HOUSEHOLD FISH CONSUMPTION: DRIVERS AND SUSTAINABILITY EFFECTS

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Horizon 2020 Programme

INRA SCIENCE & IMPACT

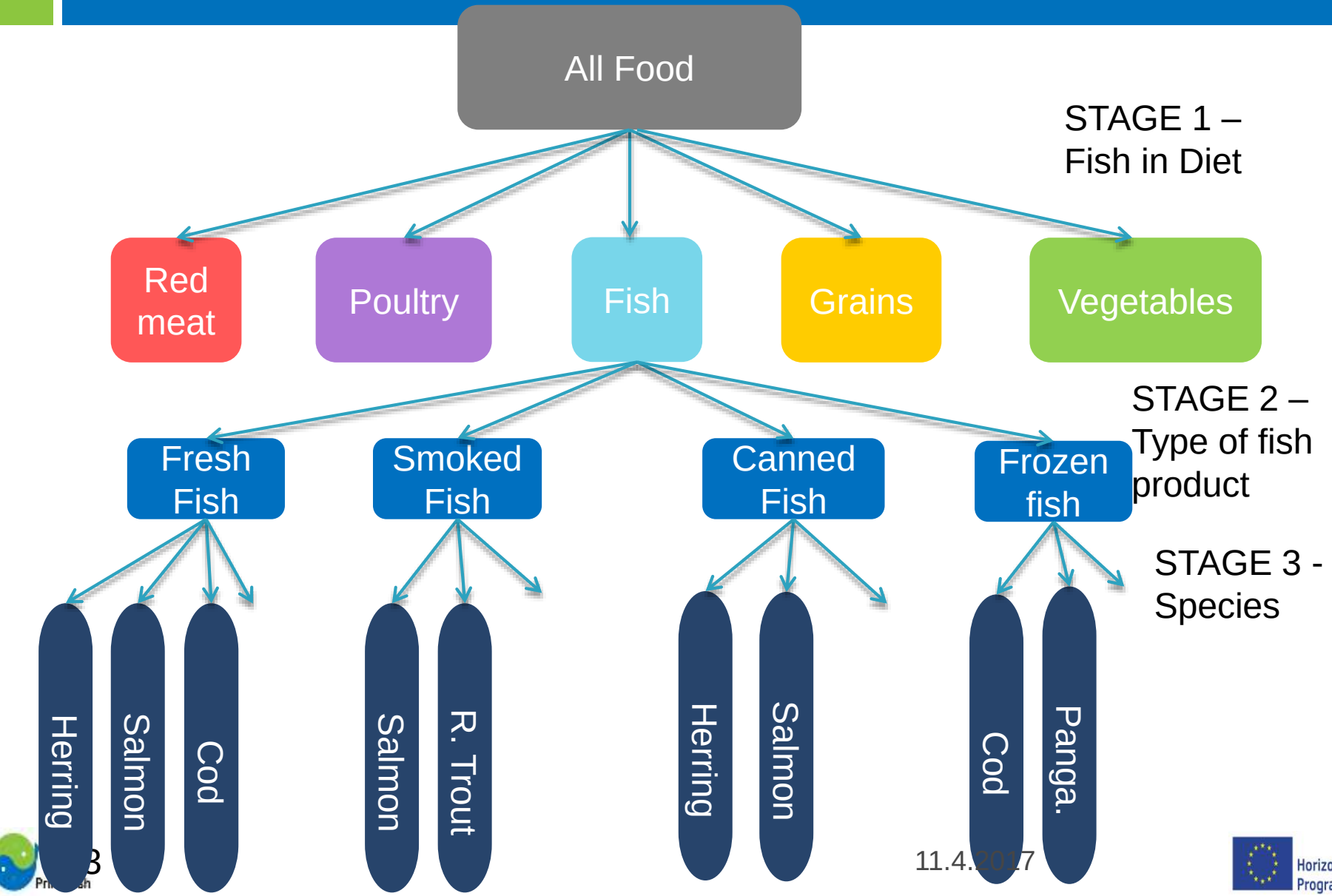
Luke NATURAL RESOURCES INSTITUTE FINLAND

