



# Impact of Corona on the global economy

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# Introduction

## Description:

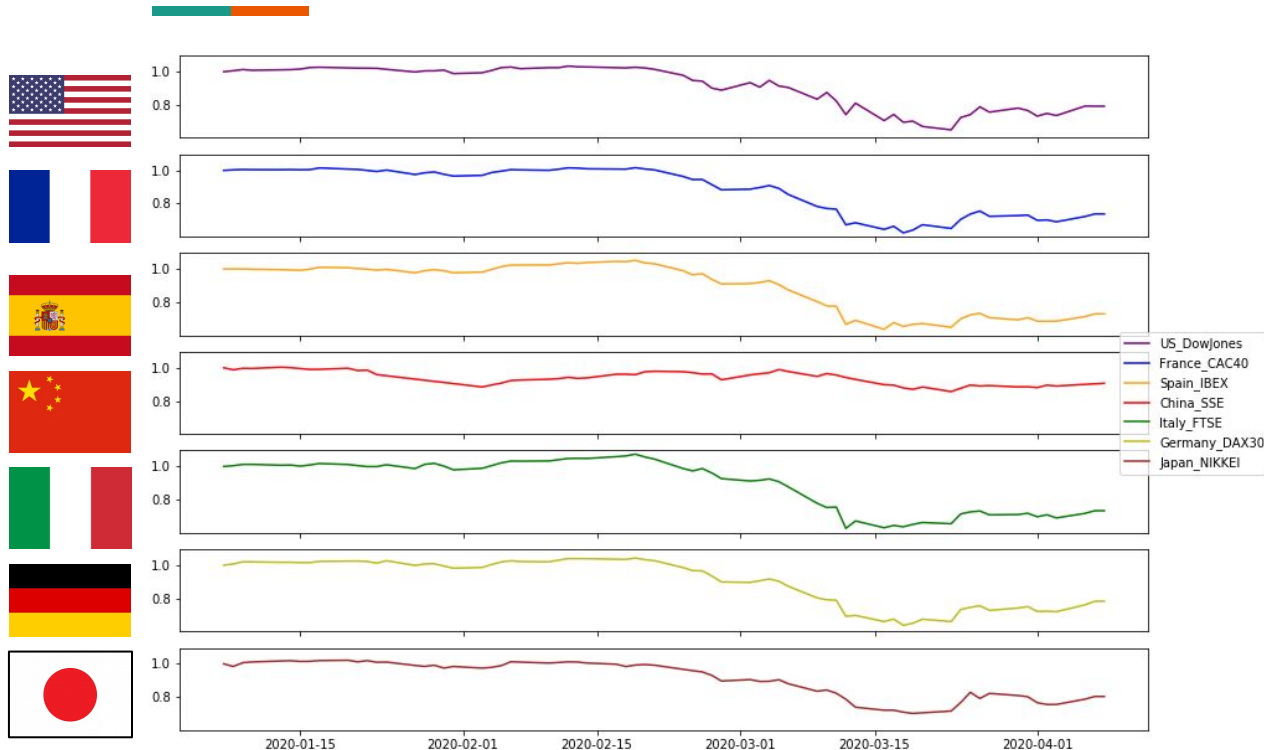
- Goal → **How the global financial market reacts to the current pandemic**
- To reflect the financial market, we decided to use the **most popular stock market index**
- We decided on 7 countries (**US, France, Spain, China, Italy, Germany, Japan**), which are important for the global economy and at the same time suffered a lot from the pandemic



