

DATA VISUALIZATION FINAL PROJECT

Impact of COVID 19 on Various Industry Valuations in a Pre-COVID vs
Post-COVID Environment

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Introduction

- Visualizing the market cap of various indices from 2017–present (i.e. DOW, S&P, Russel)
- Selecting individual stocks of business models impacted during COVID
- Compare the valuations of these industries post-COVID to their value pre-COVID.
- Relate the valuation of high, low, or regularly performing industries

Who are the users and how they use this ?

- Academic Researchers & Economists
- Ranking Agency
- Investment Banks
- Investors
- Government, United Nation & World Bank
- Students

Data Source

- Google Finance
- Data Hub
- Kaggle
- The Databank of the World bank
- UN Data
- GBD Results

Airline Industry

Hypothesis: The travel industry was hugely impacted by the COVID norms across the world. The reduced flight operations should impact the market capitalization/stock price seeing a downward trend.

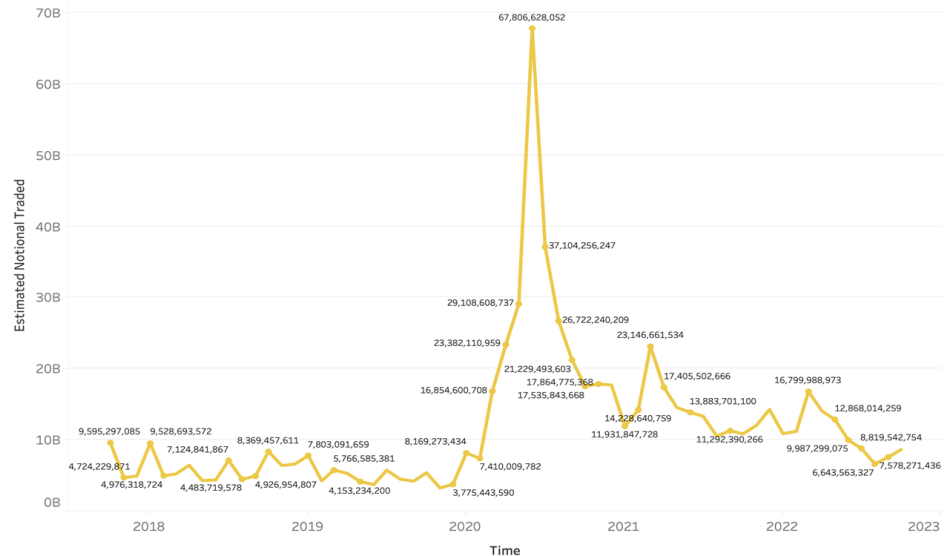
Background:

We believe that due to the COVID outbreak since 2020, each country has restricted traveling to reduce the infection rate.

Initial Analysis:

We shortlisted United Airline first but we found an interesting surge in June 2020, which was just half year past the breakout of COVID in the beginning of 2020

UAL Stock Performance From 2017.11 - 2022.10

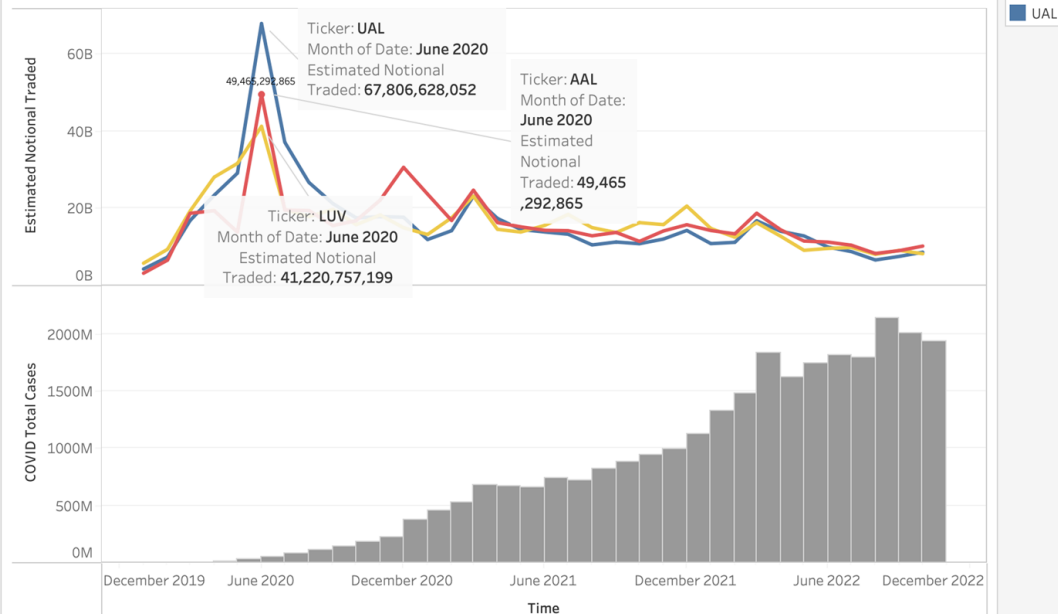


Airline Industry

Secondary Analysis:

