

US Stock Market

COVID-19: Which Sectors Were Bulls? Which Were Bears?

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Sources / Datasets



World Health
Organization

Objective & Questions

Objective:

To gather a macrocosmic, financial understanding of the initial and continued impact of the COVID-19 pandemic, we are looking at how this international virus outbreak has affected the Healthcare, Banking, Information, Real Estate, and Energy Sectors.

Questions for each sector:

What are the effects of the pandemic on the sector as a whole?

How did companies performed through each COVID-19 wave and beyond?

Why did this sector perform the way it did through each wave and beyond?

Sector 1: Information Technology

MSFT: Microsoft Corporation

TSM: Taiwan Semiconductor Manufacturing Company Limited

AVGO: Broadcom Inc.

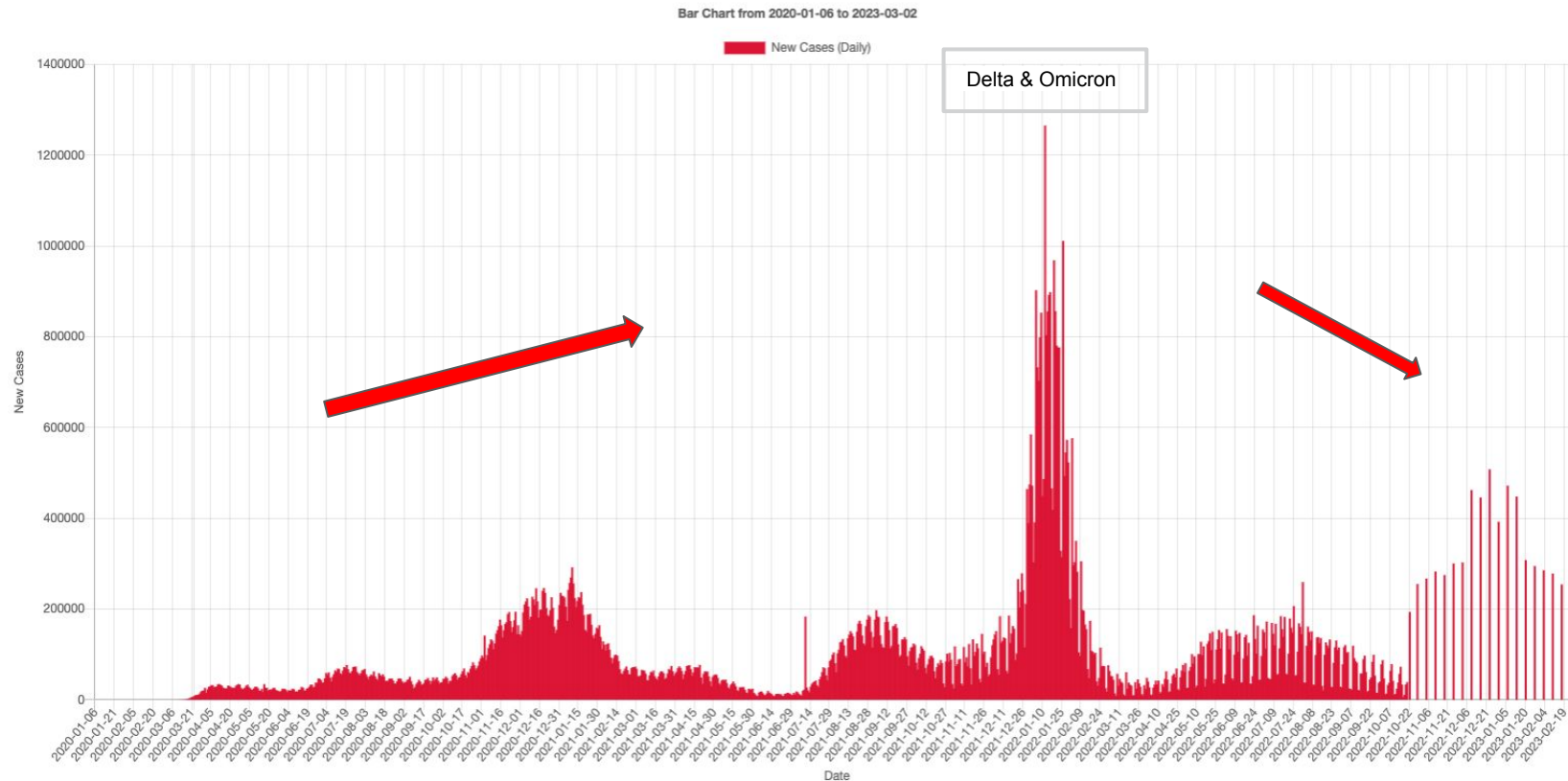
AAPL: Apple Inc.

