



Consumer perspective in the SUSFANS toolbox models

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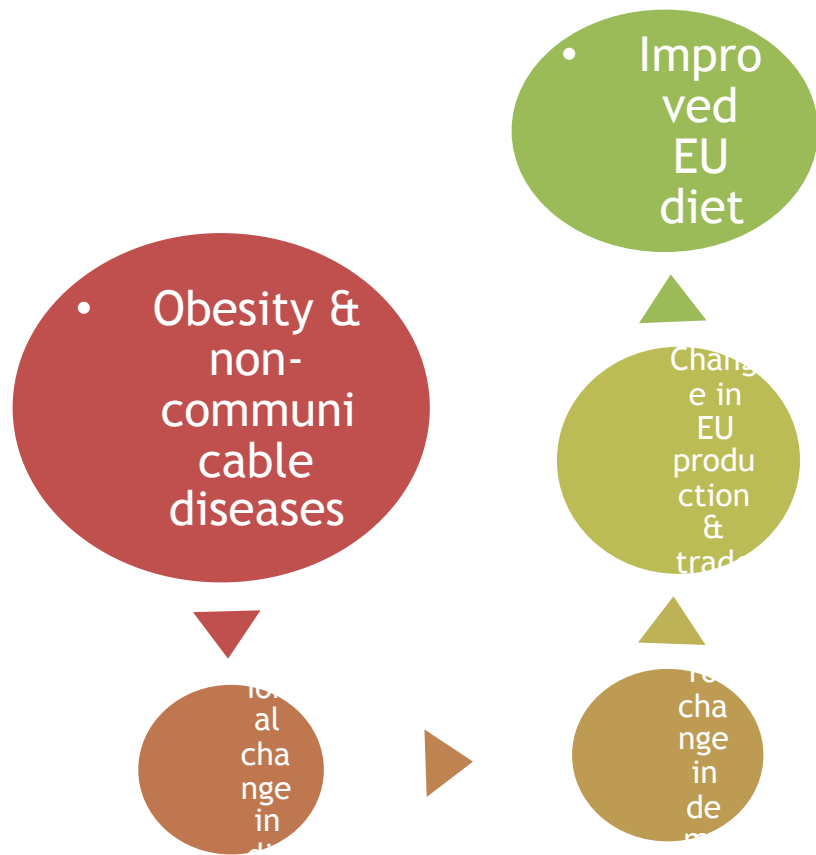
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- Why & how of macro representation of consumers
- Connection to consumer behaviour research
- Linking macro models to micro data on food intake
- Confronting macro and micro food-related data - first findings



Why do we model demand at macro level?



- EU level challenges require **national level interventions** to change diets
- This will induce **food system changes** both inside and outside the EU
- **Impact** on diets, and other policy objectives (profitability, environment, equity) **not analytically tractable**, hence modelling

What key elements for SFNS are inside the macro models?