- Introduced more major airline companies in the States: American Airline and Southwest Airline
- Same pattern existed as United Airline
- According to the online source: "It is simply the market responding to an excess of demand over supply."

UAL/AAL/LUV Stock Performance From 2017.11 - 2022.10 vs. COVID Total Cases in U.S. From 2020.1 - 2022.11

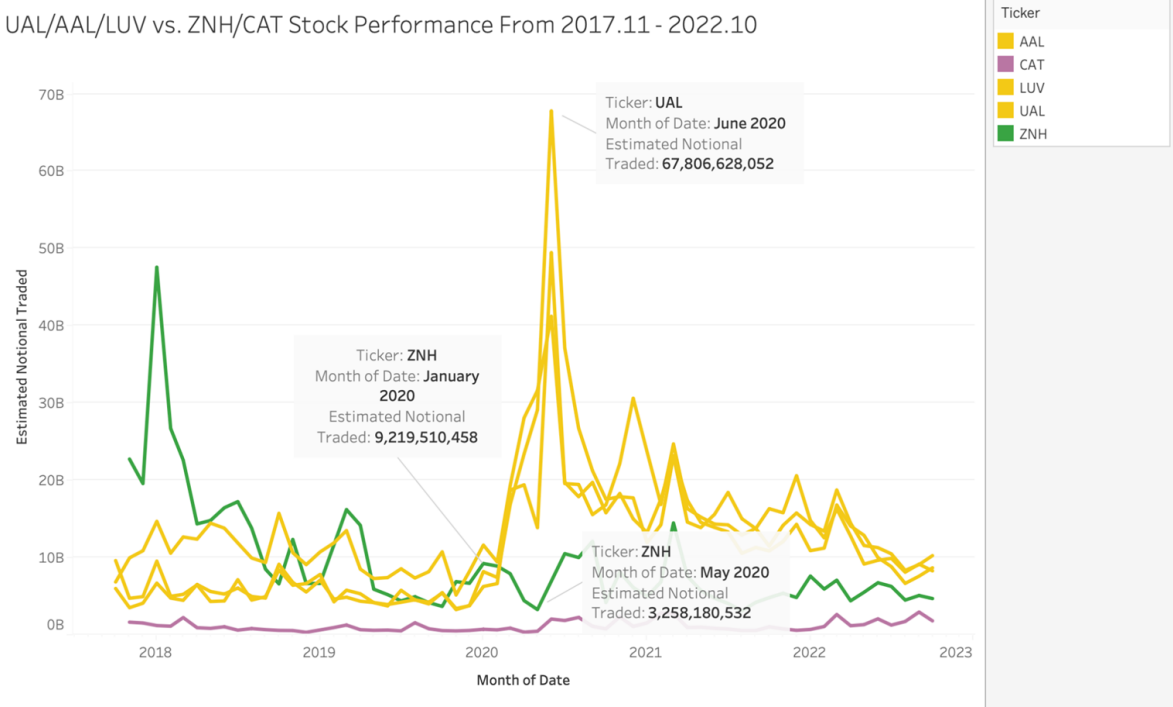


Airline Industry

Further Analysis:

- Tested out asian airline industry by introducing 2 major airlines: China Southern Airline from Mainland China and Cathay Pacific Airline from Hong Kong.
- Different stock walk compared to American airlines stocks.

