

THE CORONA VIRUS PANDEMIC & IMPACT ON THE STOCK MARKET

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INTRODUCTION:

- **CORONAVIRUS**

- SPREADING VISUALIZATION

- The update-to-date data from Kaggle is used for this project with automate downloading daily latest datasets using Kaggle API.*

- IMPACTS ON THE ECONOMY & THE STOCK MARKET

- **OPPORTUNITY FOR INVESTORS**

- CORRELATION BETWEEN SOME HIGH TECH STOCKS

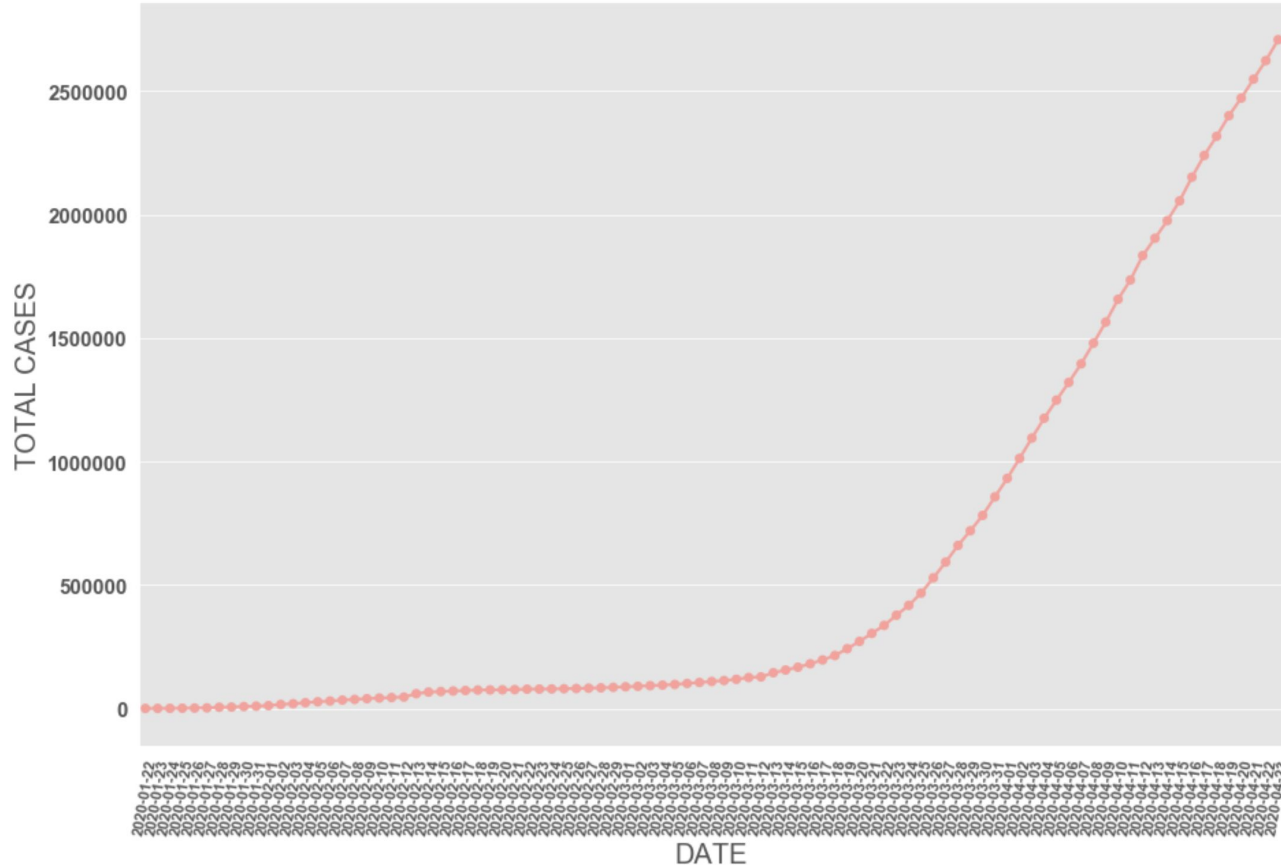
- ZOOM STOCK PRICE PREDICTION

- **CONCLUSION**

WHAT IS CORONA VIRUS (COVID-19) ?

