



Société Chéroise d'Elevage de Poulet

Where should our French chicken be exported?

Choice of exportation country

Characteristics of French chicken



- High environmental value
- High meat quality
- High price

France / EU

Presence of animal welfare regulations

Ban on animal bonemeal and growth promoters

Strict waste management

US / World

No animal welfare rules

Bonemeal and growth promoters allowed in most countries

liberal waste disposal

Choice of exportation country

Indicators of interest



THE WORLD BANK

- GDP in dollars
- Index of ease of business (2019)
- Logistics performance index (2018)
- Political stability index
- Population
- Consumer price index



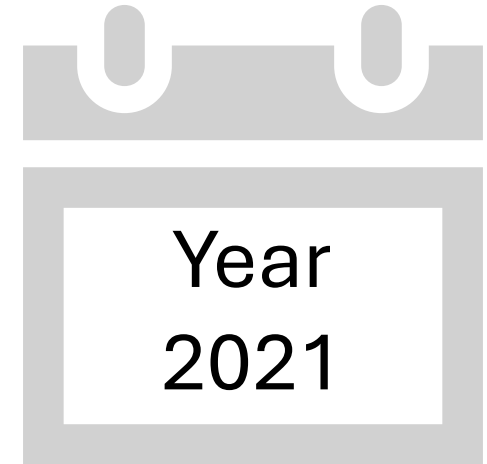
- Corruption Perception index



- Chicken consumption
- Chicken import quantity
- Chicken import value



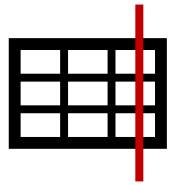
- Share of customer expenditure spent on food



