



# **THE ROLE OF GLOBAL VALUE CHAINS TO STRENGTHEN THE CONNECTIVITY BETWEEN EUROPE AND ASIA**

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# **INTRODUCTION**

# GLOBAL VALUE CHAIN



- GVC allows quite a lot of opportunities for developing countries to participate in global trade and improve productivity.
- Before the rise of GVC, nations had to build a deep and wide industrial base before becoming competitive (e.g. Japan, USA, Germany).
- Some of East Asian countries demonstrate that participating in GVC may decrease poverty.
- Yet, before implementing GVC, some considerations should be considered, i.e. the use of innovation to encourage progress, foreign direct investment and the development of human resources by improving education quality.



# **METHODOLOGY**

# GLOBAL VALUE CHAIN



- All secondary data were obtained from the ASEM Sustainable Connectivity Portal. Data used for the analysis were extensive aggregated data obtained from the “Indicator Explorer” and “Connectivity map”.
- The aggregated data consist of Physical, Economic and Financial, Political, Institutional, People to People, Social, and Economic and Financial<sup>1</sup>. For the connectivity, only Foreign Direct Investment (FDI), Trade in Goods and Research output with international collaboration were selected.
- The analyses used in this research were Biplot Principal Component Analysis (in short PCA), Self Organizing Map Kohonen artificial neural networks (in short SOM) for clustering the countries and Social Network Analysis (in short SNA) to evaluate the modularity of the networks.



