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Thinkful

<u>Predicting the volumes traded between countries over the past three years</u>

Problem: International trade has many advantages that countries and stakeholders can benefit from. Such as Increased revenues, Decreased competition, Longer product lifespan, Easier cash-flow management, Better risk management, Benefiting from currency exchange, Access to export financing, and Disposal of surplus goods. However, on the other hand, there are some problems and disadvantages of international trade. The most common problems that countries and stakeholders face in international trades are as follow: shipping customs and duties, language barriers, cultural differences, servicing customers, returning products, and intellectual property theft.

Context: For several decades now, the Comptes Harmonisés sur les Echanges et L'Economie Mondiale (CHELEM) database [International trade flows, balances of payments and world revenues], developed by the CEPII, has been recognized as one of the most useful tools to analyze global economic trends in a framework combining coherence, exhaustiveness, and reliability.CEPII makes available a "square" gravity dataset for all world pairs of countries (224), for the period 1948 to 2015.

Criteria For Success: After analyzing this data we should be able to:
- predict the trade volumes between countries over the past years?
- assess the impact of being a member of the WTO (or another union)?
- Test our prediction against the real data to determine its accuracy

Scope: This data is from all world pairs of countries (224), for the period 1948 to 2015. It would be safe to generalize the results to all counties in the data set.

Constraints:
- International trade has some disadvantages such as shipping customs and duties, language barriers, cultural differences, servicing customers, returning products, and intellectual property theft.

Stakeholders: The Key stakeholders of international trade include Government Ministers, other government departments, those involved in the international trade supply chain as well as travelers, the public, and even the press.

Data Sources: The dataset is in one piece and the form of a CSV file and it can be found here:

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- https://www.kaggle.com/alexismayer/tradebetweencountries?select=samp_gravity.csv

Potential Approach:

- Identify the relationship between GDP, distance , language, and amount of trade between countries
- Determine the threshold for countries based on their distances, GDP, and other factors
- Create a model using an average or median based on amount of the trade
- Test the model's performance against the data we already have to determine its accuracy
- Test with Gravity data to generate our first prediction

Deliverables:

- Github Repo including:
    - Code
    - Example of output prediction (possibly included in slides)
    - Powerpoint Presentation
    - Full Report

https://www.americanexpress.com/en-us/business/trends-and-insights/articles/6-disadvantages-of-international-trade-and-tips-that-may-help-solve-them/

https://09d9bfd0-a-62cb3a1a-s-sites.googlegroups.com/site/hiegravity/data-sources/gravdata_codebook_2015.pdf?attachauth=ANoY7couILX8tYrckDH9k7DVYLaoPidwLzBKA8HphhPdMgVzFlzhb_MtYqLeYYqS97JInIFiSG-mEOU8WwRsnEIML49avroPCsinttvMytJegR_rIdKjQDbfnrK4nCGNi_3RB1F9_oqIASKIkqr-eeeeVe6bF7AZLXKDHz5rWV_Mru_F9kFrMg3zOnU61UOOFJAeILU4bzzyCS2DfiaJHNDJY2Z4GmsPqhAIvcdDffFeNzvVxOGrSQoHv9QOOeaaDOFPGE4lmmc9&attredirects=1