# We combined financial and Covid data

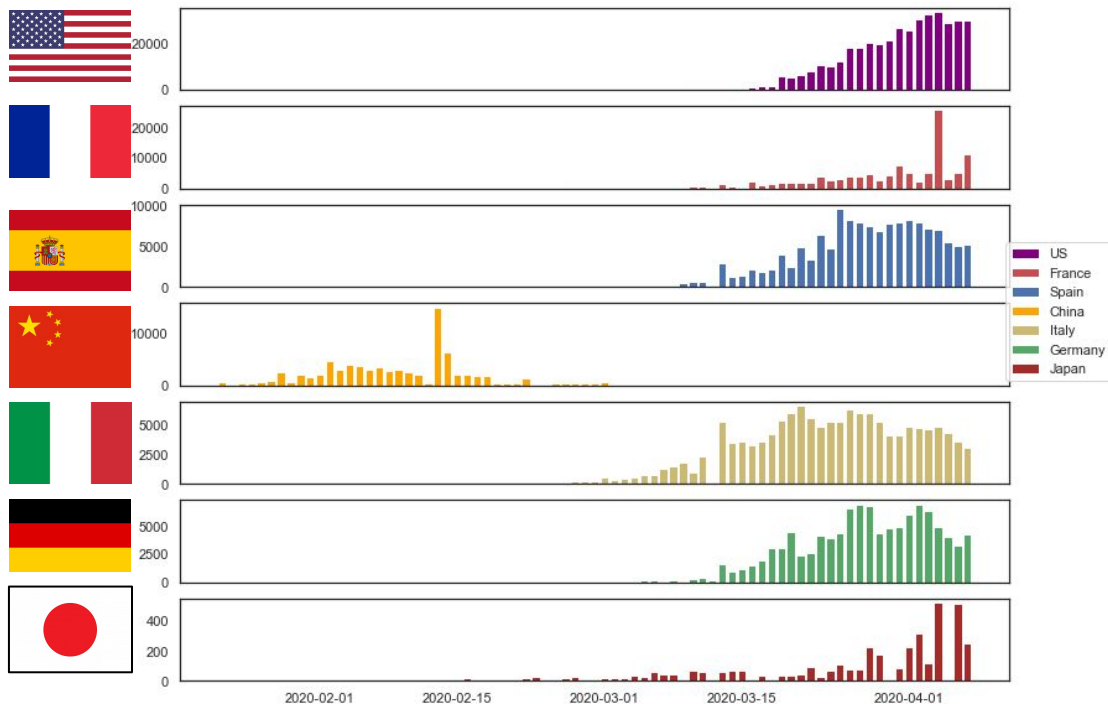
	Raw data:	Data cleaning / Transformation	Plotting
Finance	<p><b>World Trading Data API - Fail :(</b></p> <p><b>CSV files from online platforms:</b></p> <ul style="list-style-type: none"><li>• Websites</li><li>• Historical daily index value</li></ul>	<ul style="list-style-type: none"><li>• Interpolation for NaN values</li><li>• Calculate percentage changes for comparison</li></ul>	<p><b>Finance</b></p> <ul style="list-style-type: none"><li>• Line graph of the normalized index for each country</li></ul>
Covid	<p><b>CSV file from Johns Hopkins Resource Center:</b></p> <ul style="list-style-type: none"><li>• Cumulative cases per country</li><li>• Daily deaths per country</li></ul> <p><b>COVID-19 API - First cases recorded</b></p>	<ul style="list-style-type: none"><li>• Transform cumulative into daily data</li><li>• Calculate deaths / 1 million</li></ul>	<p><b>Covid-19</b></p> <ul style="list-style-type: none"><li>• Daily cases for each country represented by a bar chart</li></ul> <p><b>Finance vs. Covid-19</b></p> <ul style="list-style-type: none"><li>• Merging of both DataFrames based on date</li><li>• Dual plotting (line graphs)</li></ul>

# Financial share value development over time



index	min	max	latest_value
US_DowJones	0.650439	1.033856	0.792545
France_CAC40	0.624521	1.016448	0.738192
Spain_IBEX	0.637508	1.052590	0.730913
China_SSE	0.856792	1.003468	0.906779
Italy_FTSE	0.627838	1.073943	0.733948
Germany_DAX30	0.638226	1.042502	0.783007
Japan_NIKKEI	0.702113	1.021539	0.803801