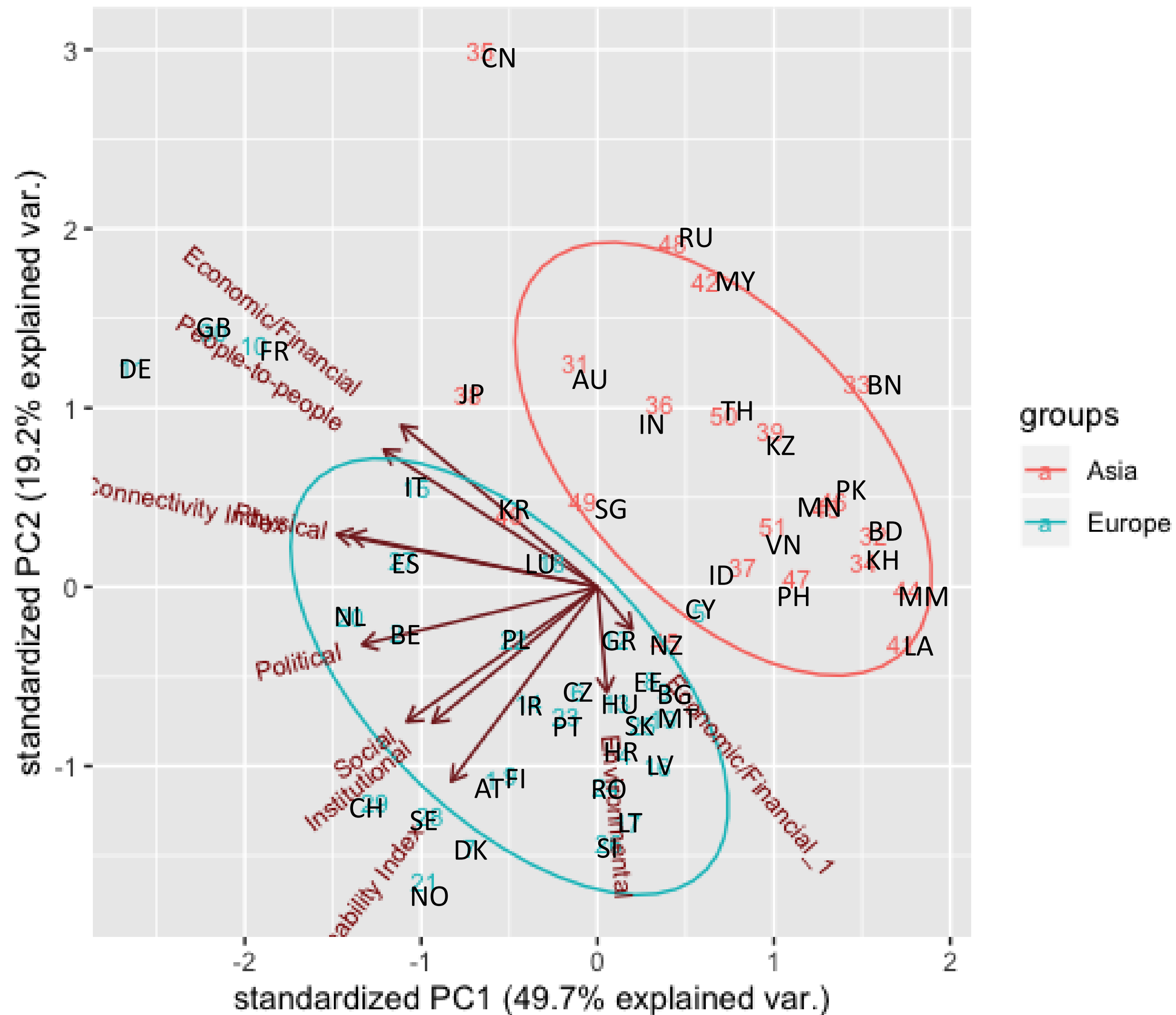
# RESULTS

# LIST OF COUNTRIES



Index	Country	Index	Country	Index	Country	Indeks	Country	Indeks	Country
1 AT	Austria	11 DE	Germany	21 NO	Norway	31 AU	Australia	41 LA	Lao
2 BE	Belgium	12 GR	Greece	22 PL	Poland	32 BD	Bangladesh	42 MY	Malaysia
3 BG	Bulgaria	13 HU	Hungary	23 PT	Portugal	33 BN	Brunei	43 MN	Mongolia
4 HR	Croatia	14 IR	Ireland	24 RO	Romania	34 KH	Cambodia	44 MM	Myanmar
5 CY	Cyprus	15 IT	Italy	25 SK	Slovakia	35 CN	China	45 NZ	N Zealand
6 CZ	Czech	16 LV	Latvia	26 SI	Slovenia	36 IN	India	46 PK	Pakistan
7 DK	Denmark	17 LT	Lithuania	27 ES	Spain	37 ID	Indonesia	47 PH	Philippines
8 EE	Estonia	18 LU	Luxembourg	28 SE	Sweden	38 JP	Japan	48 RU	Russia
9 FI	Finland	19 MT	Malta	29 CH	Switzerland	39 KZ	Kazakhstan	49 SG	Singapore
10 FR	France	20 NL	Netherlands	30 GB	U Kingdom	40 KR	Korea	50 TH	Thailand
								51 VN	Vietnam

