# MGMT 675

# AI-ASSISTED FINANCIAL ANALYSIS

RICE | BUSINESS
Jones Graduate School of Business

# VISUALIZATION

# EXERCISE 1

- metrics_5year.xlsx
- tickers.xlsx
- Download from course website and upload to Julius.

# EXPLORE DATA

- How many rows in the tickers dataset? What are the columns?
- What are the columns in metrics_5year?
- Group metrics_5year by date and count the number of tickers at each date.

# MERGE

- Do an inner merge of tickers and metrics_5year on ticker.
- Group by date and count the number of tickers at each date.
- Save the merged dataset as merged.xlsx.

# EXPLORE VISUALLY

- We want to see how the market has changed and how the metrics vary across sectors.
- Suggestions:
  - Filter to the date 2023-12-29, group by sector and generate barplots of aggregates (total or median) - e.g., total marketcap or median pb.
  - Group by (sector, date) and generate 3d barplots of aggregates.
  - Group by (sector, date) and generate heatmaps of aggregates.

# EXERCISE 2

- Ask Julius to use yfinance to get closing prices for CVX during April 2020 (if error, ask to pip install yfinance==0.1.70).
- Ask Julius to use pandas datareader to get crude oil prices from FRED during April 2020.
- Ask Julius to plot the CVX prices and crude oil prices in the same figure with the crude price labels on a second y axis.

# EXERCISE 3

- Ask Julius to get the histories since 1990 of the 3-month, 1-year, 5-year, and 10-year Treasury yields from FRED.
- Ask Julius to downsample to first day of the month.
- Ask Julius to use plotly to create an animation with the yield on the y axis and the time to maturity on the x axis and using the date as the animation frame.
- Ask Julius to save it as html.