Otmane Boulag, Sterenn Lucas, Louis-Georges Soler (INRA)
Xavier Irz (Luke)

Motivation, Objectives & Approach

- Motivation:
  - Fish markets are changing – why and where to?
  - What place for fish in sustainable diets?
- Objectives:
  - Identify main drivers of demand for PrimeFish species
  - Assessment of sustainability effect of raising fish consumption at the margin and within existing diets
- Approach: data driven, microeconomic, comparative (FR, FI)

Three-Stage Budgeting



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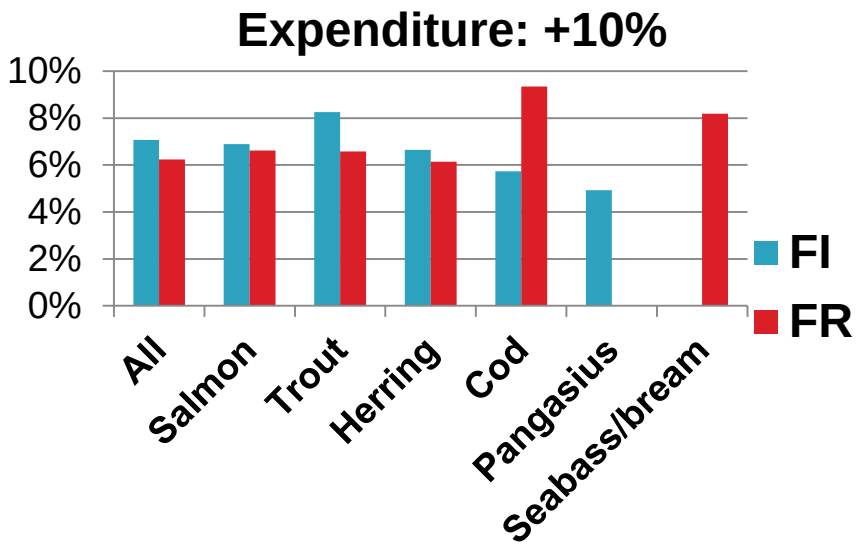
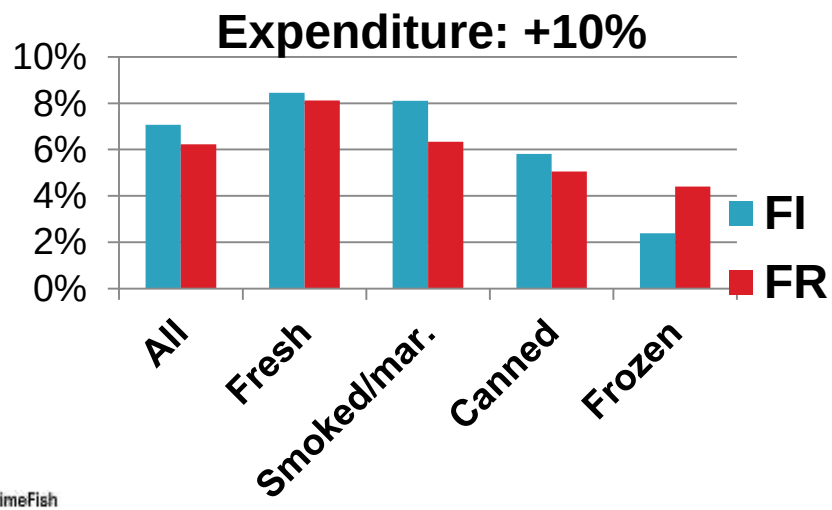
Influence of Household Socio-Demographics

- Strong influence of socio-demographics on fish demand at all stages:
  - Age, HH structure (size, children), region, education, class
  - Effect depends on both product type and species:
    - Age → More fresh fish, with preference for salmon
- Strong country-specificity of fish demand
- High heterogeneity of consumer preferences
- Need for segmentation and targeted marketing strategies

Household Expenditure and Demand for PrimeFish Species





- Strong response of demand for PrimeFish species to total/food expenditure, particularly in FR
- Among PrimeFish Species, those benefit most:
  - Cod/seabass in FR
  - Trout in FI
- By product type: reallocation of fish budget towards fresh & smoked and away from frozen category as that budget expands