UAL/AAL/LUV vs. ZNH/CAT Stock Performance From 2017.11 - 2022.10

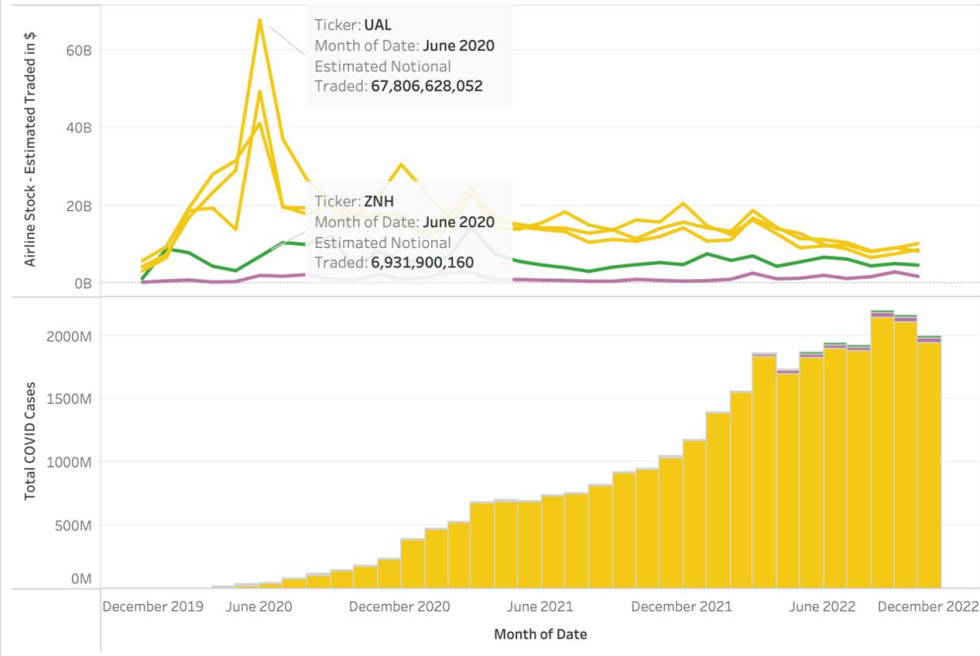


Airline Industry

Result:

- Airline industry didn't appear as dramatically impacted as we predicted
- Reasons of that might contribute to:
 - Different COVID policies in different countries
 - Optimism after pandemic
 - Excess demand over supply during pandemic (airfare price soared)
 - Less variance in well-established airline companies, etc.

Airline Stock Performance vs. COVID Cases in U.S. and China



Online Entertainment Industry

- Change in Consumer behaviour towards online streaming services during pandemic
- Our belief - online entertainment saw surge in usage
- Data to support this hypothesis
- Increase in Disney & Netflix's stock prices during 2020 till end of 2021



Online Entertainment Industry

- Netflix Stock Price trend
- Disney Stock Price trend

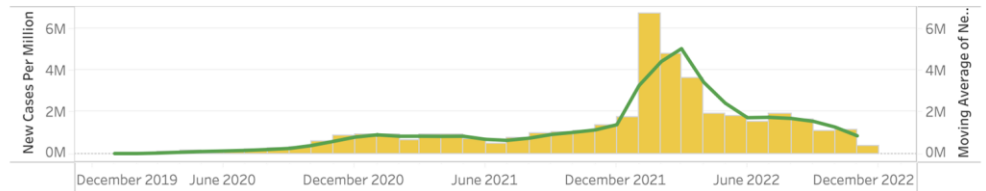
Netflix Stock Price



Disney Stock Price



COVID New Cases



Pharma/Healthcare Industry

Hypothesis: This sector was a top performer and saw steep growth in the post-COVID times

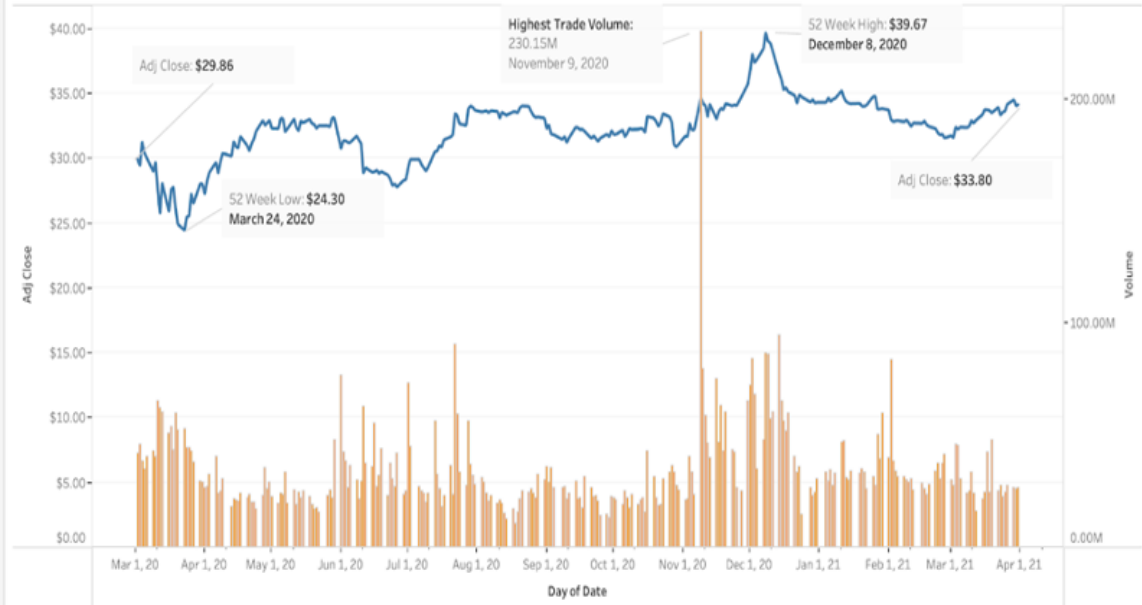
Background:

