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.

- Maybe better to upload in two messages rather than one.

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 metrics have changed over time and how they 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 - or a pie chart for totals.

- 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.