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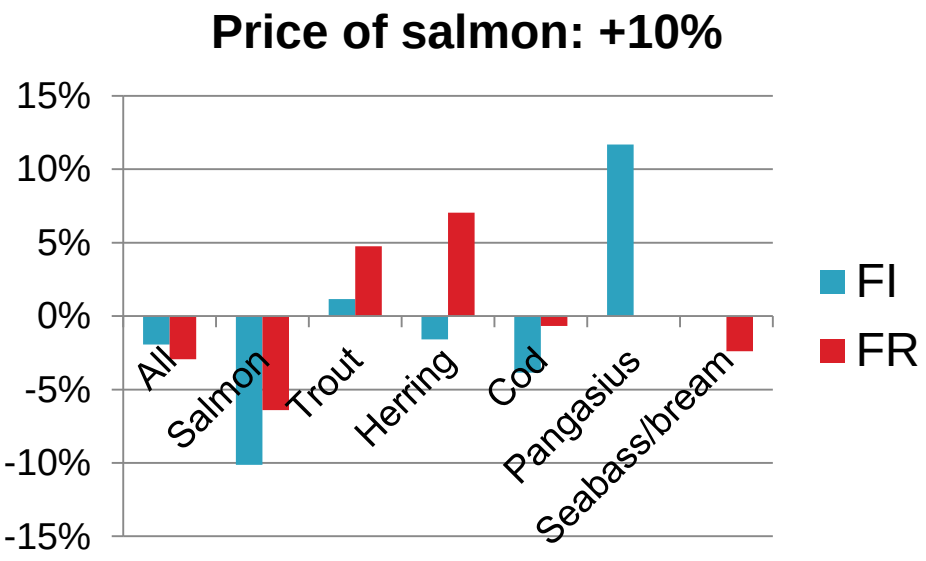
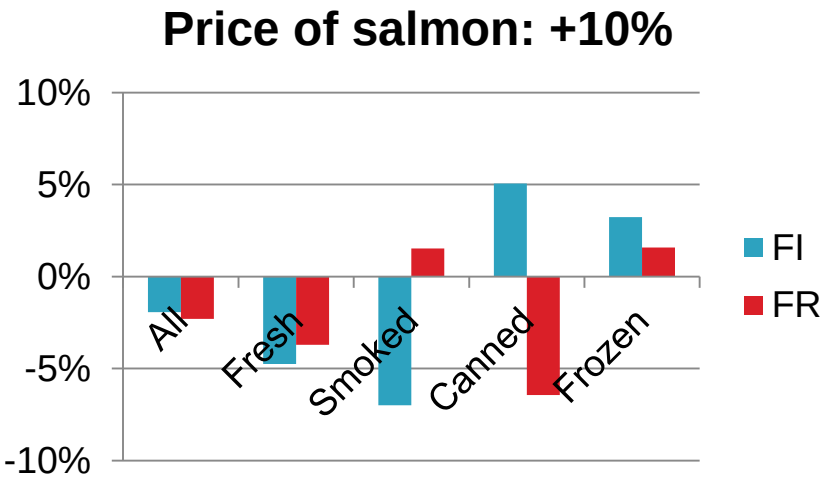
Influence of Prices – Price of salmon +10%





- Demand for salmon responds strongly to own price
- Main substitutions:
  - FR: Trout and herring
  - FI: trout, but small; Domestic, freshwater species as main competitor
- Significant impact on choice of type of product

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Demand & Prices – Some Selected Re

- Demand for PrimeFish species relatively price responsive
- Substitutions occur mainly within product-type categories
- French market:
  - Salmon “leads”: its demand is mainly driven by its own price, but its price has a significant influence on demand for other species
  - Cod and seabass form a separate market segment, little substitution with other species - higher up on the quality ladder
- Finnish market:
  - Little responsiveness of demand for herring to price – importance of non-price attributes
  - Competition salmon-trout not as strong as expected
  - Trout and salmon compete strongly with other domestic products

Fish and Sustainable diets

- How does the adoption of dietary recommendations (e.g. increase in fish consumption) affect consumers' diets (given current preferences, current prices…)?