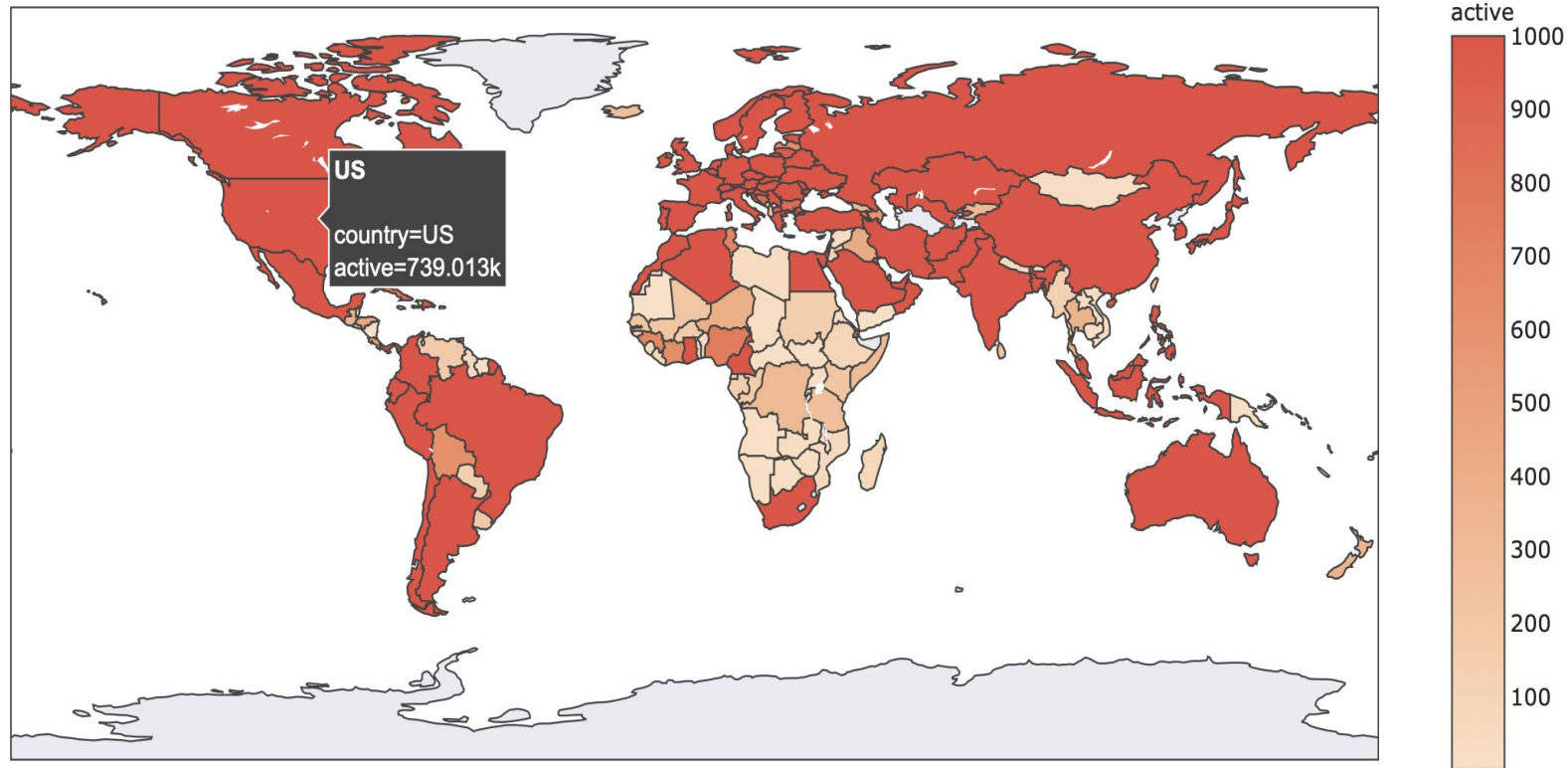
- COVID-19 is an infectious disease, that is caused by a new coronavirus, originated in Wuhan, China. This might cause: cough, fever, shortness of breath, and even death.
- The incubation period: 14 days.
- Some people with Covid-19 may not show symptoms. Some recovered cases can get reinfected.
- There's currently no vaccine to prevent coronavirus disease (COVID-19).
- How to protect ourselves and prevent spreading the virus:
<https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/summary.html>

WORLDWIDE CONFIRMED CASES OVER TIME

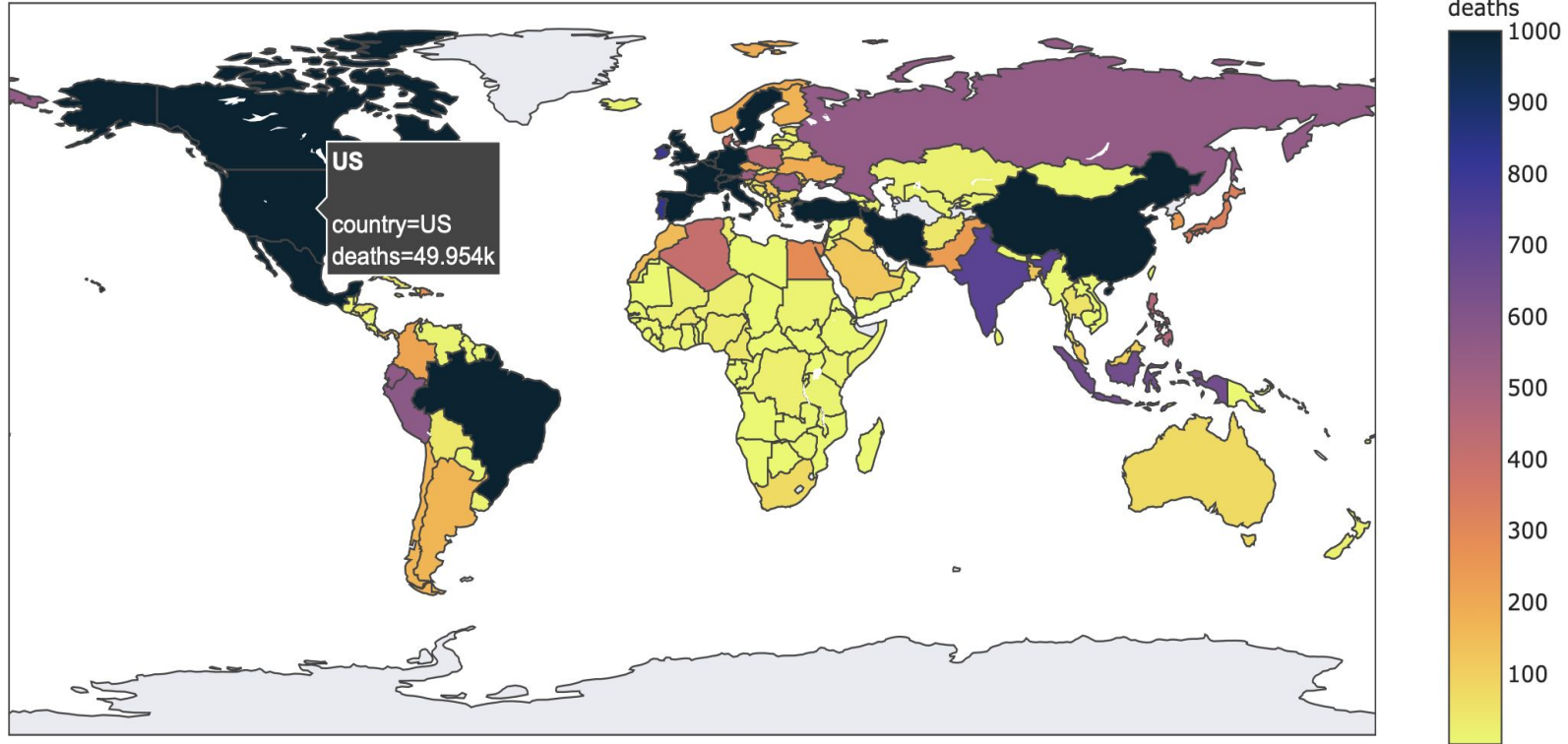


- From 01/22/2020 to 04/26/2020: Total worldwide cases: 2,708,879; USA cases: 869,170