Last year before geopolitical mess

Data cleaning and completion

The final table has 181 rows and 13 columns



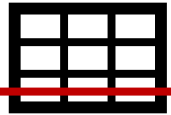
Indicator removal

Share of customer expenditure spent on food



Calculate new indicators

- GDP per capita
- Chicken import price
- Chicken consumption per capita



Rows removal

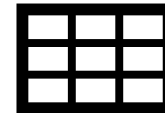
67 with more than 2 NAs



Fill missing values

Random Forest predictor

Raw values table

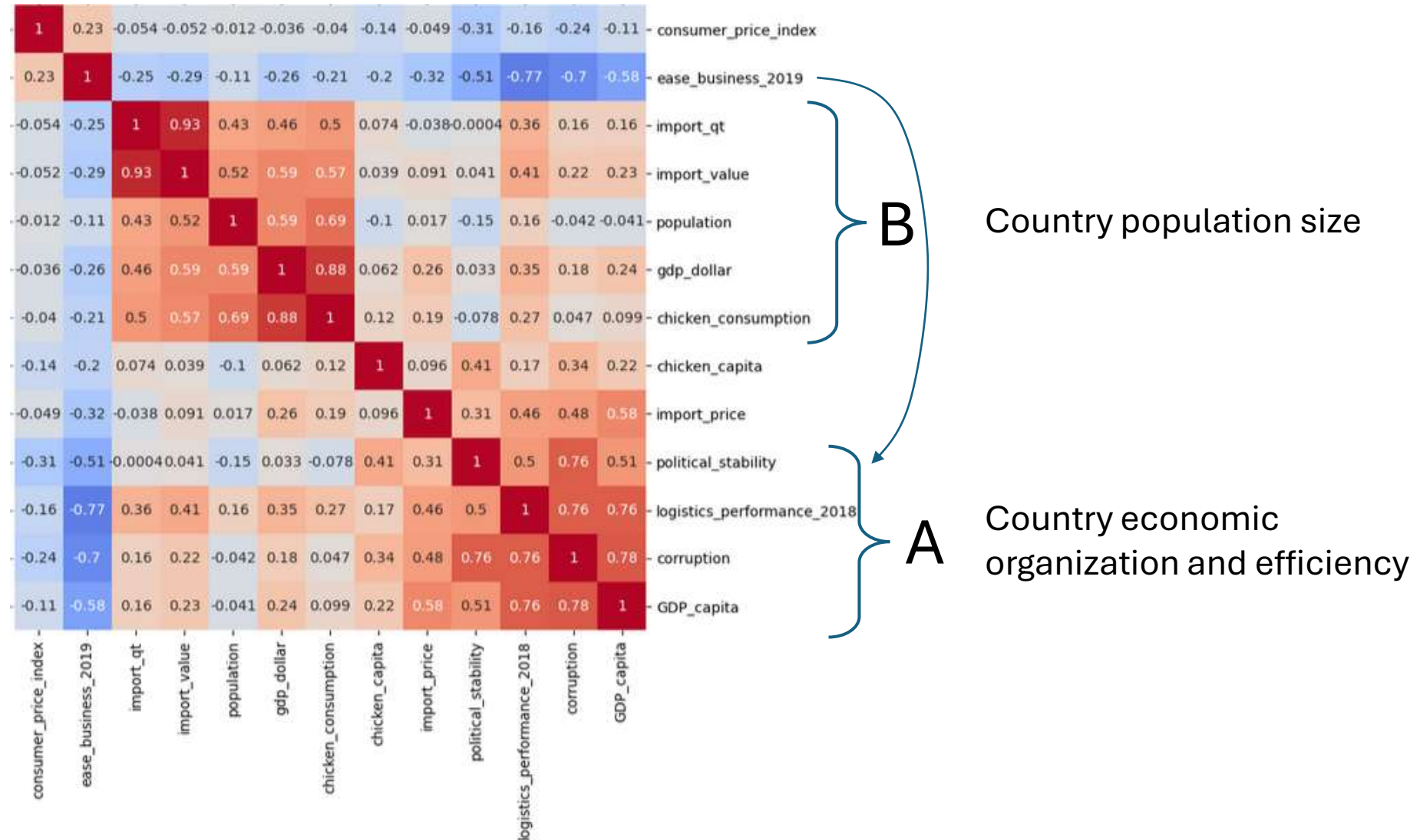


Scaled table



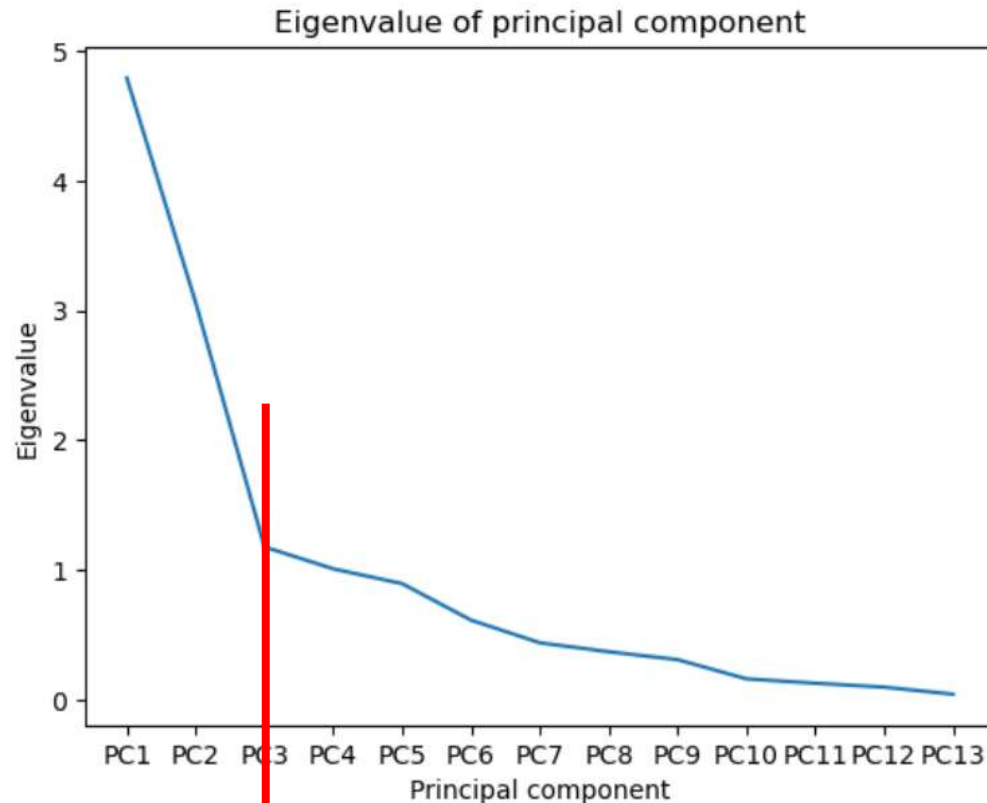
Correlations between variables

Two main groups of variables are clearly visible

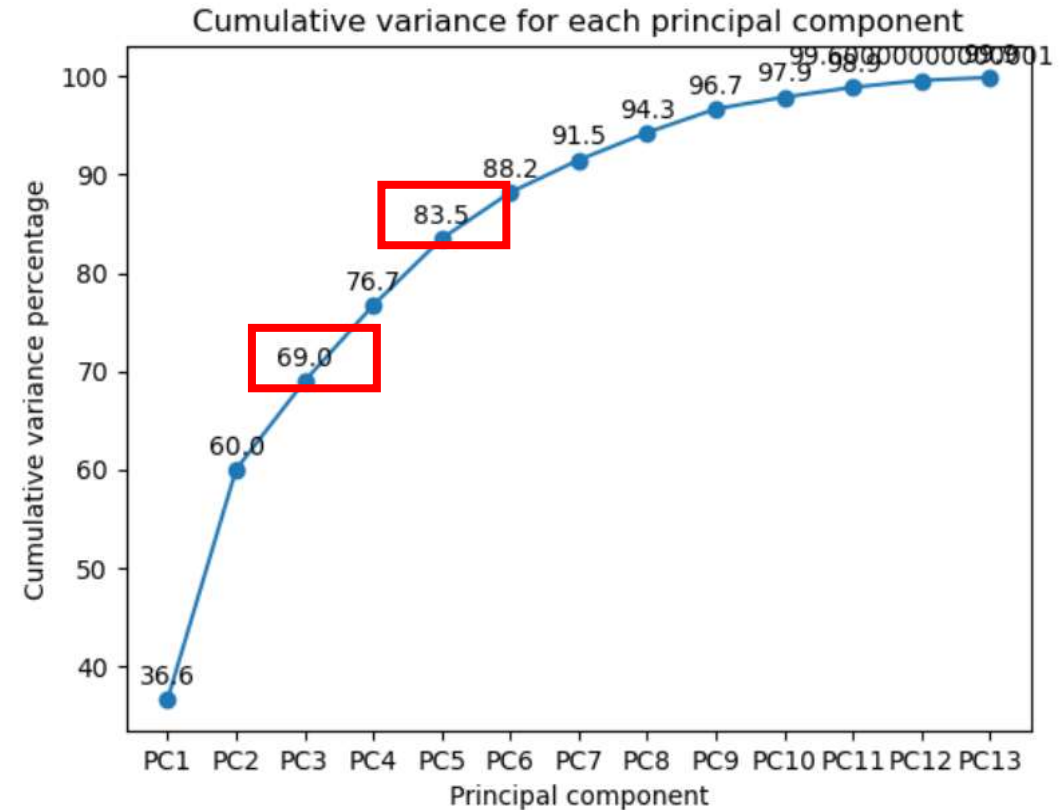


