

STOCK-CHART

COMPARE STOCKS AND ETF URL <http://84.228.164.65:3000>

Stock-chart is used to compare stocks and ETF in American stock market NYSE and NASDAQ. The tool is designed for long term investors.

USAGE AND TESTING INSTRUCTIONS

- Load URL to browser <http://84.228.164.65:3000>
First time users, a sample list of stocks will be loaded .
- Press **<fill_gain_info>** to fill gain and info, which other users shared through Firebase.
The information may be old. Check the columns info_date & gain_date
- Press **<info>** button, to bring overview data from AlphVantage.co (Not for ETF)
- Press **<gain>** button, to bring gain data from AlphVantage.co. Pressing **<gain>** draws a chart. Gain == 2 means 100% price increase.
- Hide/Display columns by selecting or deselecting check boxes at the top
- Sort a column by pressing the column title. Second press will reverse order.
- Press **** to delete a stock symbol
- Add a stock or ETF symbol, and press **<Add>**
- **<Show-stocks-compared-to-QQQ>**
- Global Search/filter string. Show only rows that contain the text.
- Persistence: Press **<save-data>** button. Then close the browser tab, and reload again. Verify same data.
- The chart uses Plotly library. It allows zooming, and revert zoom.
- Manual: check the **<Manual>** checkbox at the bottom.
- **<Drop-Recovery>** see below

CHART

Each pressing of **<gain>** will draw a chart of the symbol, of the last 22 years based on weekly opening price. Chart resulted from guessed splits will be **purple**, otherwise **green**. (No guessing)

<chart> checkbox allows to hide/show chart of a stock or ETF

ALPHAVANTAGE.CO RAW DATA (GAIN AND INFO) SOURCE

The tool gets the raw data from AlphVantage.co API. The user needs to get his own <key> from AlphVatage.co site. The key should be entered in the **<config>** pan. Otherwise you are sharing my key.

Free key allows **5** API calls per minute, and **500** per day. Please get your own <key> from AlphVatage.co site.

<StockInfo> checkbox show raw info data

ALPHAVANTAGE.CO API GAIN PITFALL

Before relying on the tool, the user MUST compare the values with other providers like, google finance, or finance.yahoo.com

Market info retrieved through AlphaVantage.co API. The API provides nominal stock historical prices and ignores splits and reverse-splits, and provide nominal stock or ETF price. The tool tries to guess splits by looking into sharp falls, or sharp rise. The button **<calc-splits>** allows to bypass these calculations. And get raw prices

The guessed splits column, can be shown by checkbox **<splits_list>** Purple chart means splits discovered, and chart and gain value manipulated. Green chart means no split calculations.

DROP-RECOVERY

The tool analyses stock drop during market drop. Shows drop-level, and stock recovery duration in weeks t. The tool is valid only during an overall bull market, with some bear periods. The tool is limited to 22 years because of AlphaVantage data.

Steps:

- Open Drop-Recovery pan, by pressing **<Drop-Recovery>** check box.
- Choose a date range of the drop (Or big correction)
- The tool turns on 3 related columns:
 - Drop: how low did the stock drop from highest price before drop. (0.7 means a drop of 30%)
 - Recover week: how many weeks it took to reach the pre correction stock price.
 - Drop bottom week date approximation.
- Press the **<gain>** button of some stocks.
- Algorithm
 - Search for the lowest price within selected dates
 - Search for highest price before correction
 - Search for recovery duration in weeks
 - Calculate drop, and recovery duration.

Default dates are: 2008 market drop, and Mar 2020 market drop.

Press **<swap_2008_or_2020>** to swap between 2 correction periods.

SHOW-STOCKS-COMPARED-WITH-QQQ

Press **<Show-stocks-compared-to-QQQ>** button to show a list of stocks and ETF that had a yearly gain equivalent or better than QQQ, the list is retrieved from shared database (firebase), that other users examined **<gain>** and **<info>**

The bench mark for comparison is QQQ ETF, NASDAQ hi-tech average. User should hold only stocks that perform better than QQQ, or invest in QQQ. The columns: wk, mon, 3mon, yr, 2yr, 5yr, 10r, shows the gain proportion. A gain of 2, means the stock price doubled during that period. Other fields can be found on google.

<FILL-STOCKS-COMPARED-WITH-QQQ>

Press **<Fill-stocks-compared-to-QQQ>** button to insert in table stocks and ETF that are equivalent or better than QQQ

BACKEND DATABASE (FIREBASE). SHARE INFO BETWEEN USERS

The tool stores gain and info data in a global database, to be shared with other users. This data is used to fill gain and info in the table.

PERSISTENCE

The tool saves the table data in local-storage, for next session.

TABLE FIELDS

Symbol: ticker of stock of a company or ETF

Exchange: NASDAQ or NYSE

Industry: Services / Electronic/ Medical / Biological / Computers/ Pharma

PE: Stock price / Yearly earning per stock

PE(F):

PE(TTM): PE of Trailing 12 Months

PEG: PE / Yearly earnings growth

Div: Yearly dividend per stock / Atock _price (0.05 means the that for \$100 worth of stocks, you get \$1)

BETA: fluctuation compared with other stocks of same industry (0.8 means less volatile than average)

EV/EBITDA: Enterprise value (Current Market Cap + Debt + Minority Interest + preferred shares – cash) / (earnings before interest, taxes, depreciation, and amortization)

EV/Revenue: Enterprise value / yearly revenue

PriceToBook: Company valuation / Book value.

Target: Analysts expected price / actual price

Wk (Week), **2wk**, **Mon** (Month), **2Mon**, **6Mon**, **yr**(year), Latest_price / old price (week /mon/year) Ago)

Splits: a flag that shows if splits were calculated. To see raw gain data (turn off <calc_splits> to prevent splits guessing), (Calculated when <gain> pressed)

Split_list: guessed split list of splits or reversed splits. (Assumed because of sudden value change)

Info_date: Date when info retrieved (<info> button pressed)

Gain_date: Date when gain retrieved (<gain> button pressed)

Drop: Lowest price during drop / highest price before drop (Calculated when <gain> pressed)

RecoveryWeek: number of weeks to reach price before drop

Drop_date: estimated week of lowest price.

PLATFORMS

The tool was tested on some browsers (Chromium, Firefox, Opera, and Microsoft Edge)

Preferred platform is desktop, laptop, or tablet. Not recommended for smartphone

USED PACKAGES

The tool is built on top of JavaScript, React.JS library, react-table, Plotly, react-datepicker, Firebase, Redux

BUG REPORT AND ENHANCEMENTS

The tool was developed by Eli Shagam, Please send any bug report, or enhancement request to eli.shagam@gmail.com