

MEMO/PROPOSAL TO MANAGER IN ECONOMICS

Dear Manager XYZ Working In Economics,

You will find below our project proposal. We will try to model the effects of the COVID-19 pandemic on the US economy, and the effectiveness of associated government measures.

Project Question

- How has the COVID pandemic, and associated events, affected the performance of the US economy? What hypothetical scenarios could have occurred under different circumstances, and what could have been done differently to alter COVID's economic impact?

Datasets

- There are three primary sources of data we want to consult, each containing information from various sources: Economic performance, COVID status, and government actions. Some potential examples and sources of each have been listed below
- Economic performance: stock prices of key companies (Yahoo Finance), aggregated industry performance (computable from individual company performance), US bond yields (US treasury website), US CDS prices (investing.com)
- COVID status: COVID infections and deaths (CDC), vaccination rates (CDC), US stringency index, news/media coverage timeline of COVID pandemic
- Government actions: actions the government has taken at specific points in time (various news articles)

Using dataset to answer questions, why we're likely to succeed

- We believe that the aforementioned datasets provide a comprehensive picture of the three different areas of interest. They are all generally well-maintained, without many gaps in data, which will improve ease of working with the data and chance of success. Additionally, by having a thought-out yet flexible workplan, we will be able to adapt to the various challenges which could arise while working on the project
- Our general plan is as follows:
 - Identify and clean out datasets. For Government Actions, research and compile a list of steps the government has taken, from the start of the pandemic
 - Using the data and tbd data analysis/ML techniques, develop a model combining economic and COVID data. Interpret where government actions fit into the model
 - Analyze the effectiveness of government actions, and try to infer how alteration of actions would have impacted economic performance

Importance/relevance of the question

- After modeling past events and their impacts on the stock market, we can then try to generalize our model to hypothetical scenarios - either better or worse than current. Examples include how the situation may have changed if vaccinations were started earlier or later, or exploration on the effectiveness of government interventions. These can then be applied to propose potential improvements in government action, which can they pave the way for developing a better strategy for future pandemics or large-scale crises. Such analysis is relevant to all of governmental, economic, and financial standpoints

Looking forward to your prompt feedback-filled reply.

Sincerely, Adrienne Zheng (yz839), Xiaoyuan Melissa Mao (xm76), Tainon Chen (tc457)