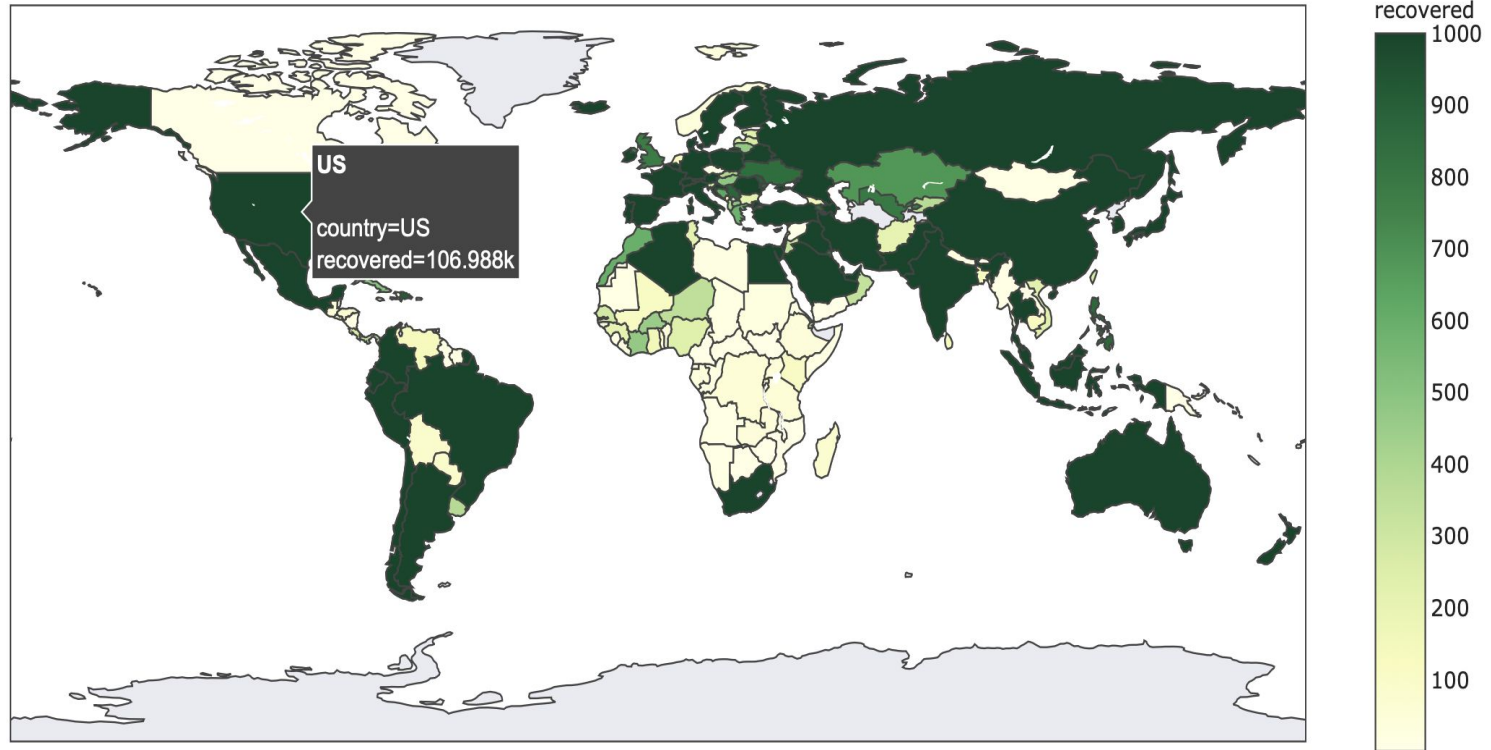
MAP OF ACTIVE CASES BY COUNTRY



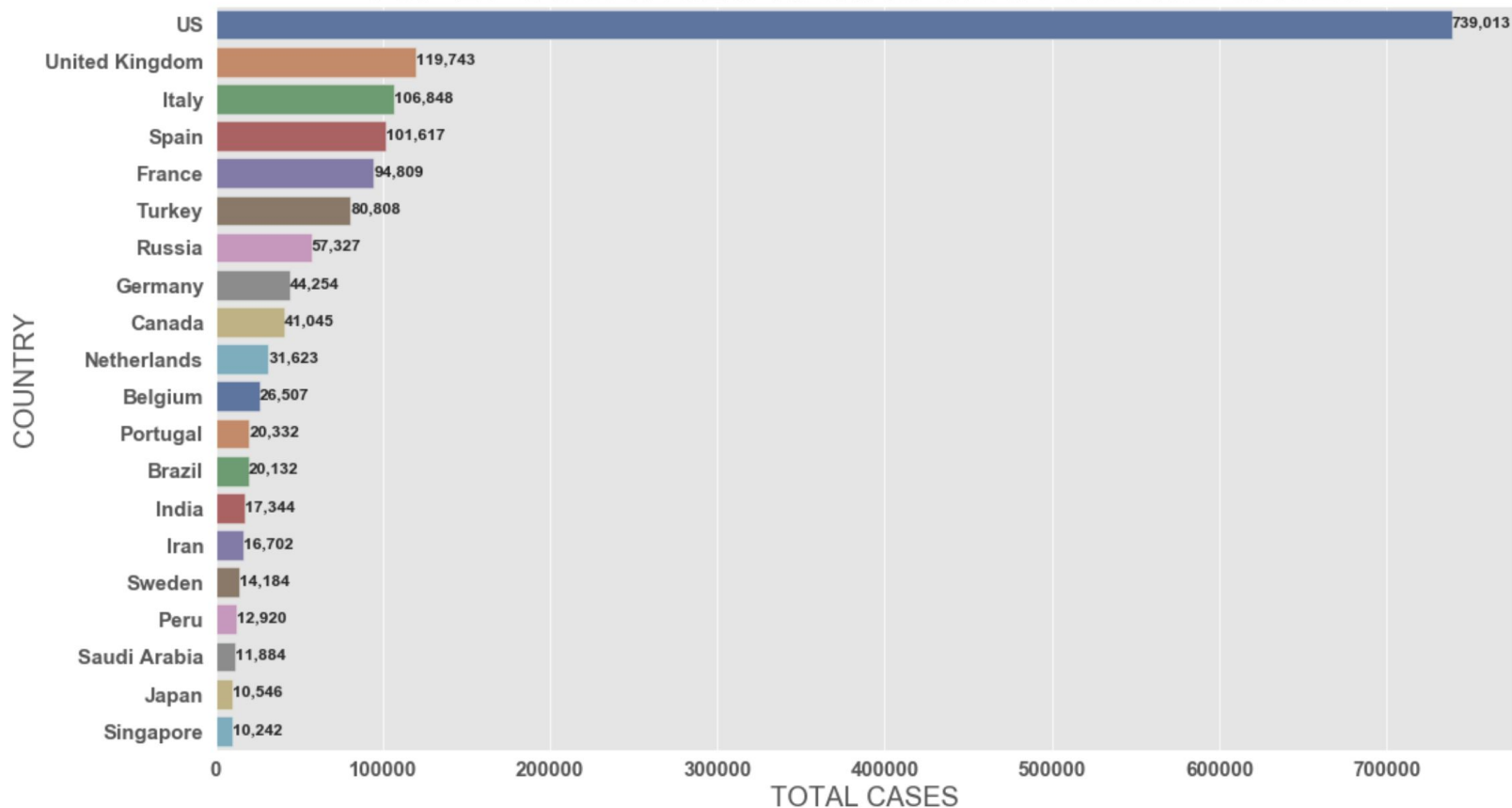
MAP OF DEATH CASES BY COUNTRY



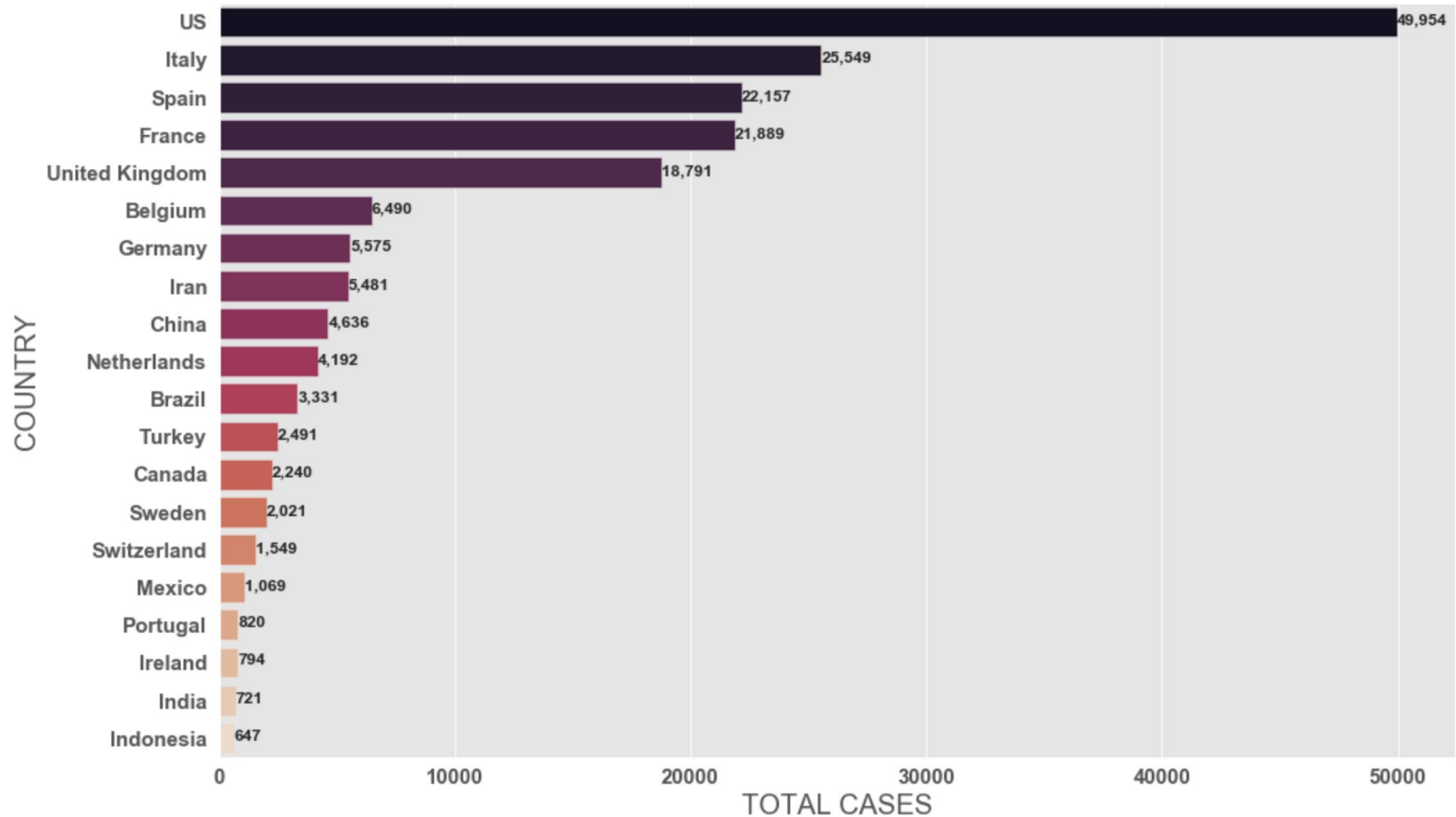