Number of components of the PCA

5 PC explain 80%+ of the variability



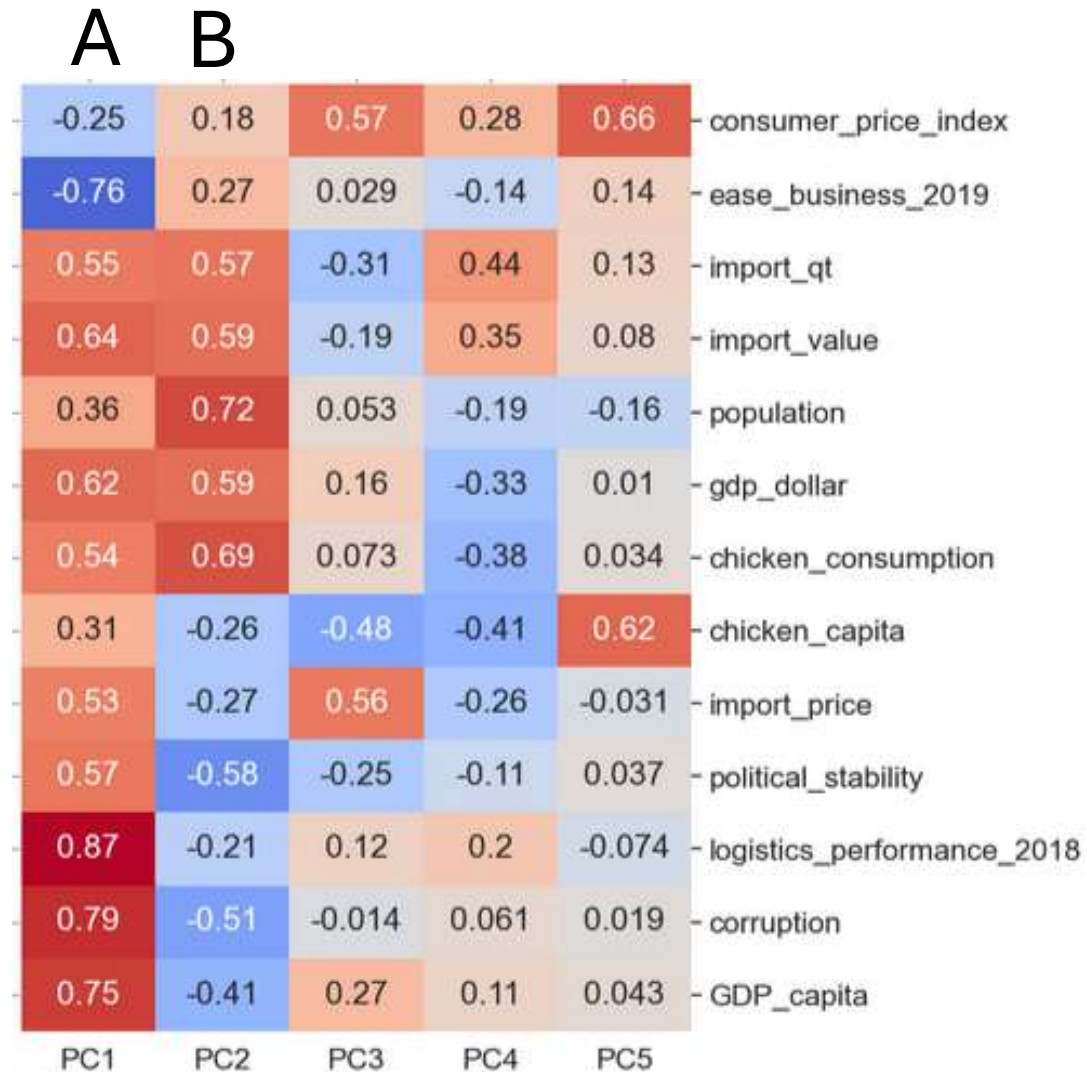
Elbow at PC3



We want more than 80% of variability, so we go until PC5.

Understand the PC

Concrete (and imperfect) equivalents



PC1: Performance and organization of the economy.

PC2: Country population size.

