ECEN – 689

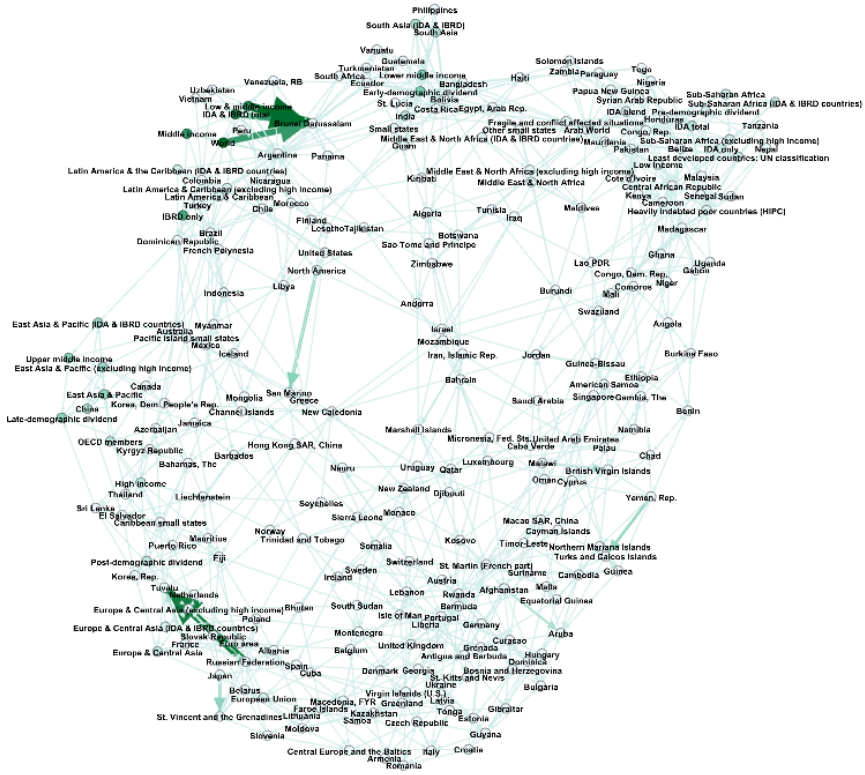
Visualization of the population growth of different countries

Goal

To build a directed graph based on the population dependency parameters between the countries and thus draw insights on the population distribution of each country and possibly state the relationship between these population dependencies.

Initial analysis

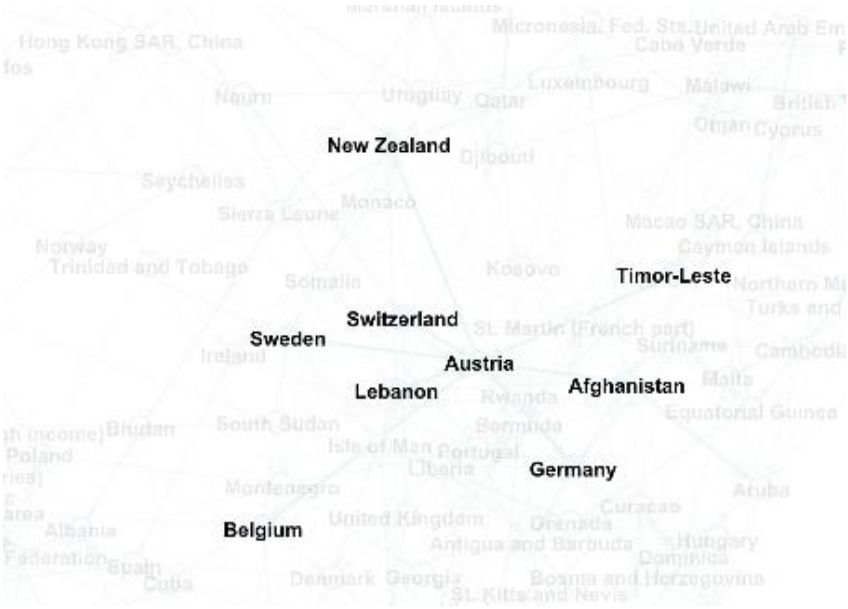
To find meaningful relationships in population dependencies, we shall first start by visualizing the data we have from the population_parameters.csv file. The diagram shows a directed graph, where the nodes are the countries and the edges are the weighted dependencies.



Exploring Dependencies

European countries

From the graph we can conjure that all European countries have strong population dependencies on most other countries from Europe and other countries across the world like New Zealand, Afghanistan, etc. which also show sparse inclination in population every year like the European countries. This shows that the population of the European is more stable and is less susceptible expansion as most of these countries are now well developed.



(a) Population dependency of Austria and countries that depend on Austrian population

