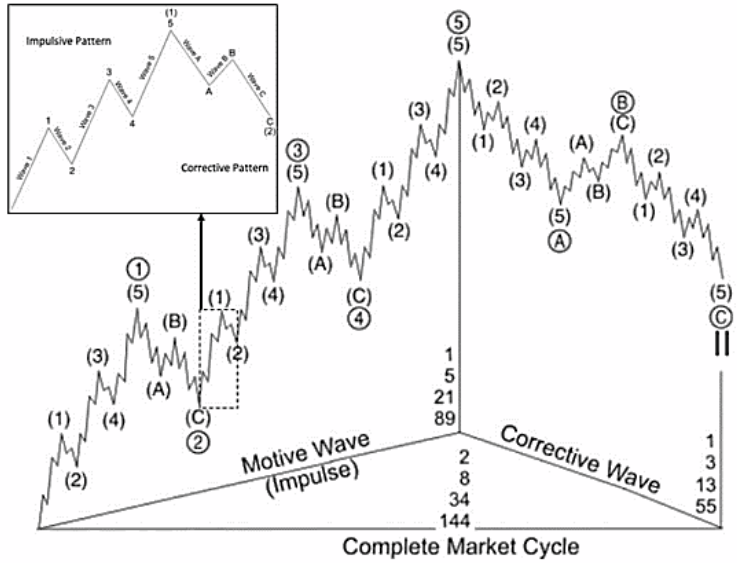
Where do I begin?

A lot of different analysis options

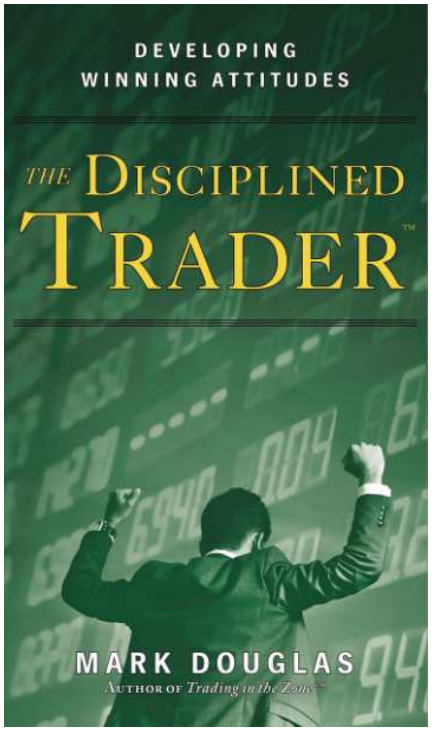
- Chart analysis:
  - Figures
  - Indicators

- Elliot Waves



More options for stock investment:

- Psycology based strategies



- Other

VOLUME ANALYSIS

- Let’s study volume trends
- Generated by biggest market players (funds, investment banks) changing their portfolio/investing more money
- Focus on sectors, not specific companies
- Thinking in the medium-term

BASICS

- ✓ Analysis of volumes by sector
- ✓ Quartely base (period)
- ✓ Search for abnormal increments in volume in the current quarter

HYPOTHESIS TO TEST

- Check if there is a relationship between volume in the current quarter and profitability (price) in the next quarter.

TARGET

- Beat the market (perform better than the index)
- But not trying to predict the future

S&P500. Most important index in the world

- 500 companies listed
- Each company have a weight in the index (and it varies, it's not fixed)

Components of the S&P 500

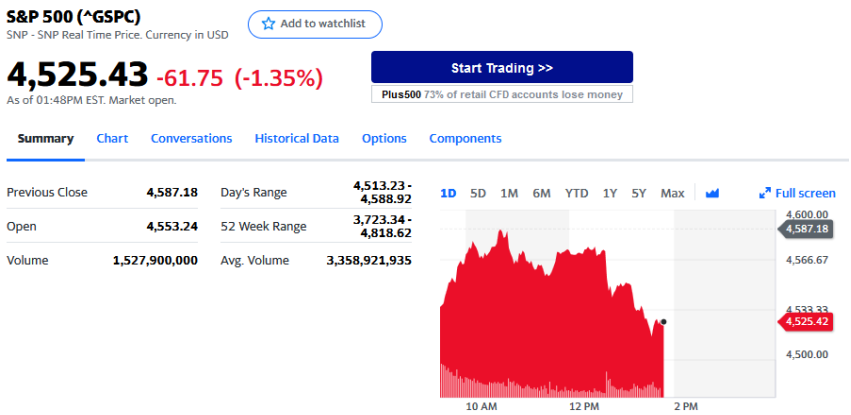
#	Company	Symbol	Weight	Price
1	Apple Inc.	AAPL	7.073341	173.31
2	Microsoft Corporation	MSFT	6.015558	302.94
3	Amazon.com Inc.	AMZN	3.619725	3,182.90
4	Alphabet Inc. Class A	GOOGL	2.193055	2,783.36
5	Alphabet Inc. Class C	GOOG	2.036688	2,783.24
6	Tesla Inc	TSLA	1.95194	918.19
7	NVIDIA Corporation	NVDA	1.718835	262.66
8	Berkshire Hathaway Inc. Class B	BRK.B	1.519935	319.25
9	Meta Platforms Inc. Class A	FB	1.41331	229.56
10	UnitedHealth Group Incorporated	UNH	1.207806	488.58