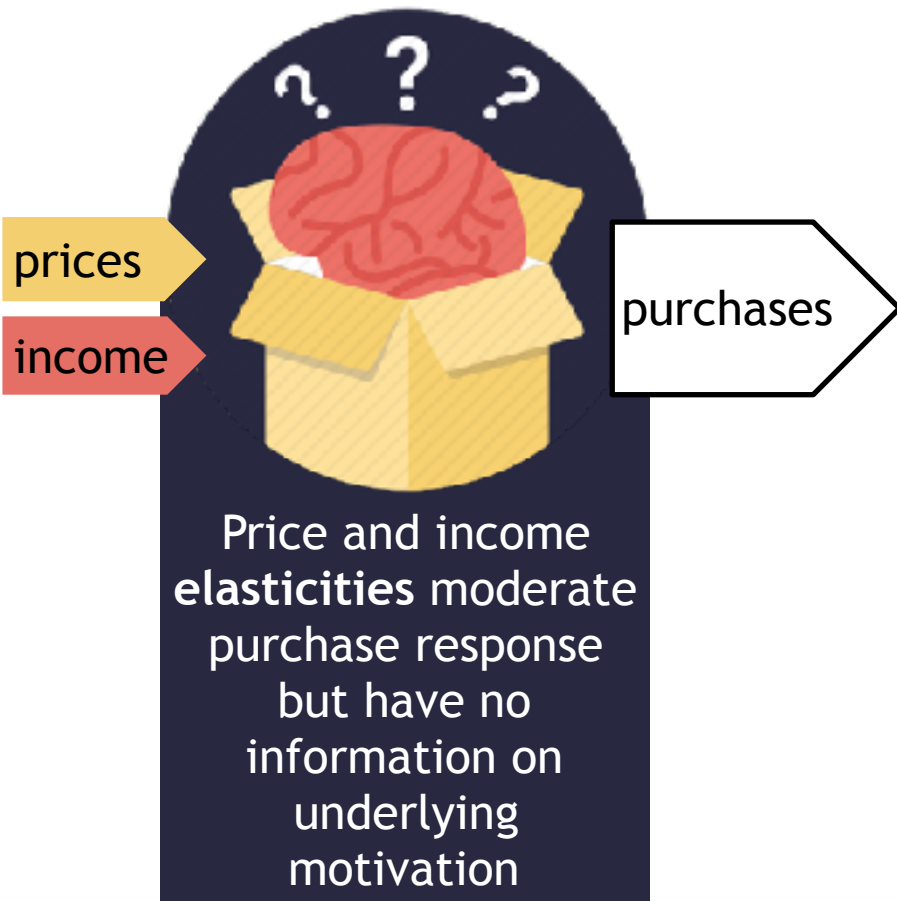


Macro models - no consumer types but capture interactions production & trade



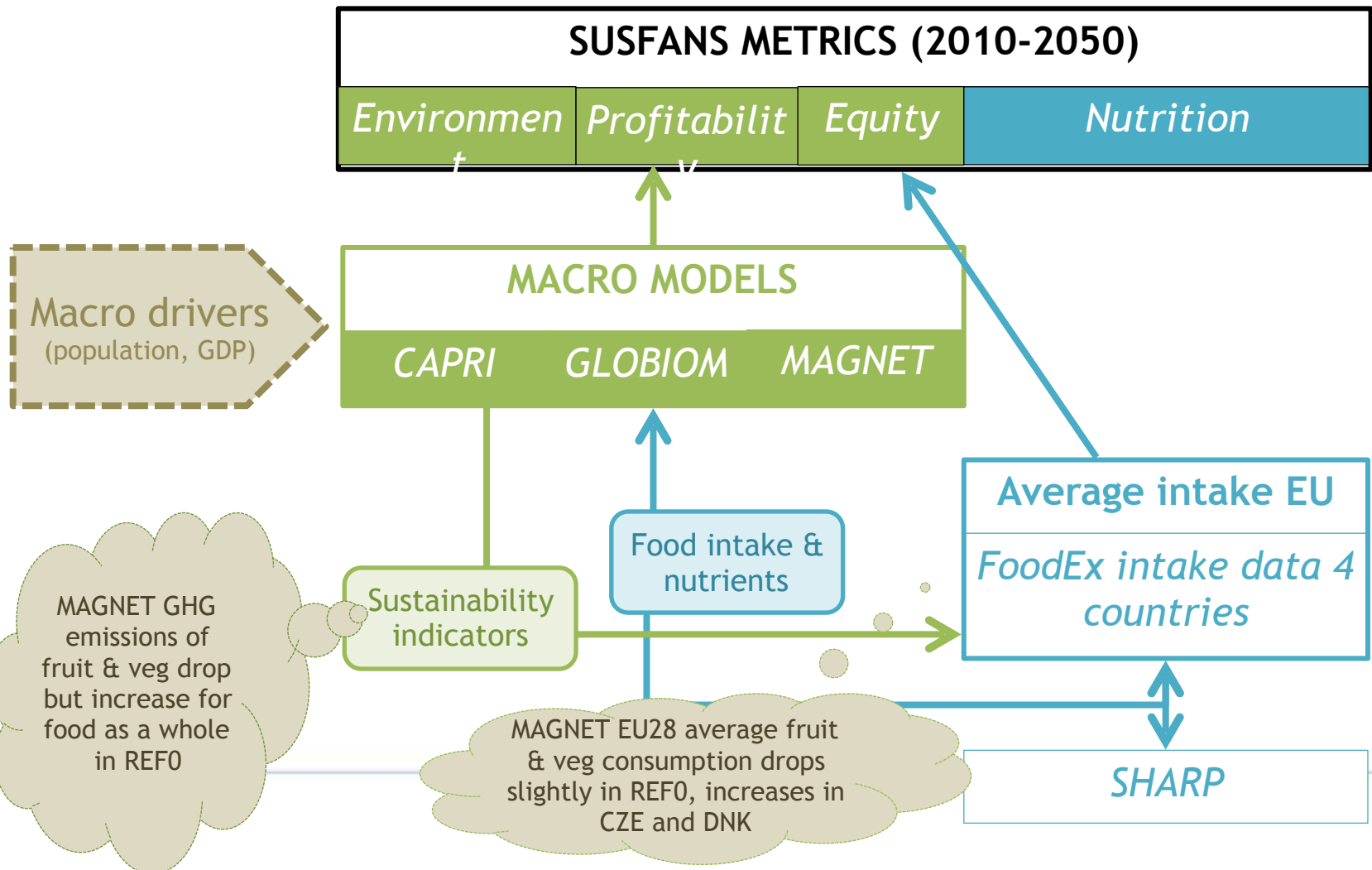
- Effectively **one consumer** by country (except for multiple household types in MAGNET)
- **Global coverage** of consumer demand and its interactions with production & trade