NVDA: NVIDIA Corporation

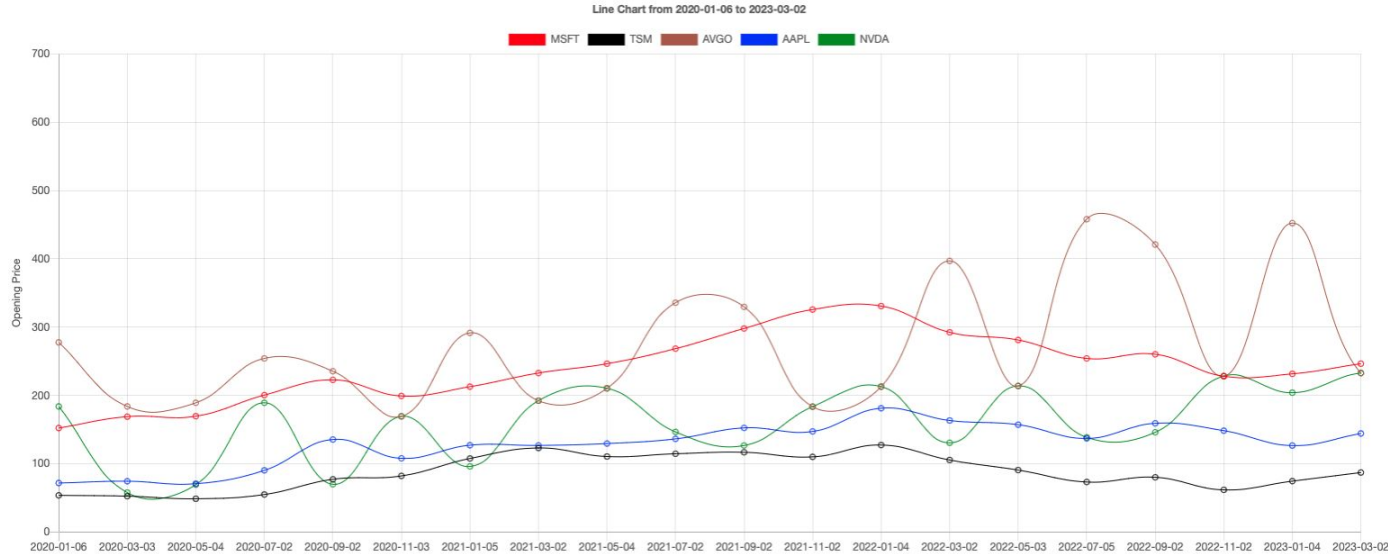
Sector 1: Information Technology

US COVID-19 New Cases

2020-01-06 ▾ 2023-03-02 ▾



Sector 1: Information Technology (past)