MAP OF RECOVERED CASES BY COUNTRY



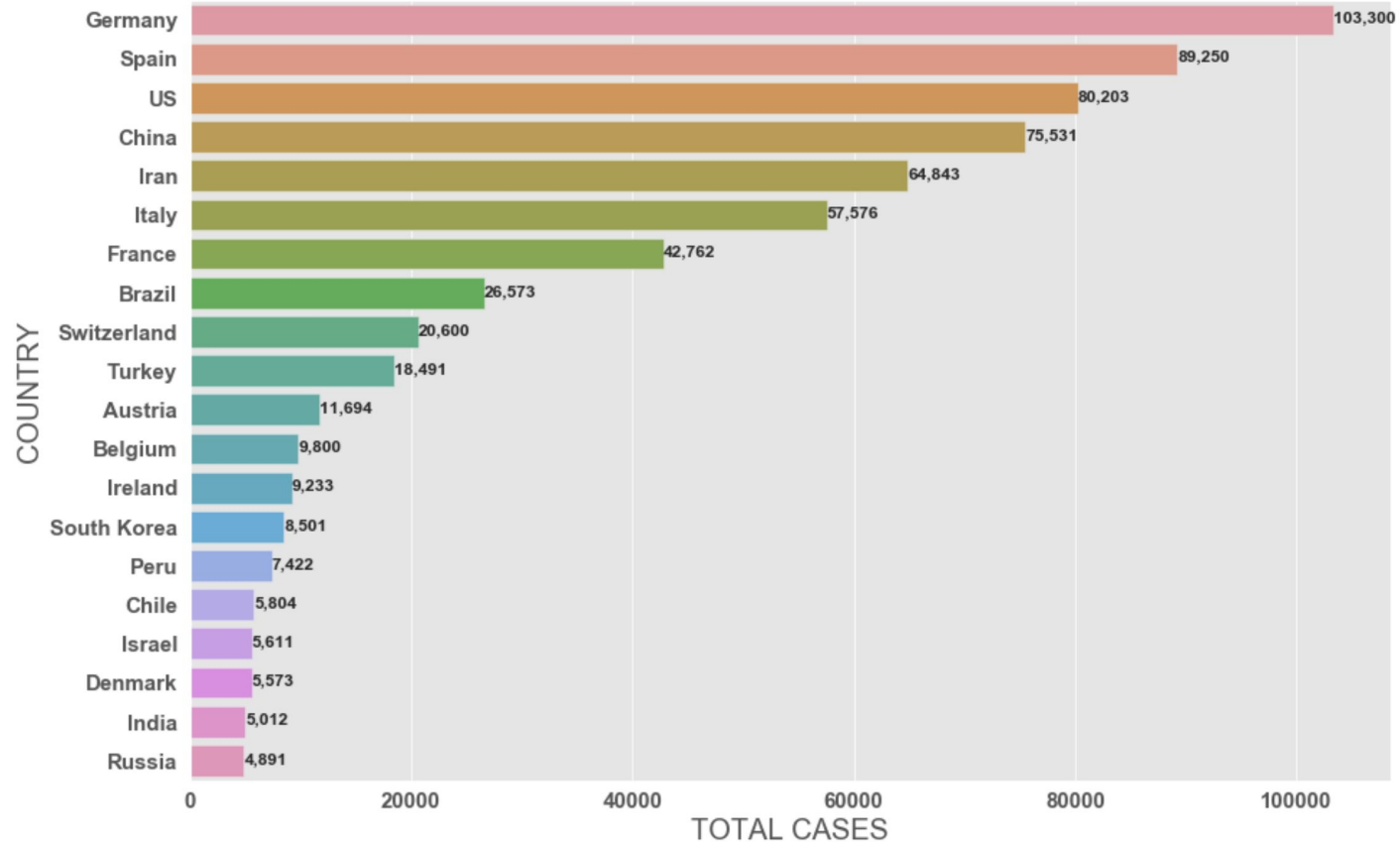
TOP 20 COUNTRIES HAVING MOST ACTIVE CASES



TOP 20 COUNTRIES HAVING MOST DEATHS