# BIPLOT PCA

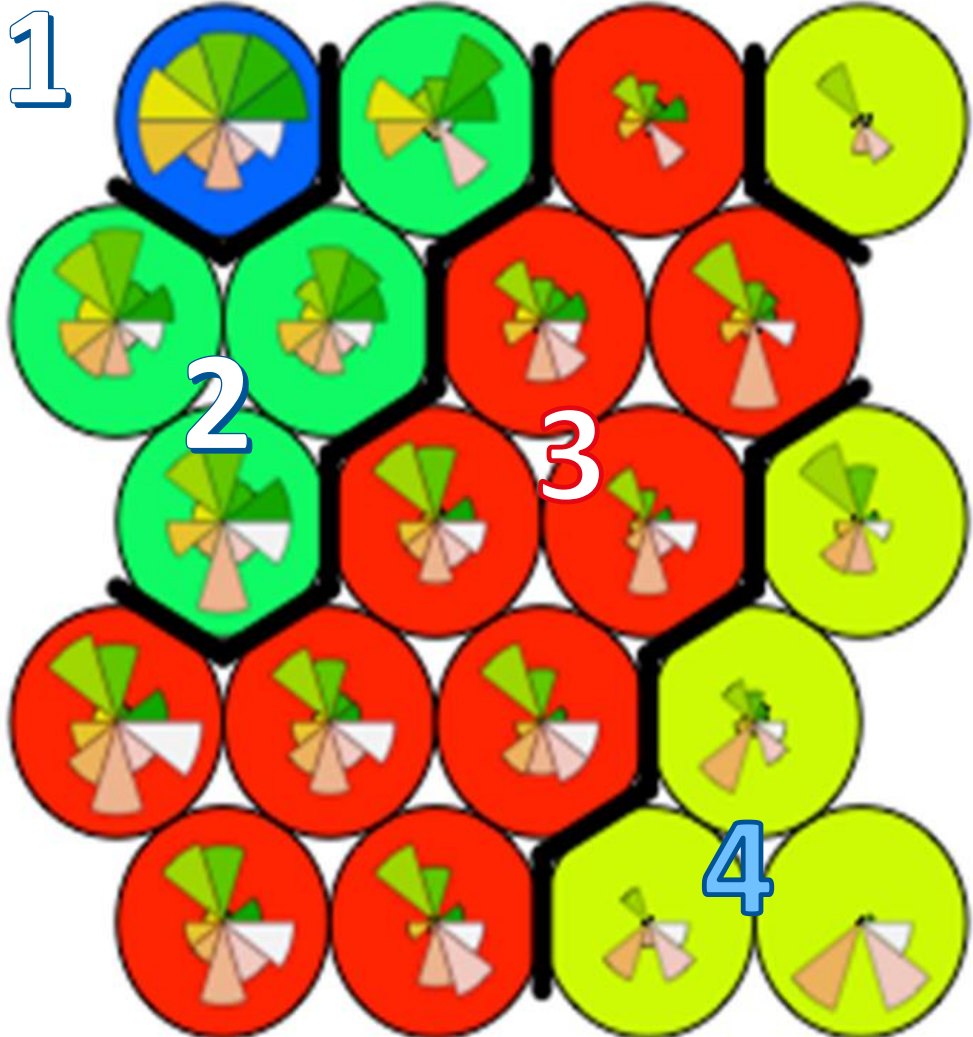












- Countries in Asia and Europe exhibit different characteristics. Almost all the Asian countries are located on the opposite side of the arrow direction which represents the indicators.
- BN(33) and KZ(39) are negatively related to the Social and Institutional indicators. VN(51) is negatively related to the Politics indicator. MY(42) and RU(48) negatively related to the Environmental indicator. MM(44) and LA(41) are negatively related to the Economic/Financial and People to People Connection indicator.
- GB(30), FR(10) and DE(11) are very strong in Economic and People to People Connection, NO(21) in Sustainability, CH(29) in Social and Institutional indicators.
- CN (35) is very strong in Economic/Financial and People to People Connection but at the cost on its environment