What's the link between macro models and consumers research?



- A link between prices/ income and purchases is estimated: **income and price elasticities**
- **Non-monetary concerns** are captured if affecting observed purchases but **cannot be “unpacked”**
 - For example cannot determine if lack of response to a lower meat price is because of being vegetarian, on a hype diet excluding meat, or

How to link between the macro models and micro diets?



How to link macro models & micro data

macro availability vs. micro food intake

FAO

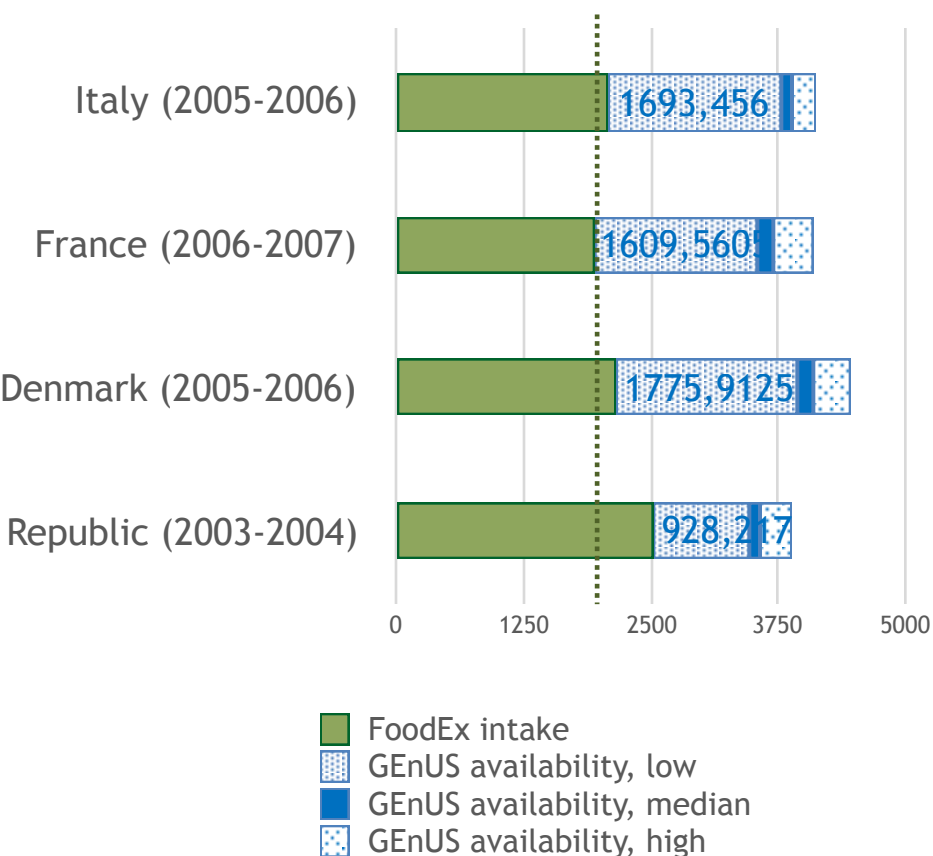
**national
food
availability
data,
global
dataset,
225 items
(GEnUS)**