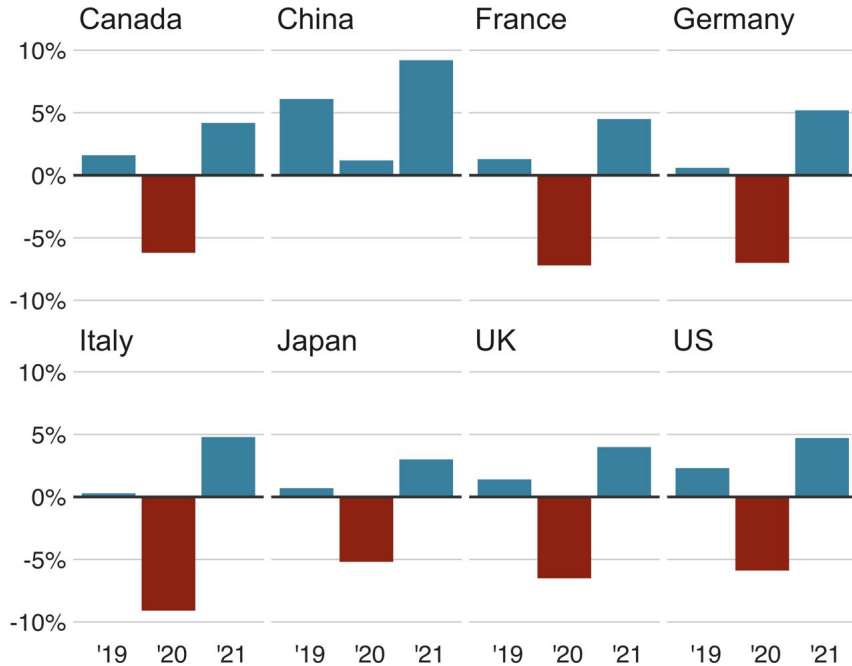
TOP 20 COUNTRIES HAVING MOST RECOVERED CASES



CONSEQUENCES ON ECONOMY

NATIONAL ANNUAL GDP:

Many advanced economies are expected enter recession.

