

# A comparative analysis of Switzerland's food self-sufficiency ratio

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## Motivation

Global shocks such as the COVID-19 pandemic and the war in Ukraine have brought food self-sufficiency back onto the political agenda of countries dependent on food imports.

## Research questions

- (1) What factors influence a country's food self-sufficiency rate?
- (2) Is Switzerland's food self-sufficiency ratio (SSR) similar to that of other countries with similar economic and natural conditions?

## Data

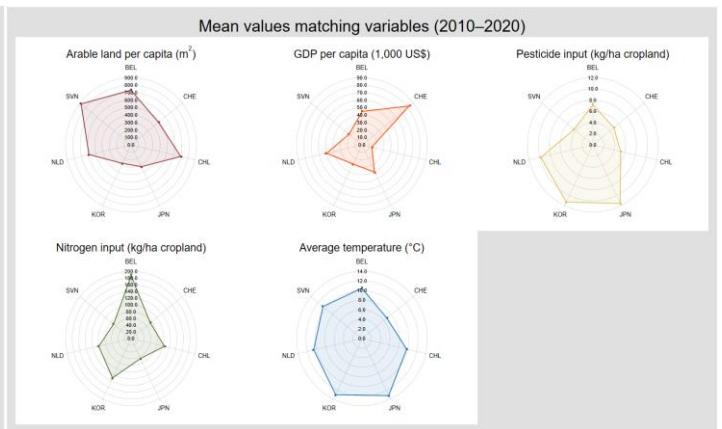
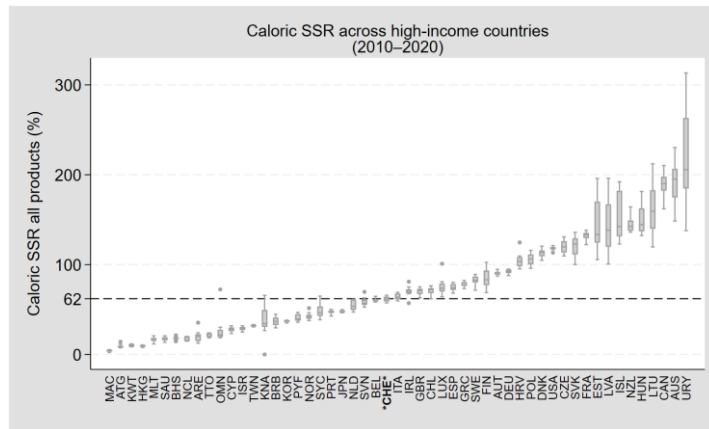
- Food Balance Sheet data from the FAO
- The caloric SSR was calculated for high-income countries for the period 2010–2020:

$$Caloric\ SSR_{cit} = \frac{Domestic\ production_{cit}}{Domestic\ consumption_{cit}}$$

## Methods

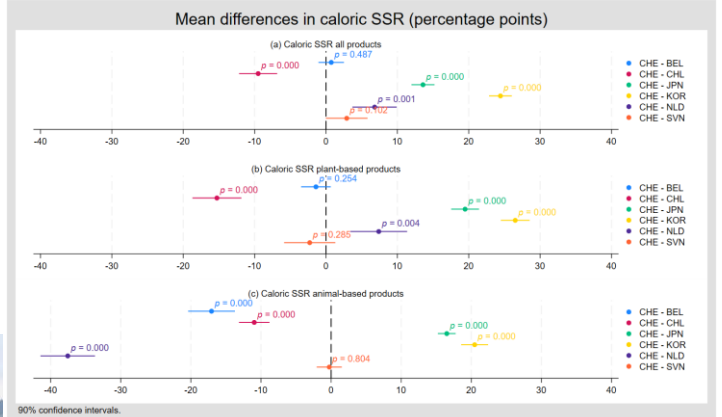
- Literature review
- Factors: Arable land per capita, GDP per capita, pesticide and nitrogen inputs, and average temperature
- Mahalanobis Distance Matching + OLS regression

## Results



Switzerland's natural and economic conditions are similar to those of the following six countries:

- Belgium (BEL)
- Chile (CHL)
- Japan (JPN)
- South Korea (KOR)
- The Netherlands (NLD)
- Slovenia (SVN)



## Summary

- Countries with similar natural and economic conditions to Switzerland's include Belgium, Chile, Japan, South Korea, the Netherlands, and Slovenia.
- Switzerland's SSR shows no difference or is significantly higher than similar countries.
- Switzerland's food self-sufficiency is neither significantly better nor worse than that of countries with similar natural and economic conditions.