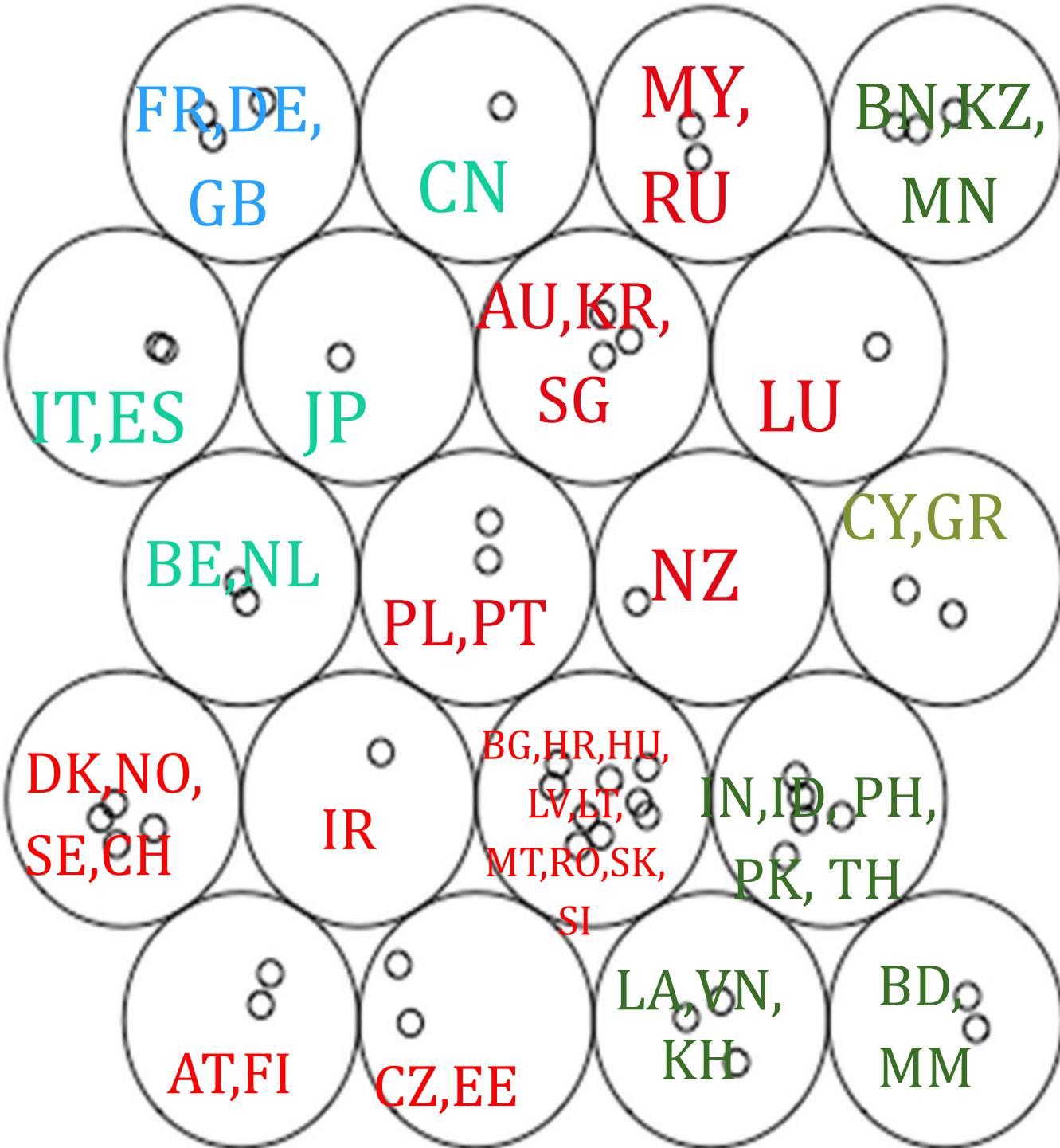
# SOM-KOHONEN

Codes plot



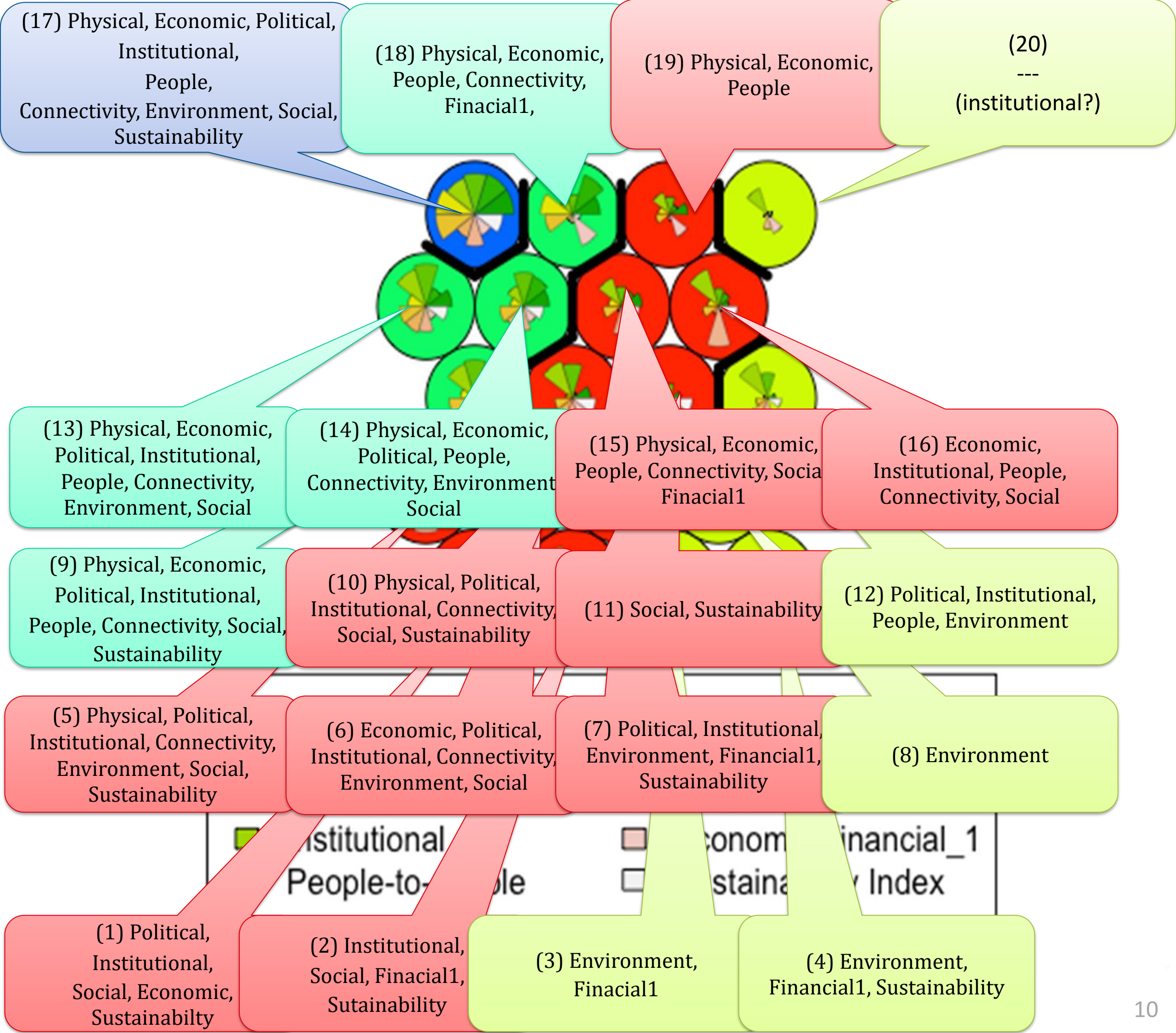
 Physical	 Connectivity Index
 Economic/Financial	 Environmental
 Political	 Social
 Institutional	 Economic/Financial_1
 People-to-people	 Sustainability Index