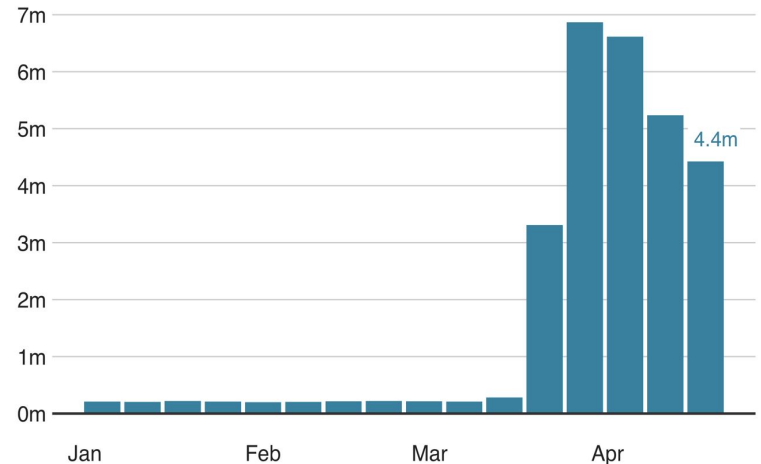


Source: International Monetary Fund

BBC

COVID_19 spread has left businesses around the world counting costs. Disease, Poverty, Death, Destruction, Chaos and Darkness Time for all groups in society.

UNEMPLOYMENT SITUATION SUMMARY: US Jobless claims surge.

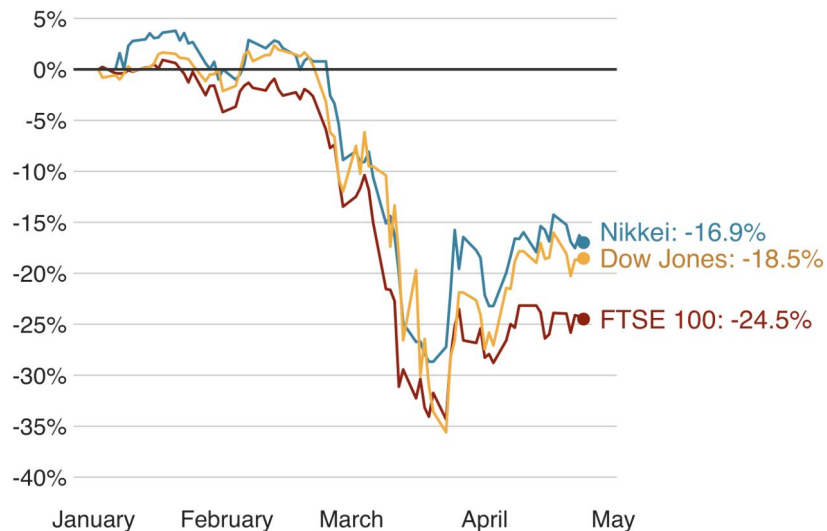


Source: US Bureau of Labor Statistics

BBC

IMPACT ON THE STOCK MARKET

- Huge falls since the outbreak began on Dec. 31
- US stocks and US futures have hit multiple circuit breakers that halt trading a week. The trading pauses come as coronavirus-induced panic leads to violent market swings.
- From 24 to 28 February, stock markets worldwide reported their largest one-week declines since 2008;
- Mar. 9 is the Black Monday I; Mar. 12 is Black Thursday; Mar. 16 is Black Monday II.

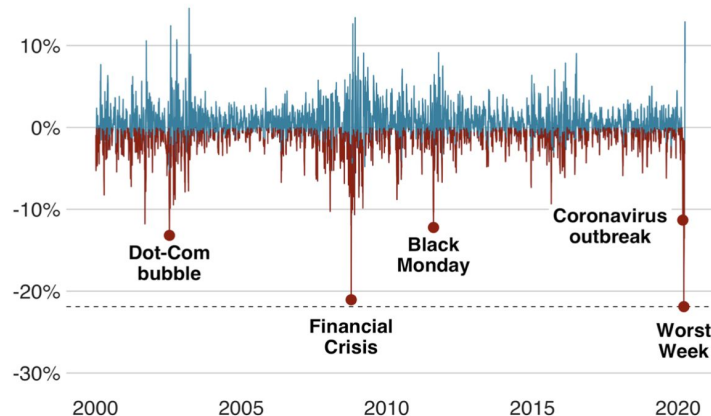


Source: Bloomberg, 24 April 2020, 11:00 GMT

BBC

FTSE 100 plunges on coronavirus fears

Week-on-week percentage change



Source: Bloomberg, 27 March 2020, 13:00 GMT

BBC

WHERE MIGHT INVESTORS FIND OPPORTUNITY?

- A few tech stocks would stand to benefit from more people working remotely. Some of these stocks are undervalued today; some are not.
- ZOOM is countercyclical to Covid 19 and has done quite well during the sell-off; This is the best example of a stock that actually benefits from the virus but is expensive.
- We will analysis some technology company stocks to find investment opportunity such as Google, Apple, Amazon, Microsoft, Work. And we will project stock price of an example such as Zoom.

CORRELATION PLOT: Closing Prices and Expected Returns.

- MSFT, GOOG, AAPL: they have strong positive correlation. MSFT & AAPL (0.85 & 0.93) have strongest correlation.
- ZOOM & AMZN (0.22 & 0.64) have positive correlation but not significant.