Value trending up

- AVGO & NVDA

Start of 2022 plateauing
or decreasing value

- MSFT, AAPL & TSMC

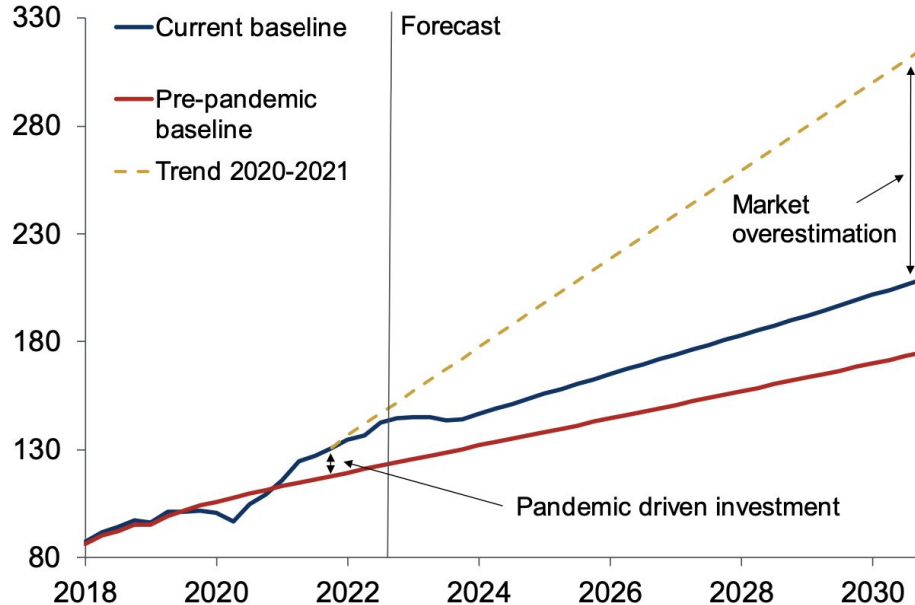
Summary Statistics

Statistic	IT	MSFT	TSM	AVGO	AAPL	NVDA	COVID-19 New Cases
Max	637.64	330.89	127.44	637.64	181.30	302.44	1265520.00
Min	48.81	152.33	48.81	169.47	70.88	57.87	0.00
Mean	211.11	241.21	87.09	321.79	129.45	182.91	88558.65
Median	154.86	239.67	84.73	234.19	136.00	198.33	51688.50
Mode	48.81	152.33	48.81	169.47	70.88	57.87	0.00
Range	588.82	178.56	78.63	468.16	110.42	244.57	1265520.00
Standard Deviation	139.86	46.34	24.86	141.00	36.71	52.19	127589.44

Sector 1: Information Technology (future)

US: IT programming, consultancy & information services gross output

2019 = 100



Source : Oxford Economics/Haver Analytics

Source: Oxford Economics

- Overestimation of **\$120 billion** by 2030
- Widespread **layoffs** by Meta, Amazon, Google and others
- talks of increasing **inflation rates**