FoodEx

**individual
food
intake
data,
for 4 EU
countries,
1063
items
(FoodEx2)**

Kcal by country - we have to mind the gap between availability & intake

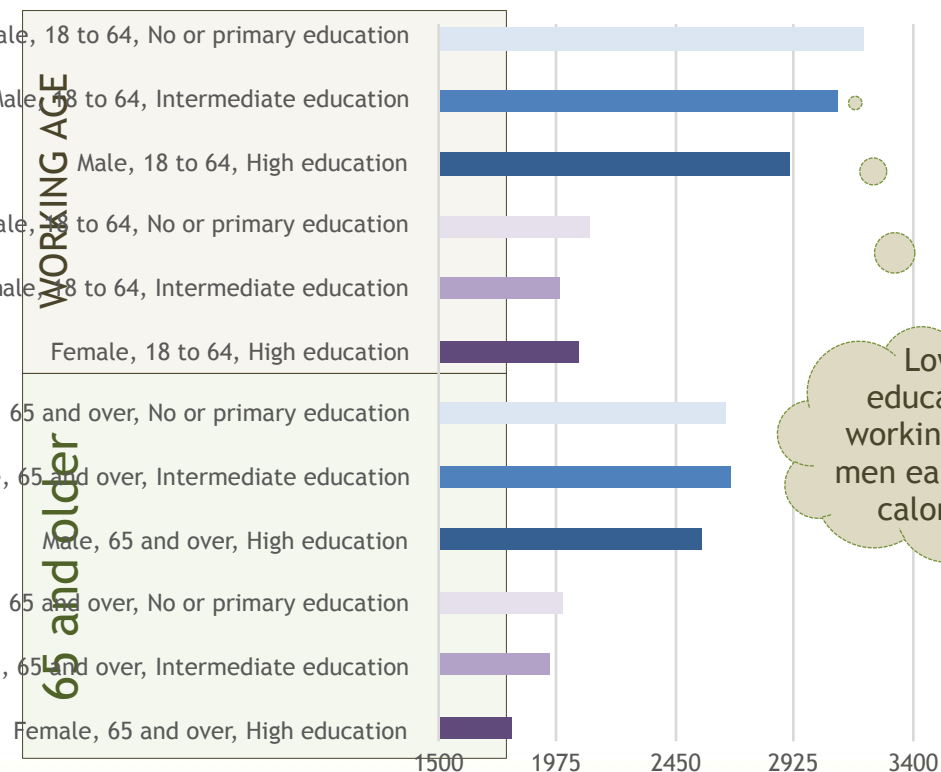


Availability at least 928 - 1776 kCal person/day more than derived from intake data