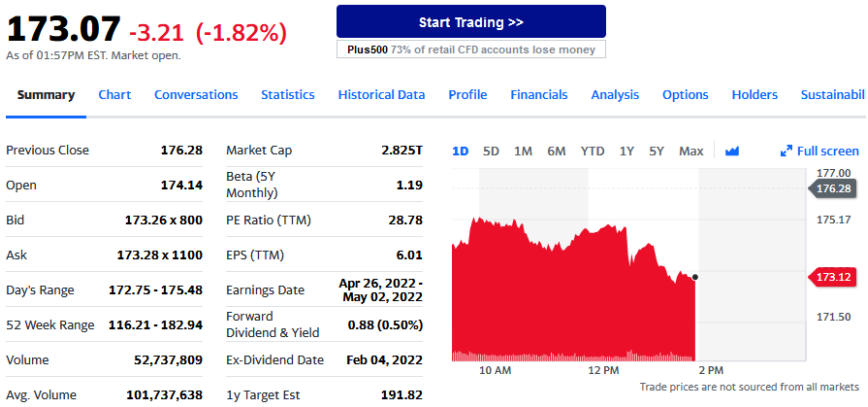
Volume and markets

Billions of shares are traded in the stock markets everyday

Let’s try to follow the money:

Effective = volume x price





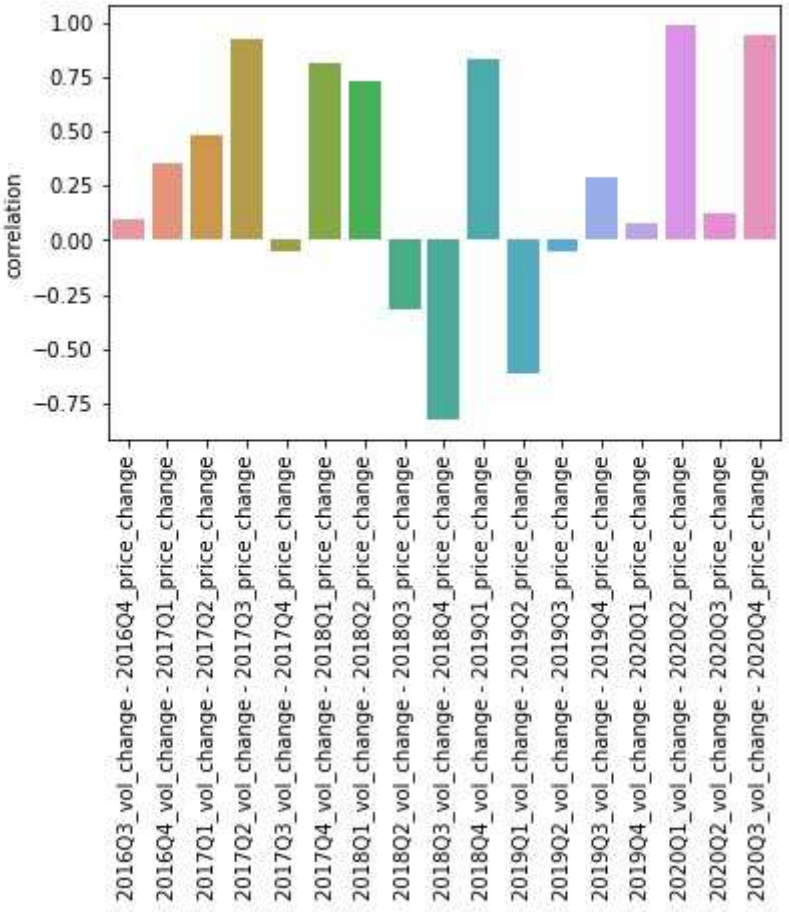
DATA AVAILABLE

- Tons of sources of quotes, but only few of quality for free.
- Most of them require API's.
- File of 5 years quotes from Kaggle (not a primary source).

CORRELATION BETWEEN QUARTERS

- Checking change in volume during current quarter and price increase/decrease for the next quarter.