Vaccine development and distribution.

Analysis:

PFE had 13.19% YoY growth in the stock price and had a 52-week high in Q4 2020, during which a vaccine release from Pfizer was highly anticipated.

Pfizer (PFE) Closing Price & Volume - 13.19% YoY Growth
March 2, 2020 to March 31, 2021



Pharma/Healthcare Industry

Background:

Increased global demand for medicines for treatment of COVID-19 and its after-effects

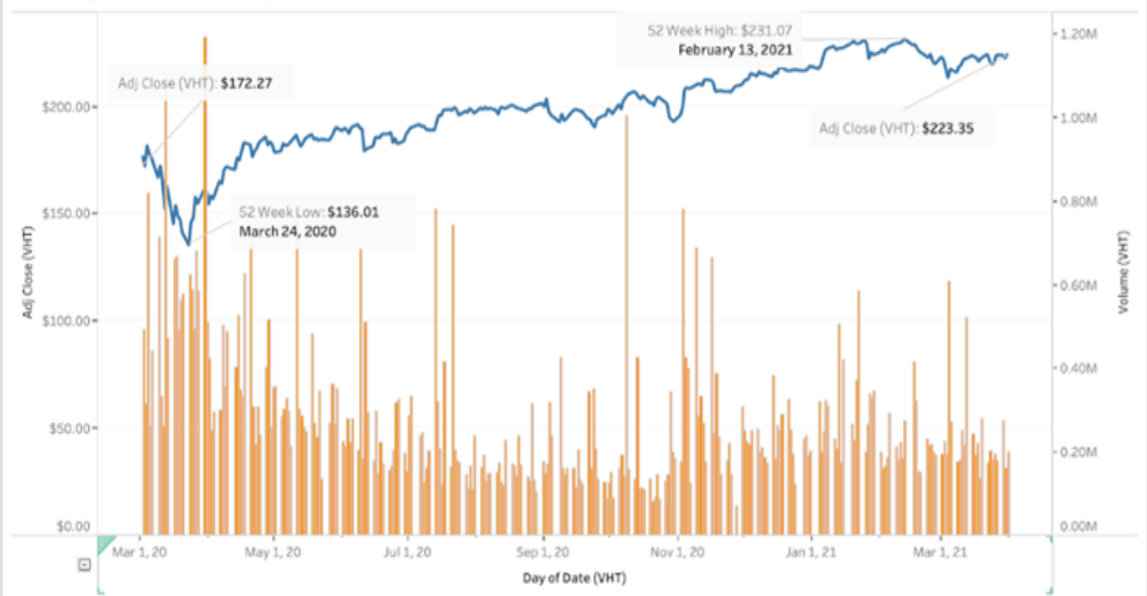
Analysis:

Vanguard HealthCare Index holdings of major pharmaceutical companies saw a YoY growth of 29.65% and had a 52-week high in Q1 2021

Result:

The pharma sector has emerged to be in the top 5 sectors in the world economy when it comes to post-pandemic (Early 2021) performance

Vanguard Health Care (VHT) Closing Price & Volume - 29.65% YoY Growth
March 2, 2020 to March 31, 2021



Key Takeaways

- Unprecedented spike in trade volume in key industries
- Online entertainment industry spiked during COVID but the effects were not consistent in long run
- The Health industry maintained its positive momentum

Future Investigation

- Expand the scope of companies included
- Expand scope of industries considered
- Extend the investigation years beyond COVID
- Include additional market-shifting events