Mapping plot

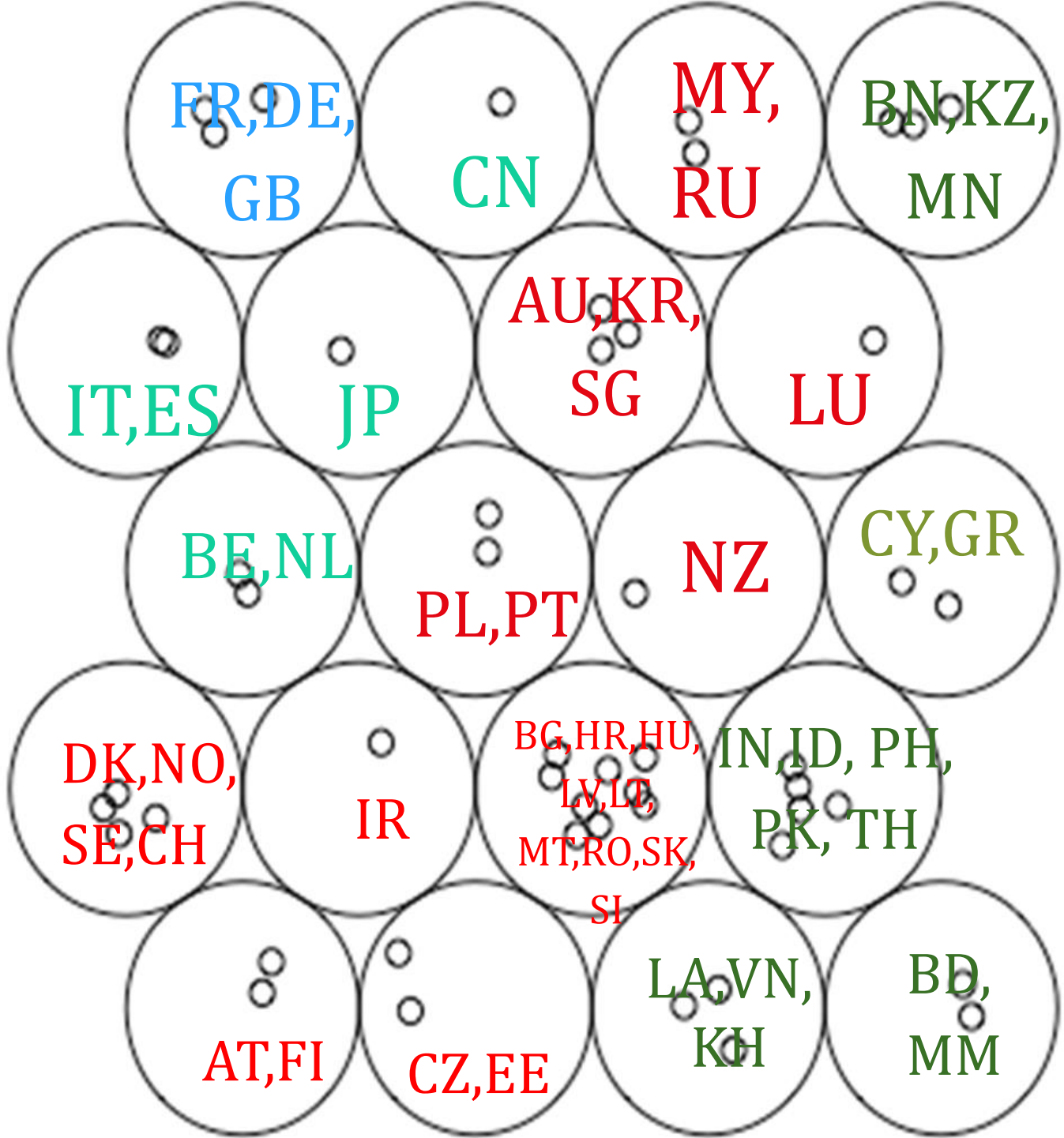




# SOM-KOHONEN

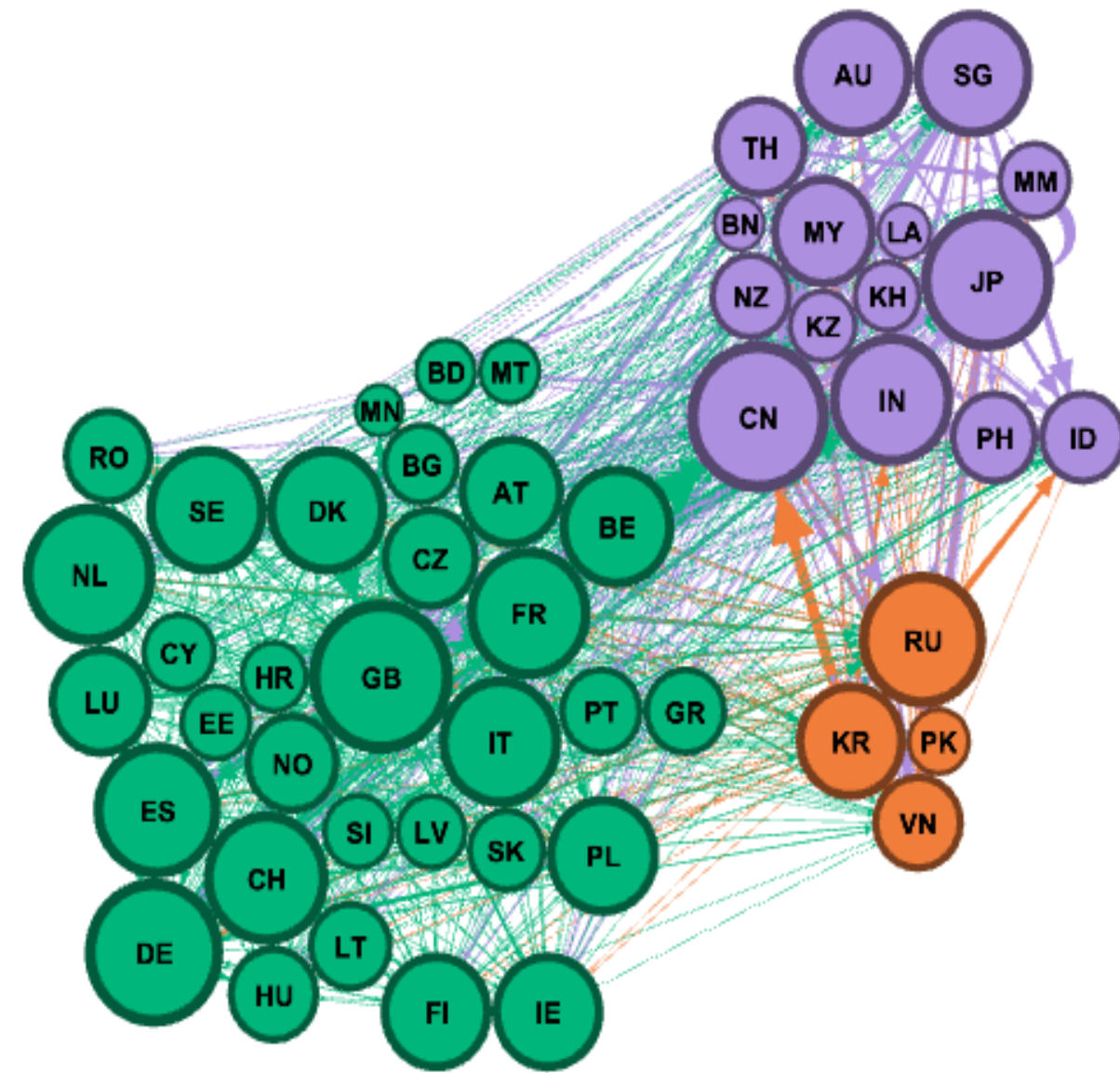


Mapping plot



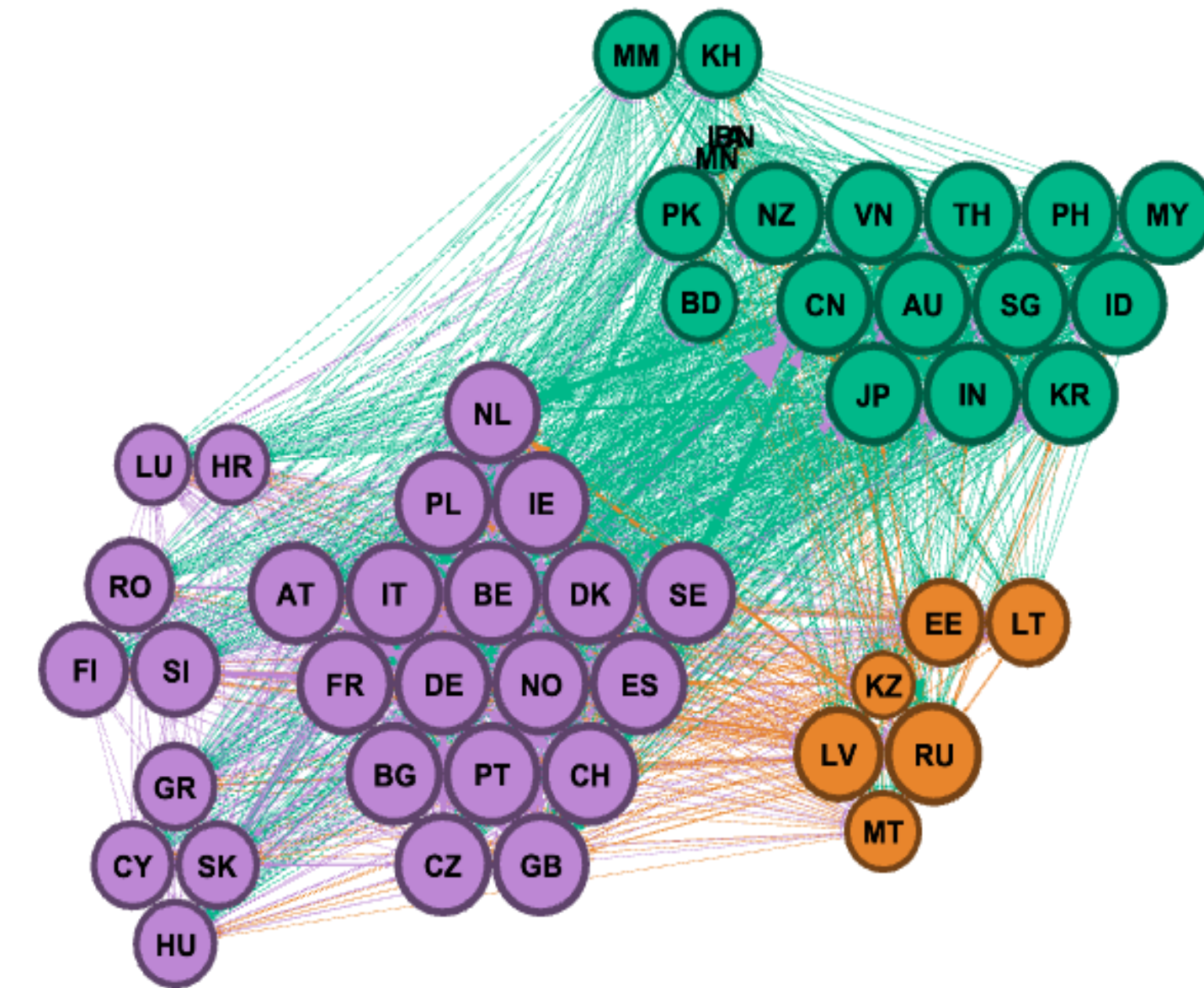


# SNA MODULARITY



Foreign Direct Investment

- For FDI, three clusters of modularity are identified.
- RU, KR, VN, and PK becomes small cluster along with the bigger Europe and Asia Clusters

