**CAPSTONE PROJECT**

This will be a fun and interesting project for anyone considering becoming a financial or business analyst! It was made in collaboration with the professional bond trader at the Bank of Scotland. Students will learn about economic concepts as well as deepen and practice their knowledge of Power BI and related technologies.

**Objective**: Create and present a report (dashboard) to an executive that summarizes your research into one of three fields of economics/analysis. Help the executive make a yes/no decision.

The fields of analysis:

* General Macro Economic Analysis
* Industry Level Analysis
* Company (stock) Analysis

Choose a starting level of analysis and aim to answer the related questions in your presentation.

Each team needs to have people assign themselves to the following roles:

* Team lead
* Lead researcher (data gathering)
* Lead designer
* Generalist

The team lead will be responsible for resource allocation and communication, the researcher will be responsible for gathering and cleaning data, the designer will be responsible for creating the visuals, and the generalist will help in each position as needed. All roles will be flexible; individuals should help their team wherever they’re needed.

Teams should be willing to read about any concepts they don’t understand in an attempt to answer the questions associated with each domain of analysis. Therefore, someone (or multiple people) in the team will need to take on the role of understanding the associated questions, and explaining the data requirements and presentation modalities to the team. The required reading is not difficult but some economic exposure/thinking will be helpful!

For all data, we are looking for “level and trend”, which means what is the current numerical or qualitative level for the metric in question (price of the stock, number for GDP, etc.) and what is its historical trend (increasing, decreasing or neutral/stable).

**General Marco Economic Analysis**

*Data*:

- Real GDP  
- Consume Price index (inflation)  
- Producer price index   
- Consumer confidence survey  
- Unemployment statistics  
- Interest rates  
  
*Open-ended Questions*:

Are we in a recession? Where are we in the economic cycle?   
How do interest rates compare to historic levels?   
How does unemployment compare historically?   
  
*Take-a-side Questions*:

Unemployment + inflation, how are they likely to interact (if one is going up, how likely is the other to follow)?   
Depending on GDP trend, is unemployment likely to go up or down or stay flat?  
Inflation rate trend, what does the mean for interest rates?

**Industry-level Analysis**  
  
Pick an industry

Find level and trend for sales numbers and volume

*Data:*  
- Products and services of the industry (qualitative)  
- SWOT analysis   
- Total sales numbers and sales volume at the industry level  
- Political factors effecting the industry  
- Regulatory factors effecting the industry  
- five factors: buyers, suppliers, substitutes (products), rivals and threat of new entrants  
  
*Take-a-side Questions:* Should our company enter this industry?

- Are Profit margins, expanding or contracting? (Expanding is a positive signal, contracting is negative)  
- Are industry sales expanding or contracting?   
  
  
**Stock analysis**   
Pick a company

*Data:*

- P/E ratios  
- P/S ratio  
- P to E grow ratio (PEG ratio)  
- debt to equity   
- pay out ratio  
- Beta  
- Return on equity  
- Free cash flow  
- Price to tangible book value (P/B multiple)  
  
*Pick-a-side Question:* Should we buy this stock?

- Based on historic P/E, P/S, PEG, over or under priced?  
- Compare debt to equity for the sector and for the company, has leverage increased, decreased or remained stable? Comparatively over-leveraged means risky!

**Resources:**

* Google and Yahoo finance
* Google the data you need! It’s very available on the web
* Industry level: <https://www.ibisworld.com/industry-trends/>