio?). The best trade horizon combines an attractive return profile with historical accuracy of the prediction.



TOGGLE acts as an extra set of eyes



It will keep an eye on developments across a range of Technical indicators, over 30,000 assets ...



Source: Toggle

Custom testing bench



TOGGLE Pro also offers a data science workbench where you can test your own patterns and indicators.



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