Project Group - 8

Members & Student numbers:

Lars Zevenbergen, 4892739

Yung Ting, Lu 6221149

YuJung, Lin, 6183859

Stephen Huang, 4956311

Huib van der Veen, 6330584

Research Topic:

Resilience of Global Supply Chains: A Focus on Aerial and Maritime Freight Volume.

Research Objective

Requires data modeling and quantitative research in Transport, Infrastructure & Logistics

Explore how global air and ship freight volumes fluctuate and compare air vs. sea freight trends during the COVID-19 pandemic. Analyze how the pandemic impacted the volume and value of goods transported by air vs. sea, focusing on differences in recovery timelines and resilience.

Subquestion 1: What would the freight trend look like if the pandemic did not happen?

Subquestion 2: Which types of cargo were most affected by the COVID pandemic in air and sea freight? Did certain types of goods (e.g., perishable, high-value, bulk commodities) experience greater change in either air or sea freight volume?

Contribution Statement

Be specific. Some of the tasks can be coding (expect everyone to do this), background research, conceptualisation, visualisation, data analysis, data modelling

For now we look at the data together. We will divide the labor after we receive the feedback.

Data Used

air freight import/export outside the EU:
https://ec.europa.eu/eurostat/databrowser/view/avia_goexcc/default/table?lang=en&category=avia.avia_go.avia_goe

air freight import/export inside the EU:
https://ec.europa.eu/eurostat/databrowser/view/avia_goincc/default/table?lang=en&category=avia.avia_go.avia_goi

ship freight in/out Netherlands:

https://ec.europa.eu/eurostat/databrowser/view/mar_go_qm_nl/default/table?lang=en&category=mar.mar_go.mar_go_qm_detl

Data Pipeline

We collect data from databases like Eurostat. We import the data as a .csv file (or similar file type). We filter and merge the data that we want to use using Python. We use the data for estimations and creating plots and graphs. We conclude from these results.

We look at the data from 2002-2024. For subquestion 1 we use the available data from 2002-2019 (the pandemic is from the end of 2019). Using that data, we forecast the trend of volume of goods(both export and import), if the pandemic did not occur. Then compare this trend to the actual trend.