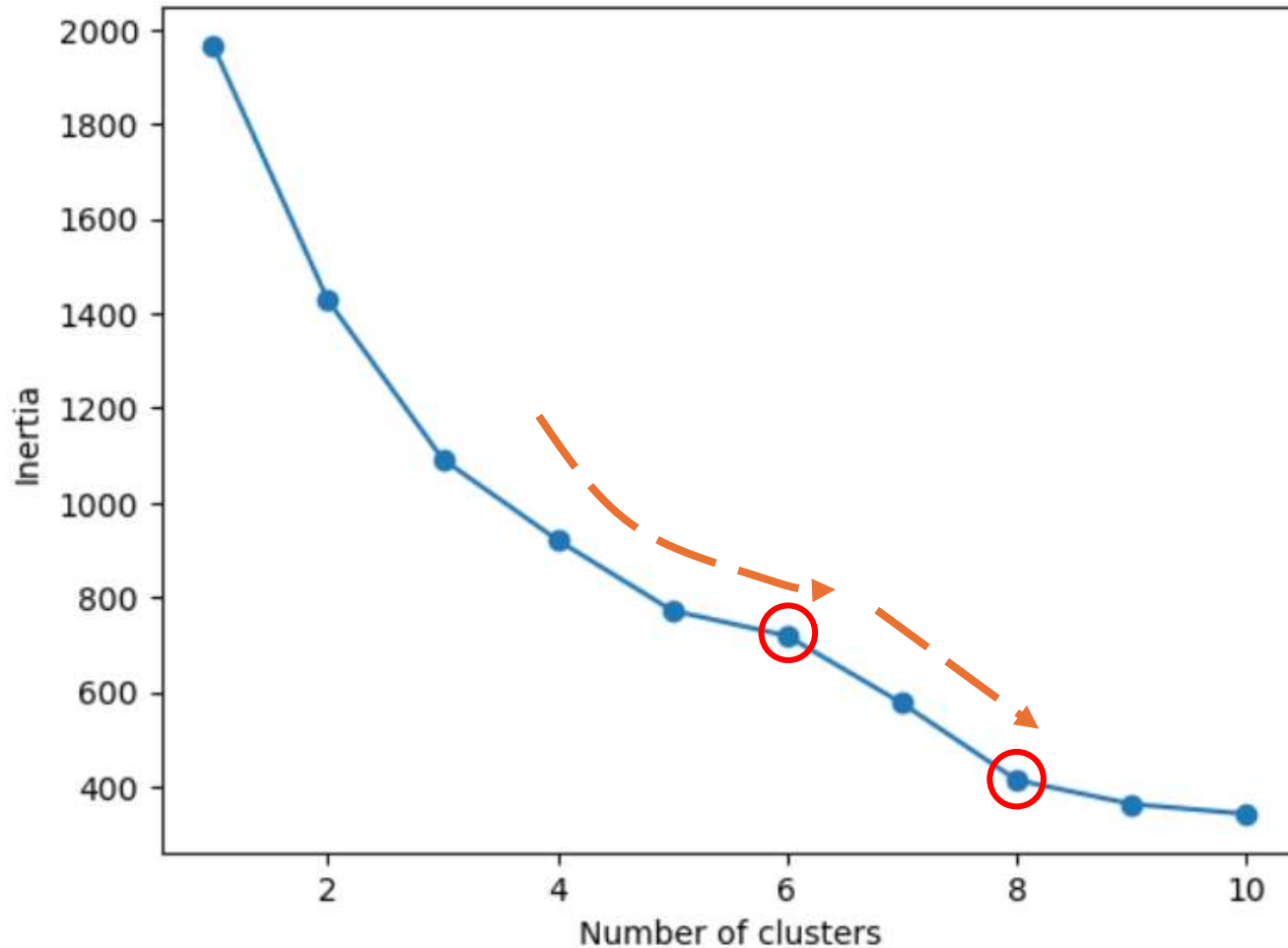
PC3: Price of imported goods in general.