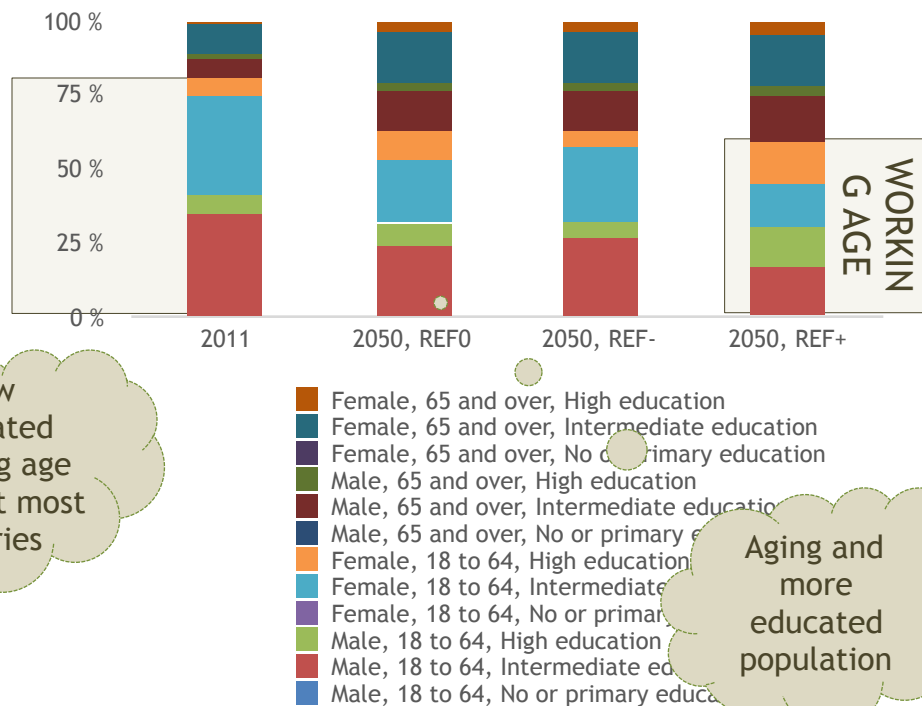
- Representativeness population groups intake survey still to be checked
- GEnUS uses USDA food composition tables, FoodEx country-specific ones
- GEnUS computes consumption as residual from other reported flows
- GEnUS does not capture processing of food (with potential losses)
- Food losses & waste, pet-food,....

Intake varies by demographic group & group sizes change in the scenarios

Intake by group, Czech Republic (2003-04)
Kcal/day, axis at nat. average (2,531 Kcal)



Czech Republic population groups in 2011 and 2050 by scenario

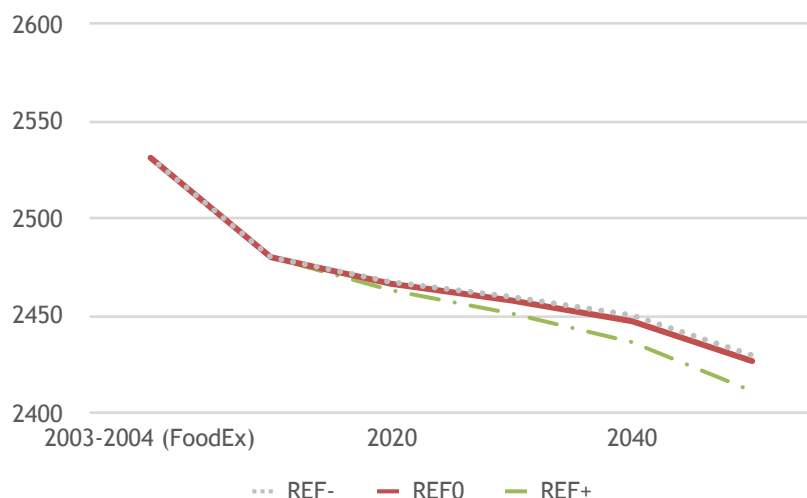


Low educated working age men eat most calories

Ageing and more educated population

Thought experiment: simple extrapolation FoodEx data by demographic group

Extrapolating impact demographic change
on national average Kcal intake in Czech
Republic



Assumptions:

- Calorie intake by group stays at 2003-2004 level
- Use demographic projections from 2011-2050 of SUSFANS scenarios to compute future national average if only demography would change

- **Ageing and more educated population means 2% less calories from 2011-2050 in REF0**
 - Simple extrapolation assuming that diets are fixed and only relative size of groups changes
- **MAGNET results are a 5% increase in calorie availability of REF0 in 2011-2050**
 - Income and price changes induce a change in diet; demographics not explicitly accounted for in demand for food

To take-away from all of this...

- **Macro models** for ex-ante assessment of food system changes & experimental space
 - Key indicators on **profitability, environment and equity**
 - Non-monetary drivers of consumption only captured implicitly & jointly in **price and income elasticities**
 - **Aggregate and production-based** definition of diets
- **Combination with micro data** needed to **quantify developments in nutrition metrics**
 - Large difference between availability & intake data
 - **Challenge to model subnational diet changes:**
 - Change in relative size of demographic groups
 - Intake data not easily connected to changes in income or prices
 - How to account for non-monetary drivers & influence of the environment on intake by demographic group?