Sector 2: Real Estate



Equinix = Data Centers

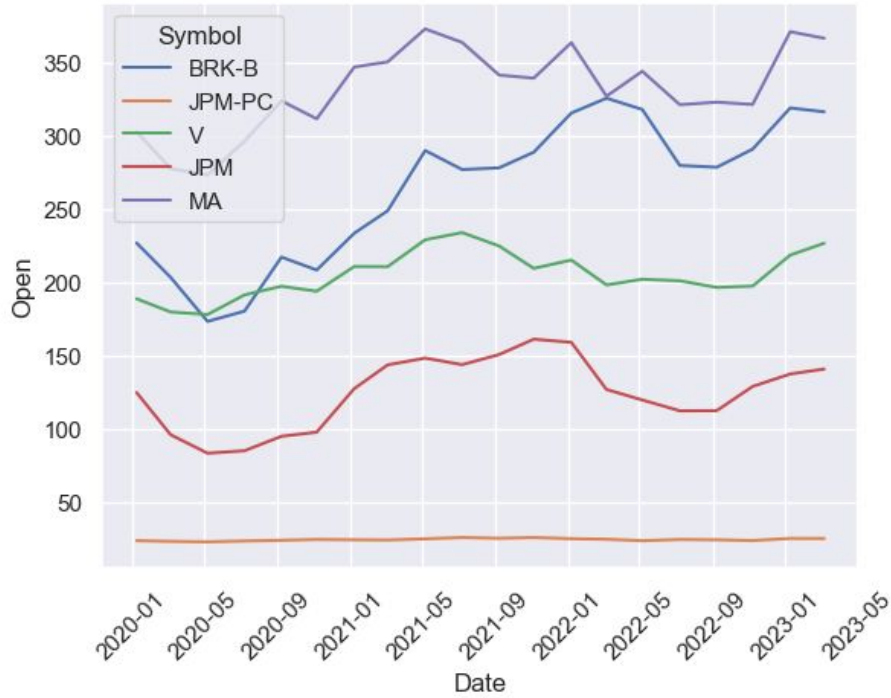
Prologis = Logistics

American Tower = Wireless and Broadband

Crown Castle = Wireless and Broadband

Public Storage = Public Storage Facilities

Sector 3: Banking (Finance)



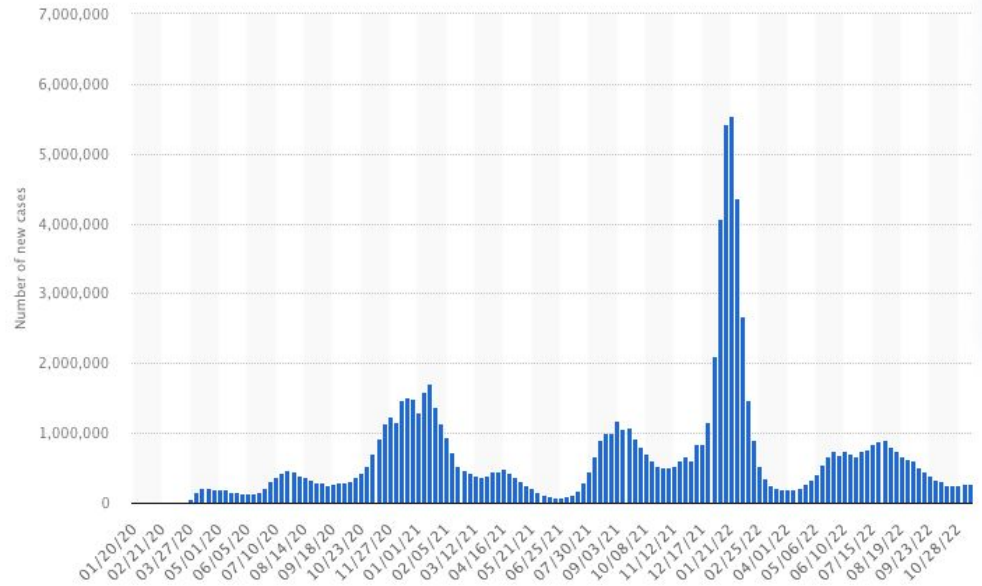
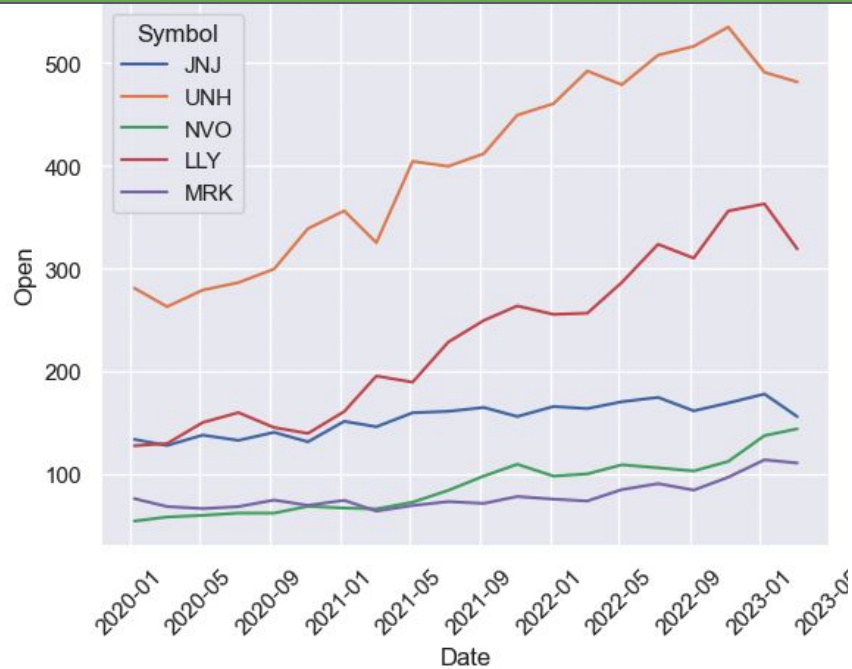
Berkshire Hathaway = Investment