PC4: Low chicken production (low consumption despite higher imports).

PC5: Countries with high overall prices and chicken consumption.

Cluster the countries

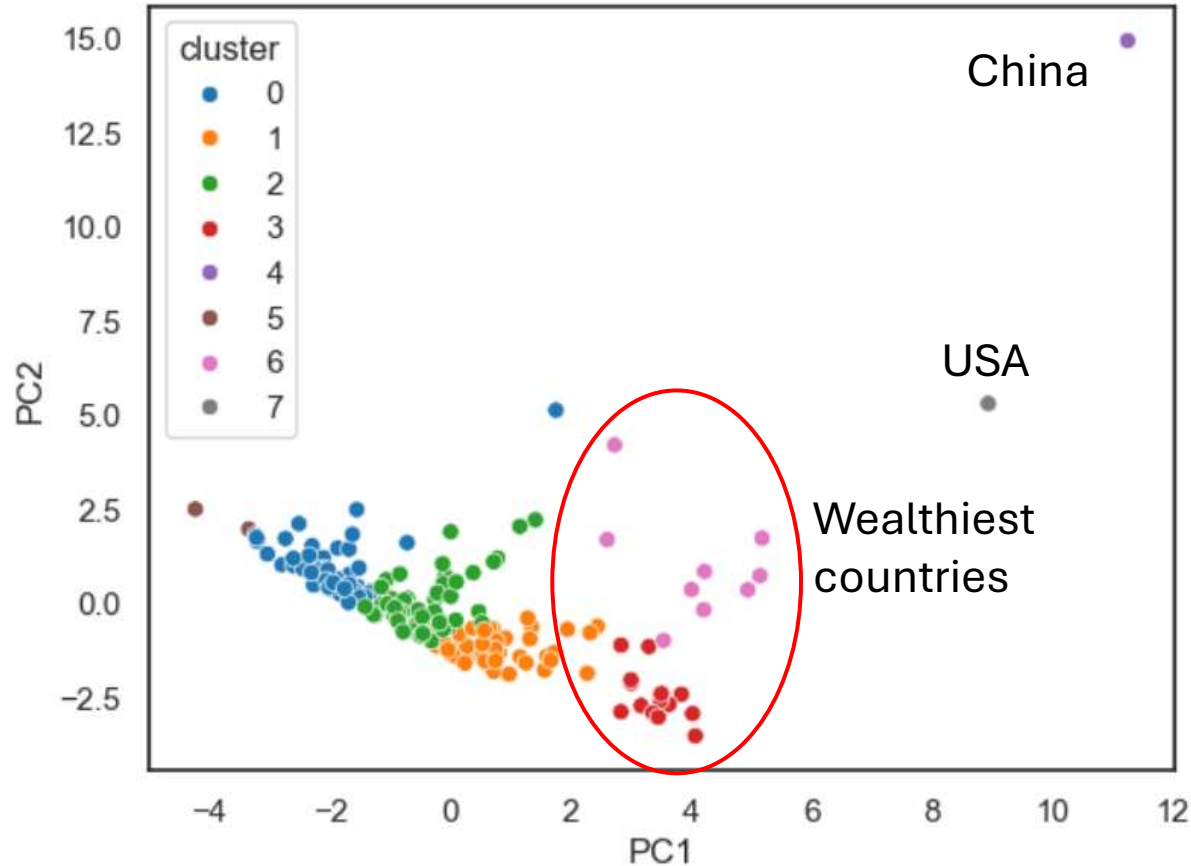
Adding extra clusters puts the outliers aside