# COVID-19 recorded daily cases over time



Total Recorded Cases

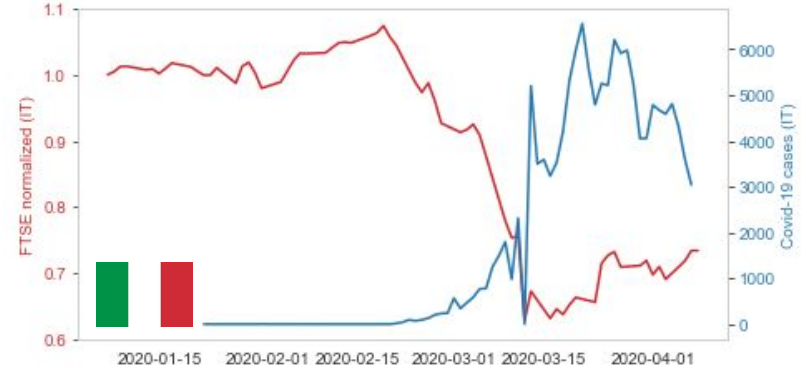
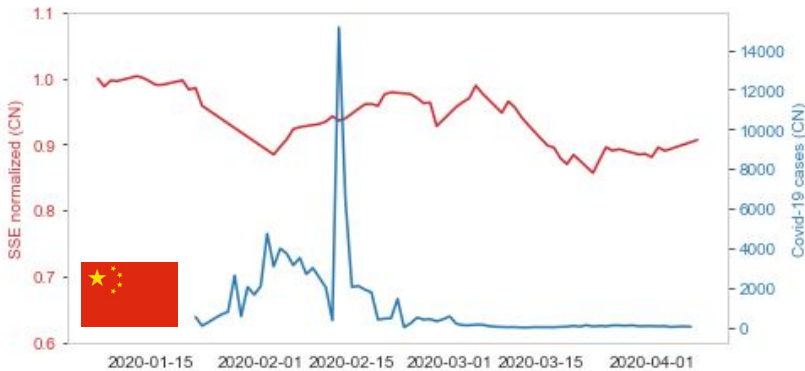
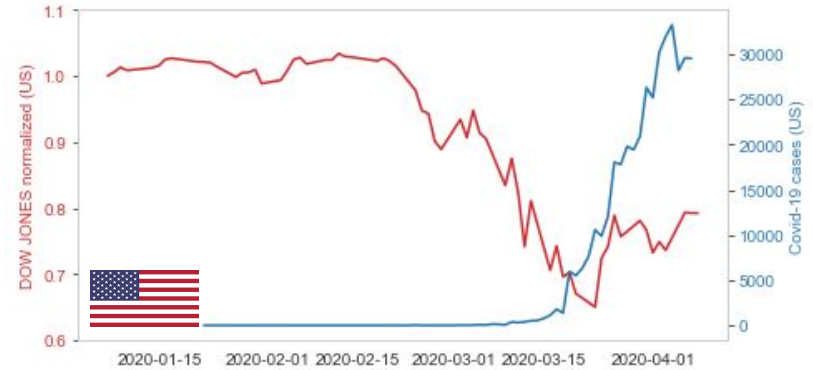
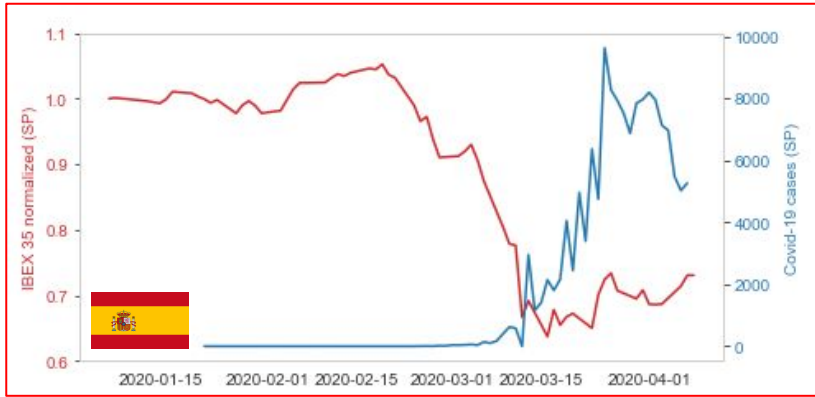
US	396223
Spain	141942
Italy	135586
France	110065
Germany	107663
China	82718
Japan	3906

Max No. of Daily Cases

US	33264
France	25646
China	15136
Spain	9630
Germany	6933
Italy	6557
Japan	522

	country	total_infected	deaths	deaths/1million
0	China	82718	3335	2.317060
1	France	110065	10343	158.456315
2	Germany	107663	2016	24.061890
3	Italy	135586	17127	283.269645
4	Japan	3906	92	0.727408
5	Spain	141942	14045	300.397106
6	US	396223	12722	38.434737

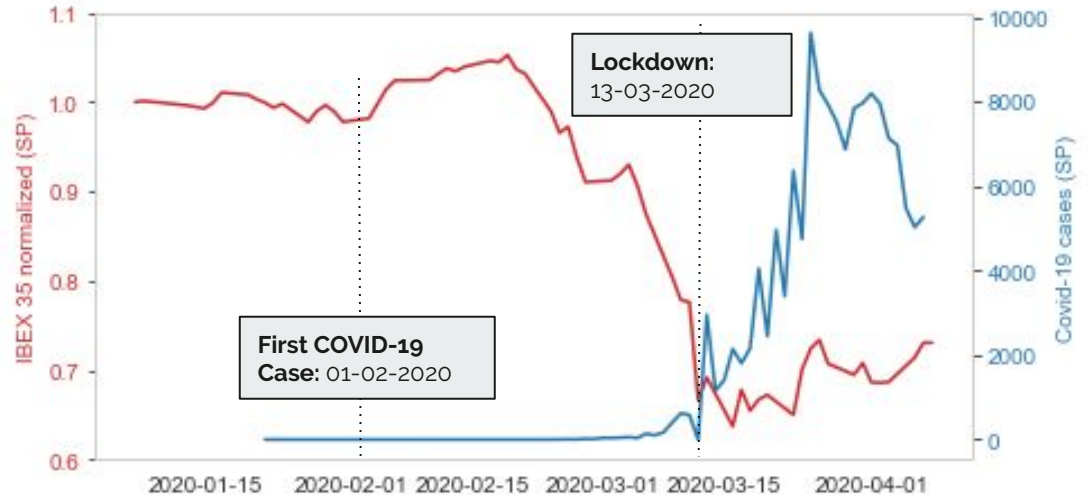
# Combined diagrams for focus countries



# Spain - IBEX

## Highest Index Weighting:

- Banco Santander (14.97%) - Finance
- Inditex (10.34%) - Clothing
- Iberdrola (8.41%) - Electricity
- BBVA (7.62%) - Finance