JPMorgan Chase = Integrated

Visa = Payment Processing

Mastercard = Payment Processing

Sector 4: Healthcare (Overall View)



COVID provided growth and expansion in healthcare industries → Increase in demand of certain medical products or services.

- COVID Vaccines
- Increase in demand of medical products or services
- Increase in use of Telemedicine services

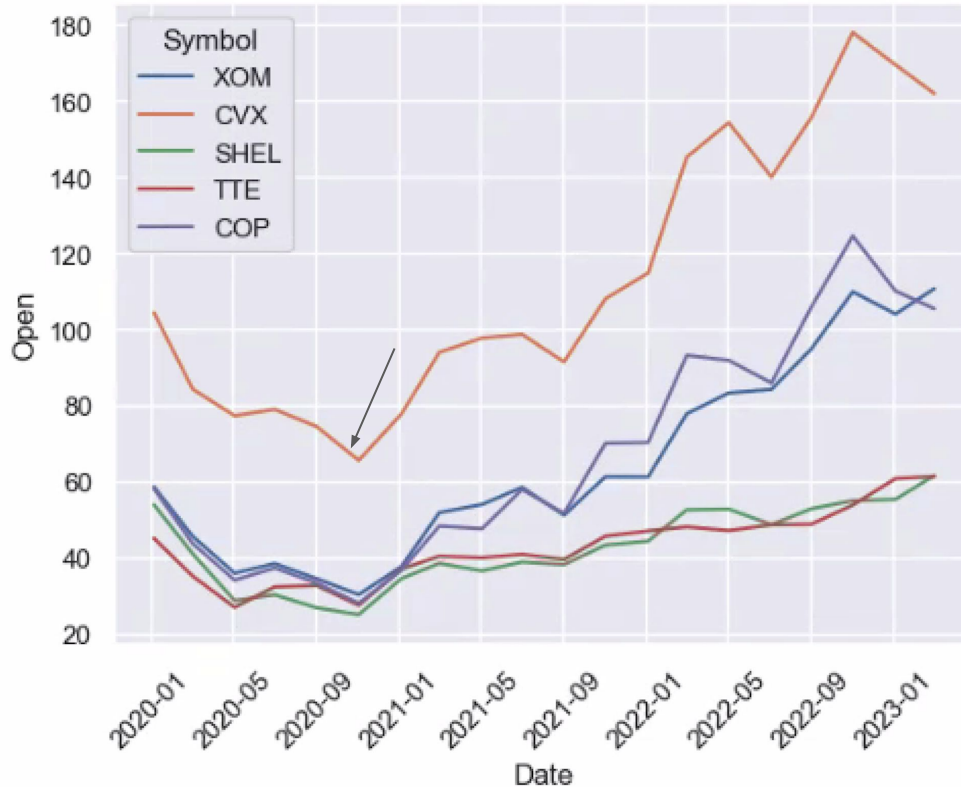
Sector 4: Healthcare UNH



UnitedHealth Group is a health insurance and healthcare services company

- Jan 2021 to 2021 March, their stock **dropped by 10%**, financial earning report 2020
- Due to increase in interest rate and other factors, the stock price **dropped from end of 2022 to now**.
- Overall is growing by **72%** from Jan 2020 to now