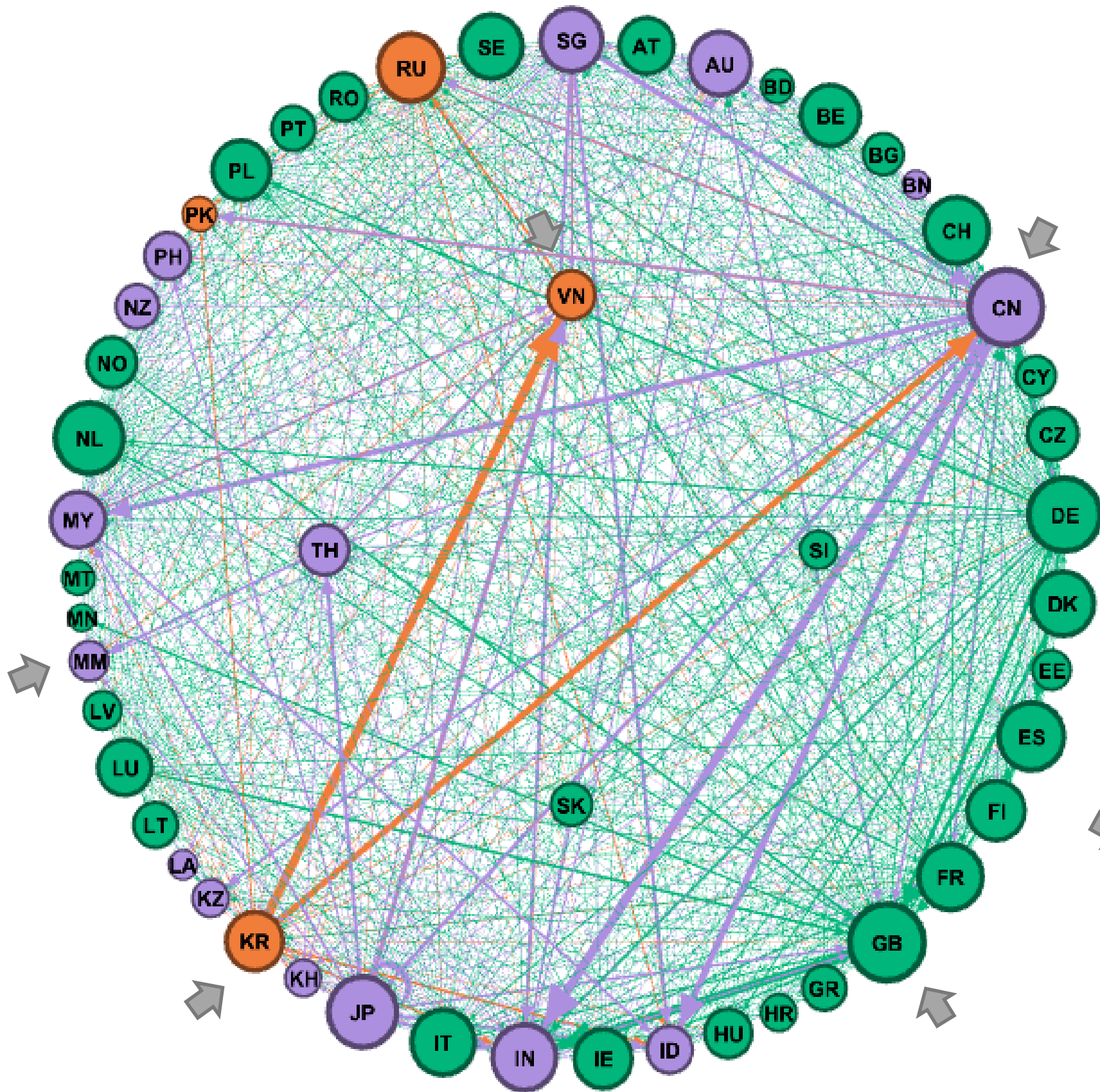


Trade in Goods

- Trade in Goods provides a more complex structure. Europe cluster divided into four sub-clusters.
- Connection between Europe and Asia mostly occurs through West European Countries.
- Central and East European countries are more closely related to the West Europe.
- It seems that connection is more intense if the countries <sup>11</sup> located in the same region or sharing a common history.