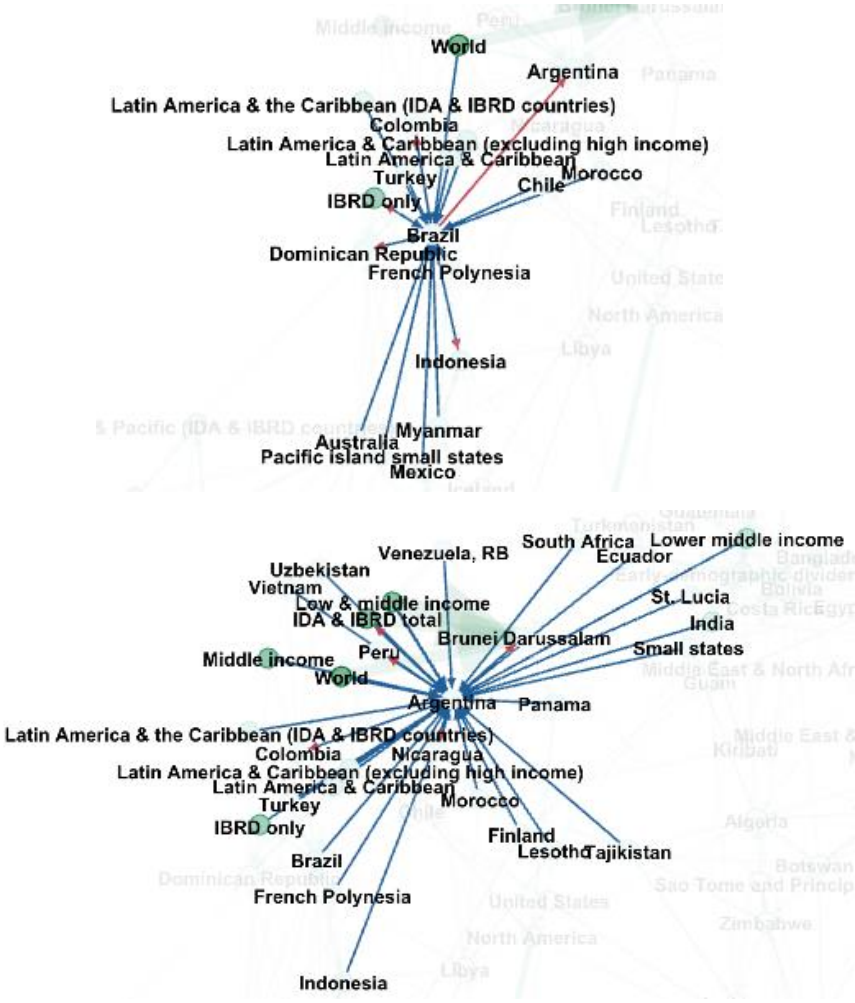
(b) Population dependency of Romania

American Countries

Similar to the European countries, American countries like the United States of America show close correlations with the population of other North American countries.

(c) Population dependency of the USA and Canada

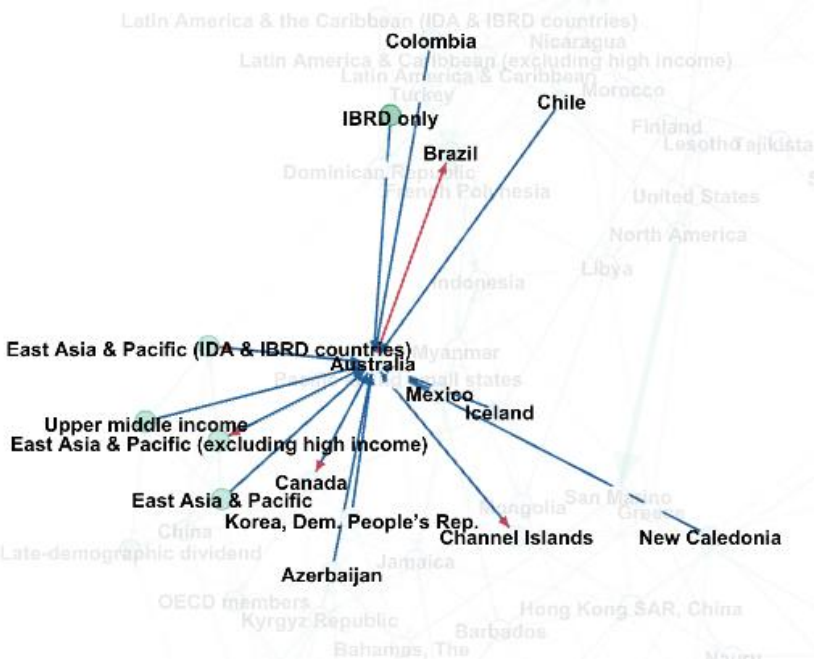
Whereas Canadian population is closely related to the East Asian and Pacific countries. The population of the Giant south American countries like Argentina and Brazil seem to serve as good estimators for the East Asian island and for the rest of the world in general.



(d) Illustrating the population dependencies of other countries on Argentina and Brazil

Australia

The population prediction of Australia depends on other giant Nations such as Brazil and Canada. On the other hand, Australian population data can also be used as a useful predictor for most the East Asian nation.

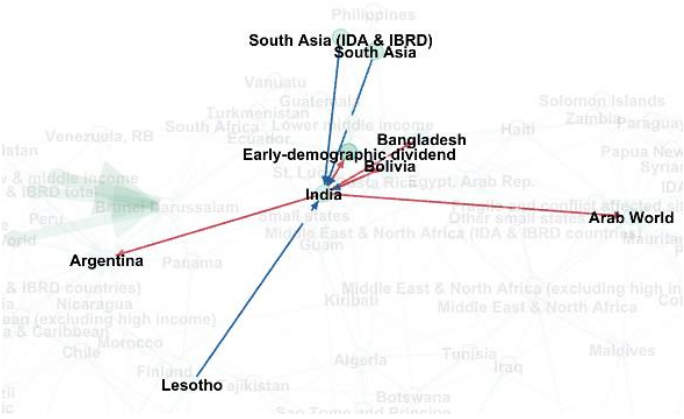


(e) Population dependency of Australia

Asia and Pacific

The nations having huge populations such as China and India share a strong correlation with their neighboring countries' population. China has a strong correlation with East Asian countries like Korea, whereas India shares a strong relationship with Bangladesh. From the population data we have we can see that India and China have a huge population growth over the years, and thus we can infer that the same trend can be observed in their neighboring countries.

(f) Population dependencies of India and China



Conclusion

After exploring the population dependencies of some major countries, we can comment that the population dependency trends tend to stay mostly correlated within the countries in the same continent. The population of some countries like Brazil, Argentina, Australia, etc. also act as really good predictors for most other countries.