INDITEX



BBVA

# USA - DOW JONES

## Highest Index Weighting:

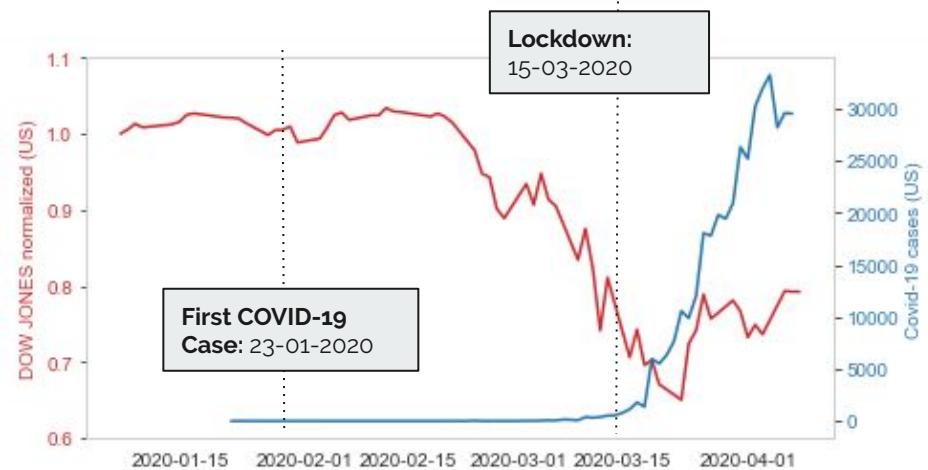
- Apple (8.08%) - Technology
- United Health Group (7.19%) - Health Care
- The Home Depot (6.04%) - Retailing
- McDonald's (5.30%) - Food

## First COVID-19 Case

- 23-01-2020

## Lockdown Measures

- ~15-03-2020 (California)

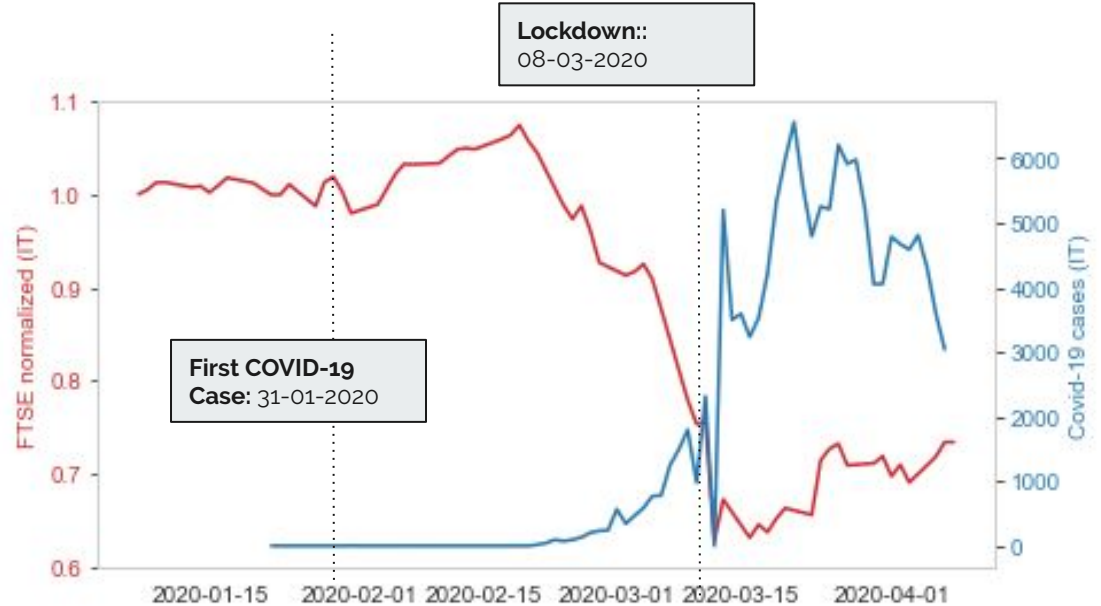




# Italy - FTSE MIB

## Highest Index Weighting:

- Enel (15.04%) - Electricity
- Eni (9.48%) - Oil & Gas
- Ferrari (4.98%) - Automobile & Parts
- Fiat Chrysler (3.97%) - Automobile & Parts



**Thank you!**

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