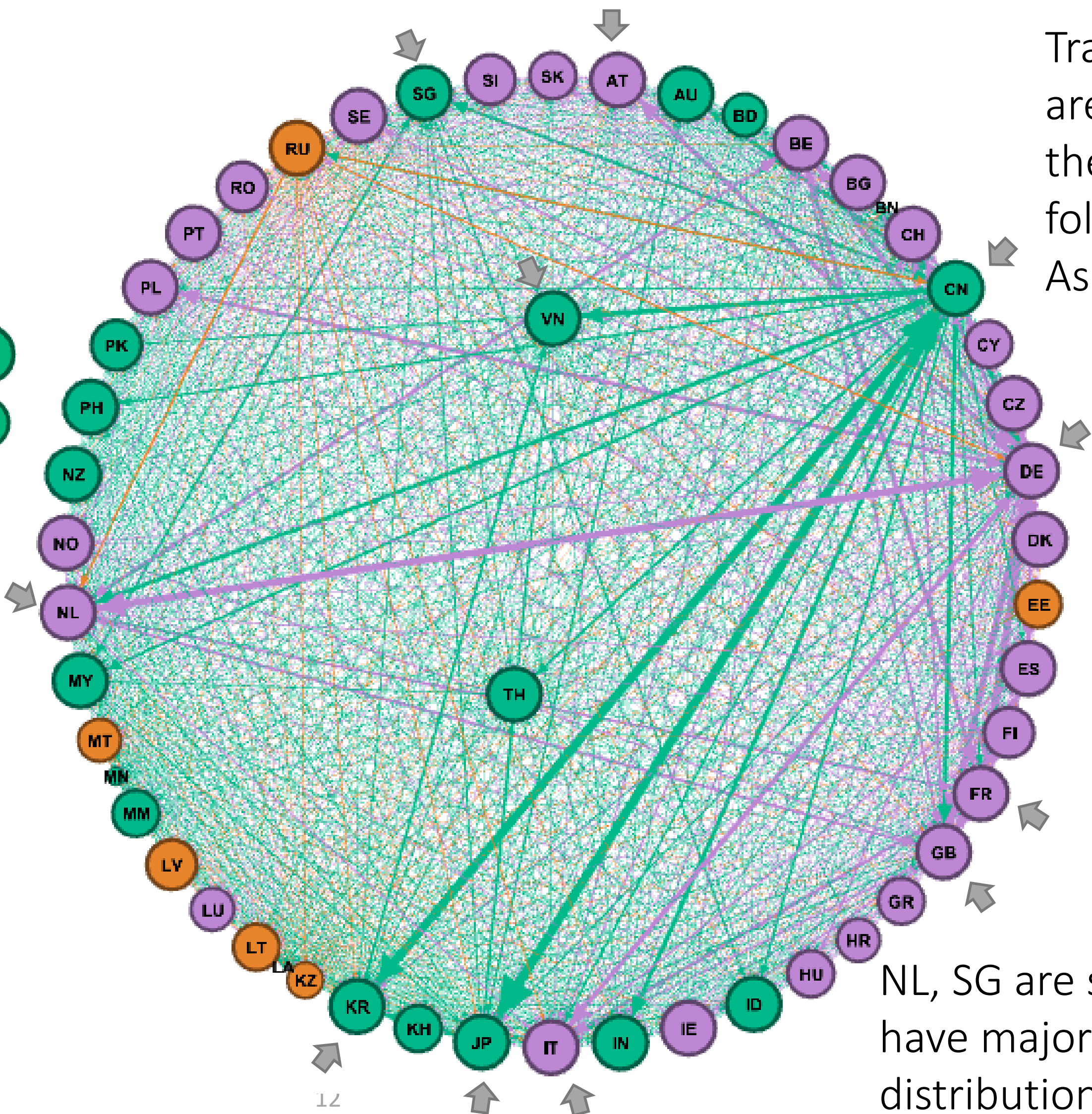
# SNA FOR FDI AND TRADE IN GOODS



**Foreign Direct Investment**

CN is the main source of FDI in ID, IN, and MY whilst KR is the main source of FDI in CN and VN. GB also has a prominent role in IN. Tough, the pattern of FDI is not so apparent in Europe

**Trade in Goods**



Trade in goods, CN and DE are the main player in their respected region, followed by JP and KR in Asia, and NL in Europe

NL, SG are small countries, but they have major roles in logistics and distribution.





# **DISCUSSION**

- Based on the SOM and PCA, **none of the Asian countries is related closely to the institutional indicators.** Yet, **Europe is excelling in Institutional indicators** compare to its counterpart in Asia.
- FDI in Asia is concentrated in some countries. **IN and ID are among the largest recipient of FDI**, mainly from China whilst **VN receive FDI mostly from KR. CN also receives FDI from JP and KR** whilst **ID also receives FDI from GB**. Both ID and IN are the largest economy in SE Asia and South Asia, therefore they have opportunities to be the economic powerhouse in their region
- Central European countries, such as BG, HR, HU, LV, LT, MT, RO, SK, SI are constrained by their scale. **Some of these countries are trying to capture FDI and flow of trade through the modern silk-road from China and compete to be the main gates between Asia and Europe** (especially after BRI was launched in China). But these countries have overlooked the potential of the other Asian Countries such as IN, ID, PH, TH, SG and MY which are traditionally connected to the West Europe for their exports and trades, especially with GB and NL.

- **The networks for BN and KZ, which are rich in natural resources, are limited.** Thus, these countries need to improve the networks and participation in GVC to diversify their economy, in anticipation when their oil depleted or alternative energy is used to replace the fossil fuel as the main source of energy
- **MM, LA and KH are lack of resources in all aspects. Implementing GVC may put their countries at risk to be controlled by foreign investors.** Inclusion for these countries can be started from the nearest neighbour countries, for instance, MM, LA, KH with TH and VN rather than with CN which involving a large amount of money



# CONCLUSIONS



- **Joining GVC is faster than the old import-substitution route.** The developing nations that adopted this new strategy are called **emerging market economies**. It shifts the locus of globalization from sectors to stages of production.
- **GVC not only stimulates economic growth, but it also creates economic polarization into three economic regions,** i.e. China in Asia, Germany in Europe and the United States in North America.
- **These opportunities can be improved by enhancing the networks outside the traditional ones which are still undeveloped.**
- Countries in **Central Europe may exploit the opportunities of GVC and higher education collaboration with Asian countries.**





**THANK YOU**

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