Sector 5: Energy



CVX =Chevron Corporation (Oil & Gas)

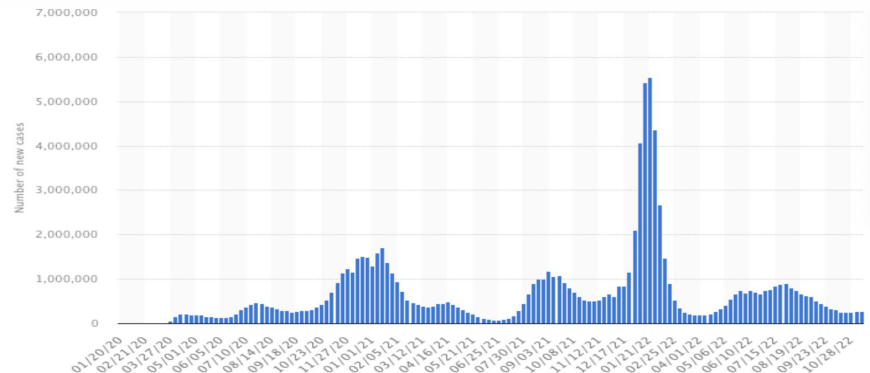
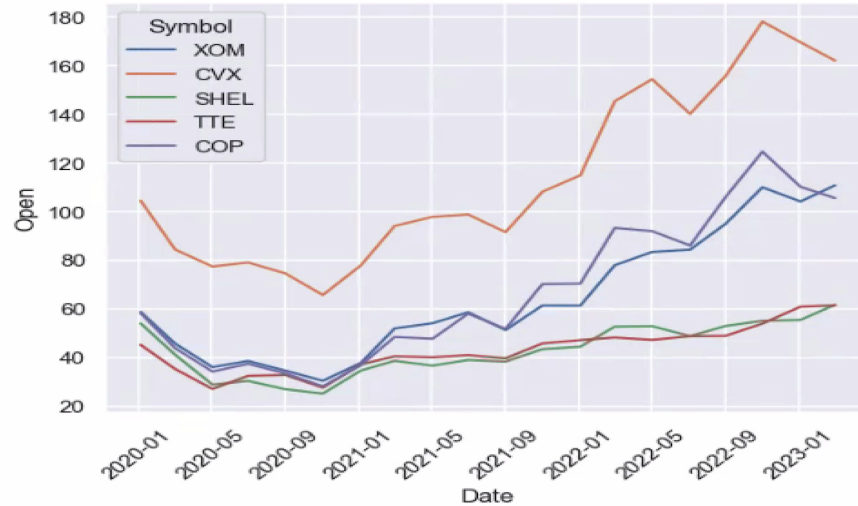
COP =ConocoPhillips (Oil & Gas)

XOM =ExxonMobil Corporation (Oil & Gas)

SHEL =Shell (Oil & Gas)

TTE =TotalEnergies (Integrated Energy)

Sector 5: Energy



Conclusion

- COVID-19 had a significant impact on global financial markets and stock sectors.
- The Information Technology sector saw significant gains due to a surge in demand for remote communication and digital services.
- Real estate stocks faced challenges resulting in declines for many real estate investment trusts.
- Healthcare stocks were relatively resilient, and the energy sector faced significant challenges as demand for oil and gas plummeted.

- **Python** using pandas: Extract data from yfinance (500 data points) and WHO API (+1000 data points)
- **pgAdmin 4**: Load data into database with
- **Flask API**: local host data in json format for use
- **Javascript, HTML, CSS**: extract json data from API and local host
visualize data

Thank You!

The end