**STEPS IN EIGENPAIR ANALYSIS**

* For this analysis, we focus only on EU27 countries and also top 5 extra-EU exporter countries in EU27’s imports for the 4 medical products. Depending on the medical, these include China, Morocco, Vietnam, UK, Tunisia, Singapore, US, Australia, Thailand, Norway, Turkey, Hong Kong, New Zealand, Switzerland, Malaysia.
* Based on these 42 countries, in the excel file for each of the 4 medical products for each of the years:
* **Excel sheet 1** gives the 42 x42 gross export matrix from the UN Comtrade data set.
* **Excel sheet 2** gives the import matrix for each product/date by transposing the export matrices in excel sheet 1.
* Then, we classified these countries as different regions. Thus:
  + **Excel Sheet 3:** EU27: European Union countries (27x27 gross matrix of exports)
  + **Excel Sheet 4**: Asia: China, Hong Kong, Malaysia, Singapore, Thailand, Vietnam (6x6 gross matrix of exports)
  + **Excel Sheet 5:** Non-EU Western: Australia, Switzerland, UK, Norway, New Zealand, US (6x6 gross matrix of exports)
  + **Excel Sheet 6**: Africa: Morocco, Tunisia, Turkey (gross matrix of exports). This group did not have any intra-regional trade for PPE 2019, PPE 2020, PPE 2021 & Ventilator 2020.
* **Excel Sheet 7** has title Buffers based on regional exports. This is a CSV file formatted to upload into the ‘RBI App’ for network analysis when stability of network systems has the buffers for each region in the denominator of the netted matrix from **excel sheet 2** (see Appendix B of paper).
* **Excel Sheet 8: Stability matrix obtained from ‘RBI app’.** This contains the 42x42 netted import matrix adjusted in denominator with the region exports as buffers. All countries in its region has same regional exports as buffers.
* **Excel Sheet 9:** Gives Network statistics which is our source for the maximum eigenvalue for the stability matrix denoted as in the paper.
* **Excel Sheet 10:** We report the Nodes Statistics from RBI App. For these we use the right EVC centrality values for the vulnerability indexes. We give the norm-1 eigenvector centrality rank ordered. We also give the steps for derivations of Tables 10 & 11 here.