Expected Return:

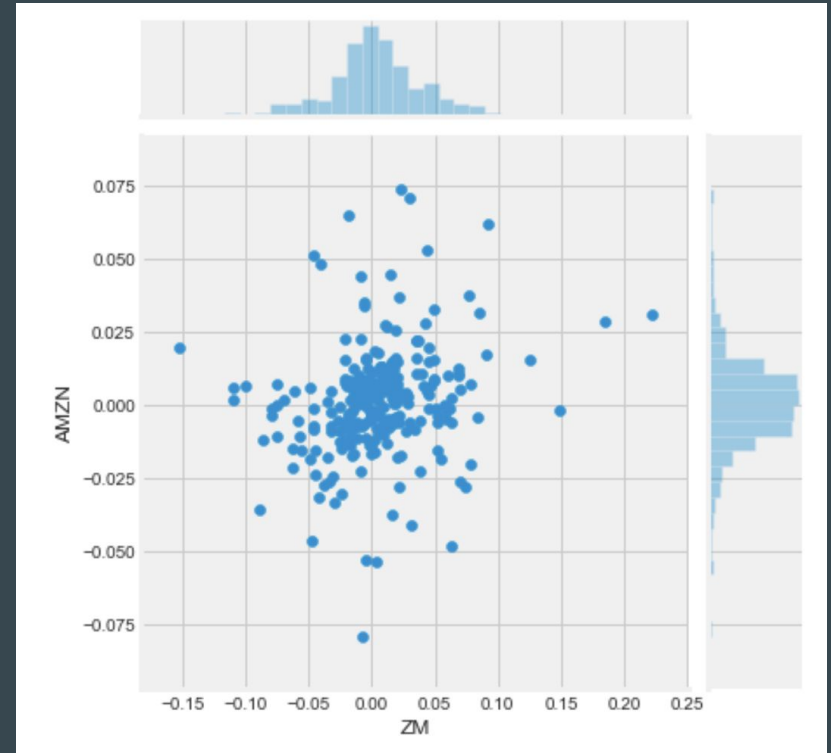
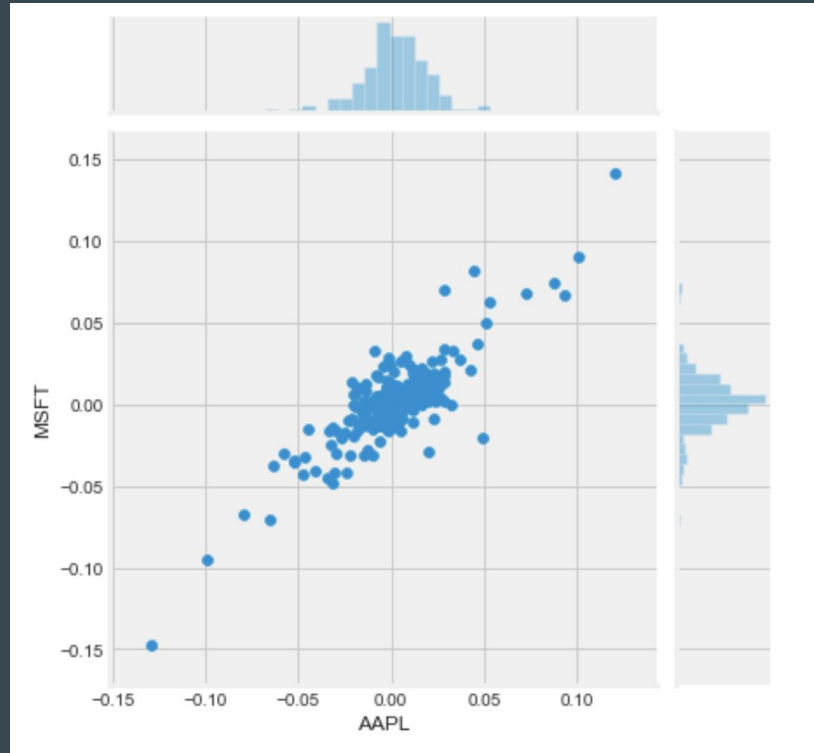


Closing Price:

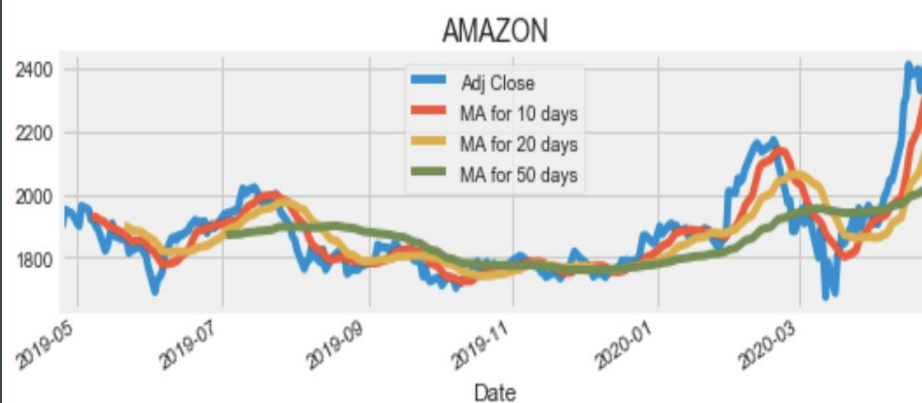
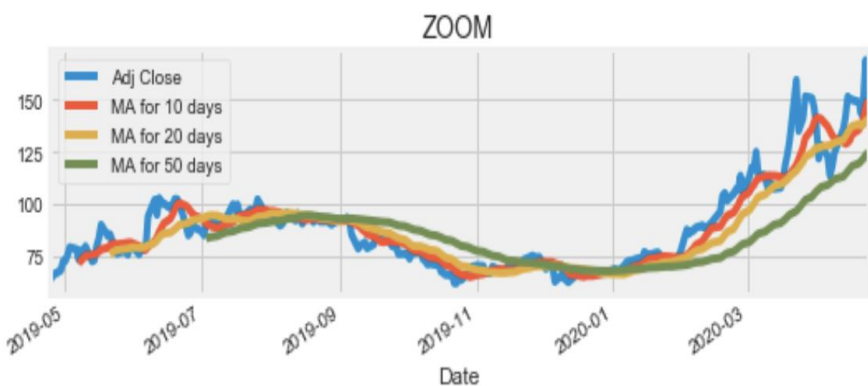
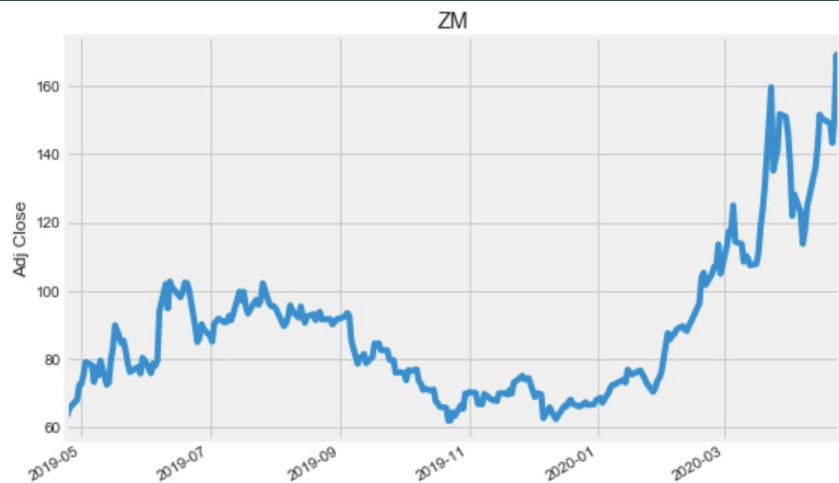