- Enought data to compare 17 quarters



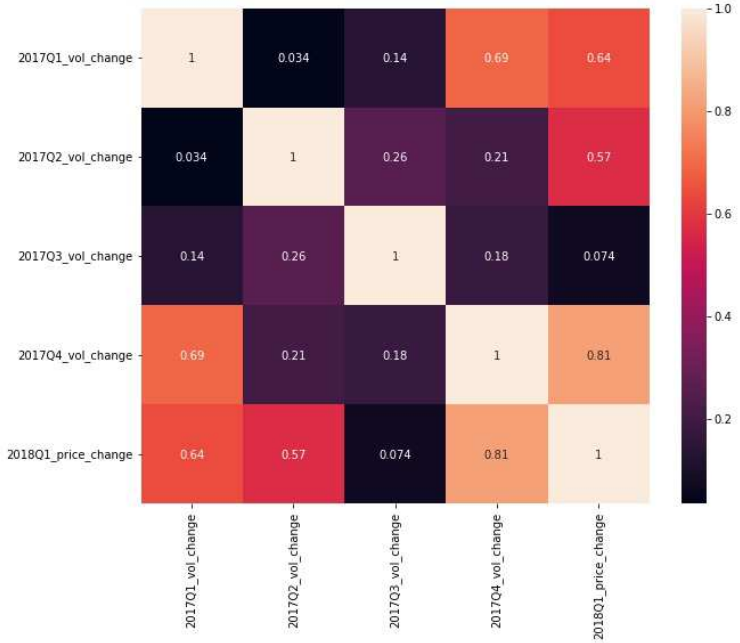
Results:

- High variability
- Correlation Mean: 0.26
- Frecuently positive correlation (12 out 17)

Linear regression: using 4 quarters in a year to predict 1st quarter of next year (target)

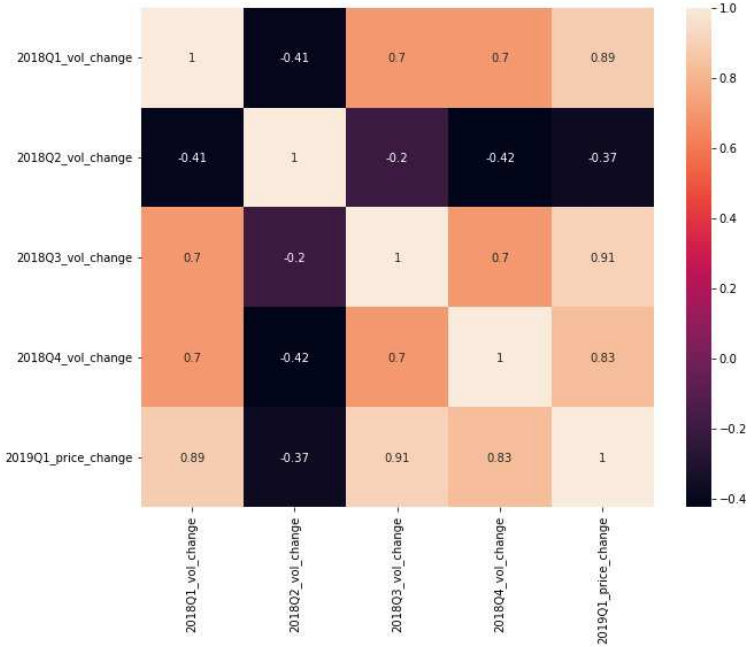
1st Quarter 2018

- R2_square: 0,921



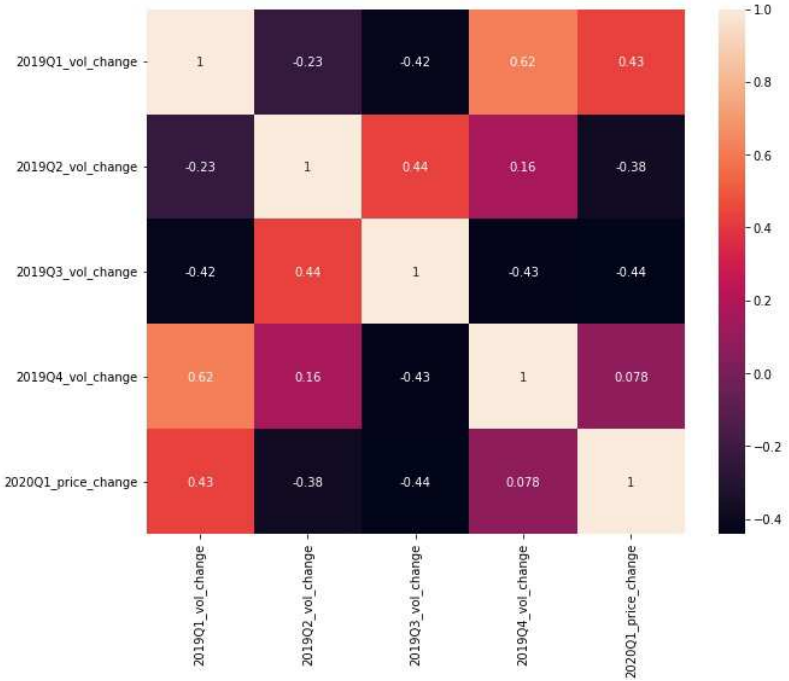
1st Quarter 2019

- R2_square: 0,986



Wait!

- 1st Quarter 2020
- R2_square: 0,499



CONCLUSIONS

- Time frame (2016-2020) with important bias (bullish market, and IT sector soaring)
- No evidence that we can forecast what sectors will perform better in future. Needed a wider time frame (more data!)
- Concerns about what weight should be applied to get the best results (not enought time for tests!)
- As seen, an investment method based on this hypothesis can give good results, but with higher risk (all eggs in the same bag)

If things go different as expected, always better to have a “B” plan