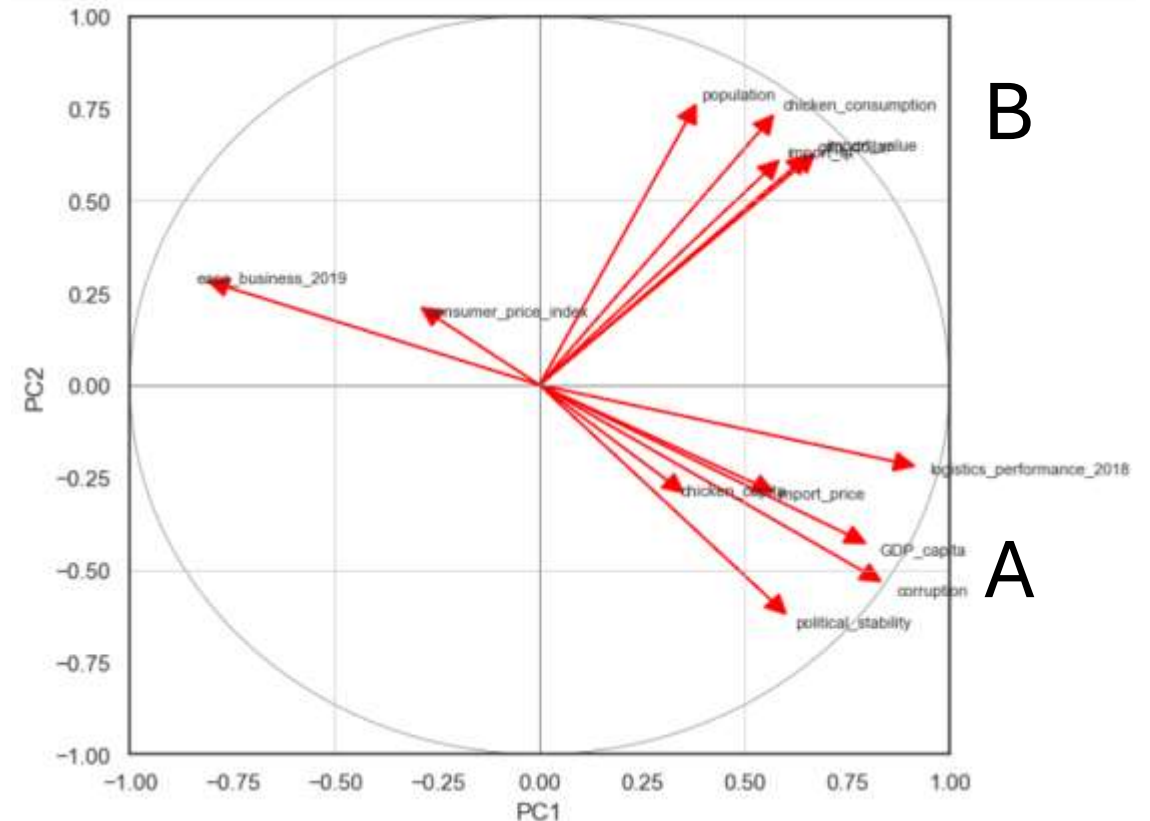
We will look for 8 clusters, we expect 2 or 3 to be very small, outlier groups.

Cluster the countries

The clusters are very close to each other



The clusters 4, 5 and 7 are the outliers.



The clusters 3 and 6 are the wealthiest countries.

Choice of target countries

List of countries with higher import prices than France

Aim at countries with:

- High import prices
- French-speaking
- No boat-shipping involved

	country	import_qt	import_value	import_price	chicken_capita
→	Denmark	37931.53	133339.0	3.52	14.991
	Finland	3745.83	13612.0	3.63	18.950
	Iceland	1298.29	5547.0	4.27	26.732
	Ireland	51326.25	176300.0	3.43	19.594
	Sweden	53318.32	176398.0	3.31	13.420
	UK	355374.17	1179164.0	3.32	26.656
→	Austria	48124.41	166682.0	3.46	11.618
	France	440762.28	1182011.0	2.68	16.969
→	Luxembourg	8366.92	42823.0	5.12	12.304
→	Switzerland	30051.49	136780.0	4.55	15.715
	New Zealand	1.67	7.0	4.19	24.356



Thank you for your attention