JOINPLOT VISUALIZATION: to compare the daily returns correlation between:

- **Microsoft & Apple:** they are high score for positive correlation (almost perfect positive correlation).
- **Zoom & Amazon:** They are not strong positive correlation.



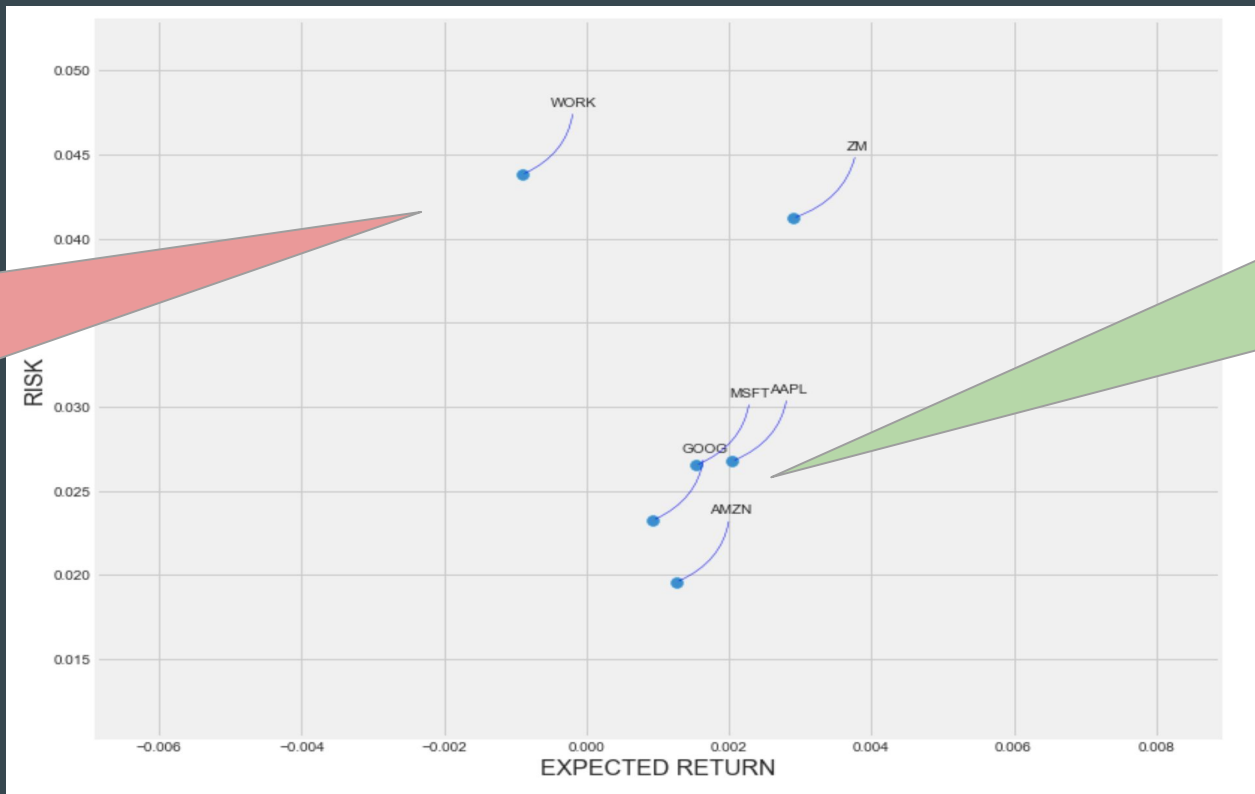
ZOOM & AMAZON STOCK CLOSING PRICE & THE MOVING AVERAGE VISUALIZATION



DAILY PERCENTAGE RETURNS:

We will quantify risk by comparing the expected return with the standard deviation of the daily returns.

ZOOM have high expected return and high risk as well. WORK has very low expected return and very high risk.



The group APPLE, MICROSOFT, GOOGLE and AMAZON have high expected return with lower risk.

PREDICTING THE CLOSING PRICE OF ZOOM STOCK



CONCLUSION:

- The big Four Tech Companies are Google, Apple, Microsoft and Amazon, they are good for long term investment. They have high expected return and low risk.
- Amazon is the world's largest online marketplace, it focuses on technological innovation and mass scale. This can benefit from pandemic time. It has high expected return and very low risk.
- Zoom is a special stock which can benefit from this pandemic time. Zoom has a high expected return with the high risk. Investors should be careful to invest in Zoom.
- However, the Covid 19 crisis might change forever the behaviors of people from the whole world such as: life style, consuming habits, saving plan or social distance, ect. They all will affect to the economy globally.
- Investors need to learn how things have been adjusted during the pandemic time to have better decisions.

REFERENCES:

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- <https://www.bbc.com/news/business-51706225>
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THANK YOU FOR LISTENING