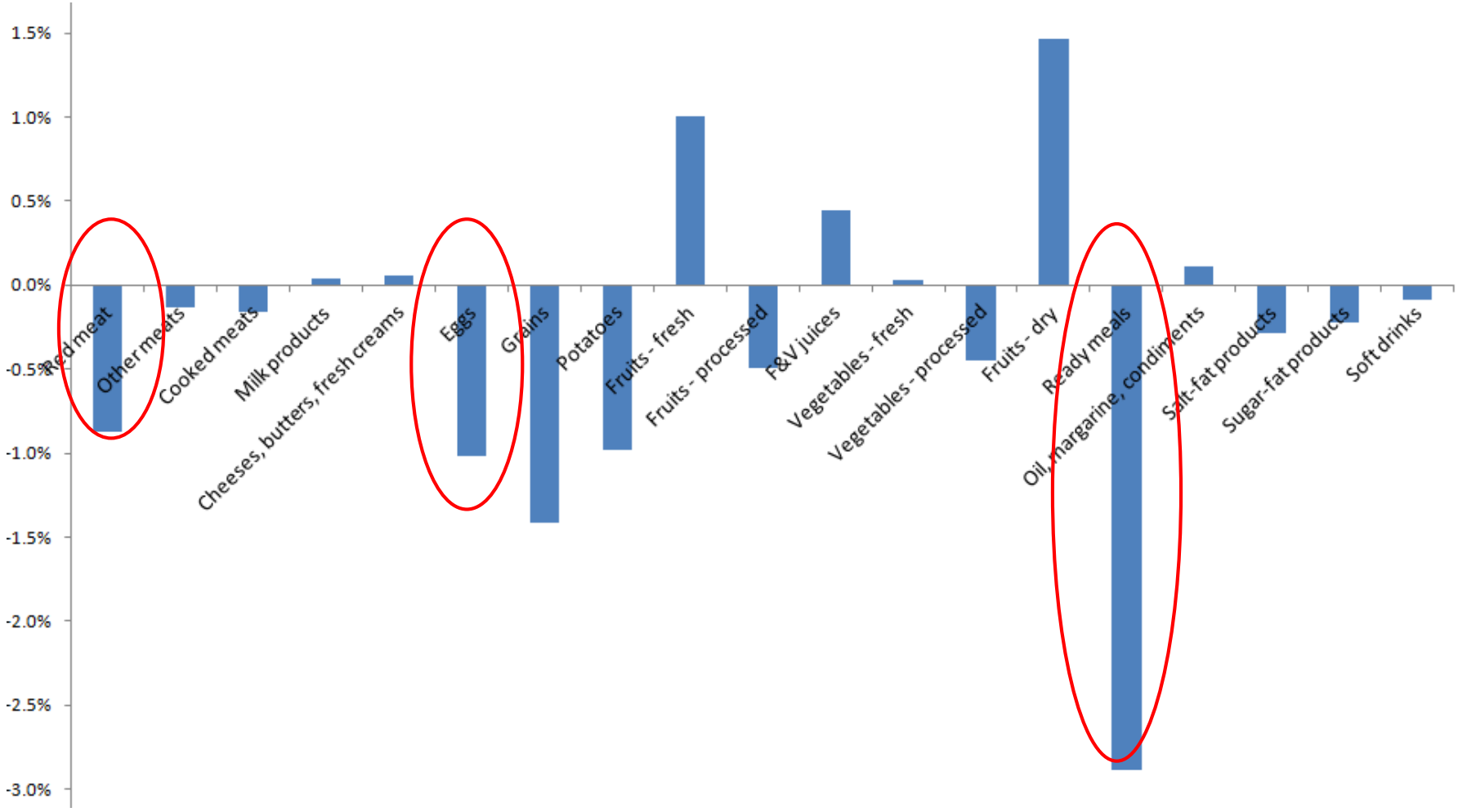
- What is the impact of this diet change on public health (incidence of chronic diseases and mortality) and the environment (Greenhouse gas emissions) ?

- Can an increase in fish consumption contribute to more sustainable diets?

Simulations

- Diet changes induced by food-based recommendations
  - 5% increase in fish consumption
  - 5% decrease in red meat consumption
  - 5% decrease in all meats consumption

Diet change induced by a 5% increase in fish consumption (France)



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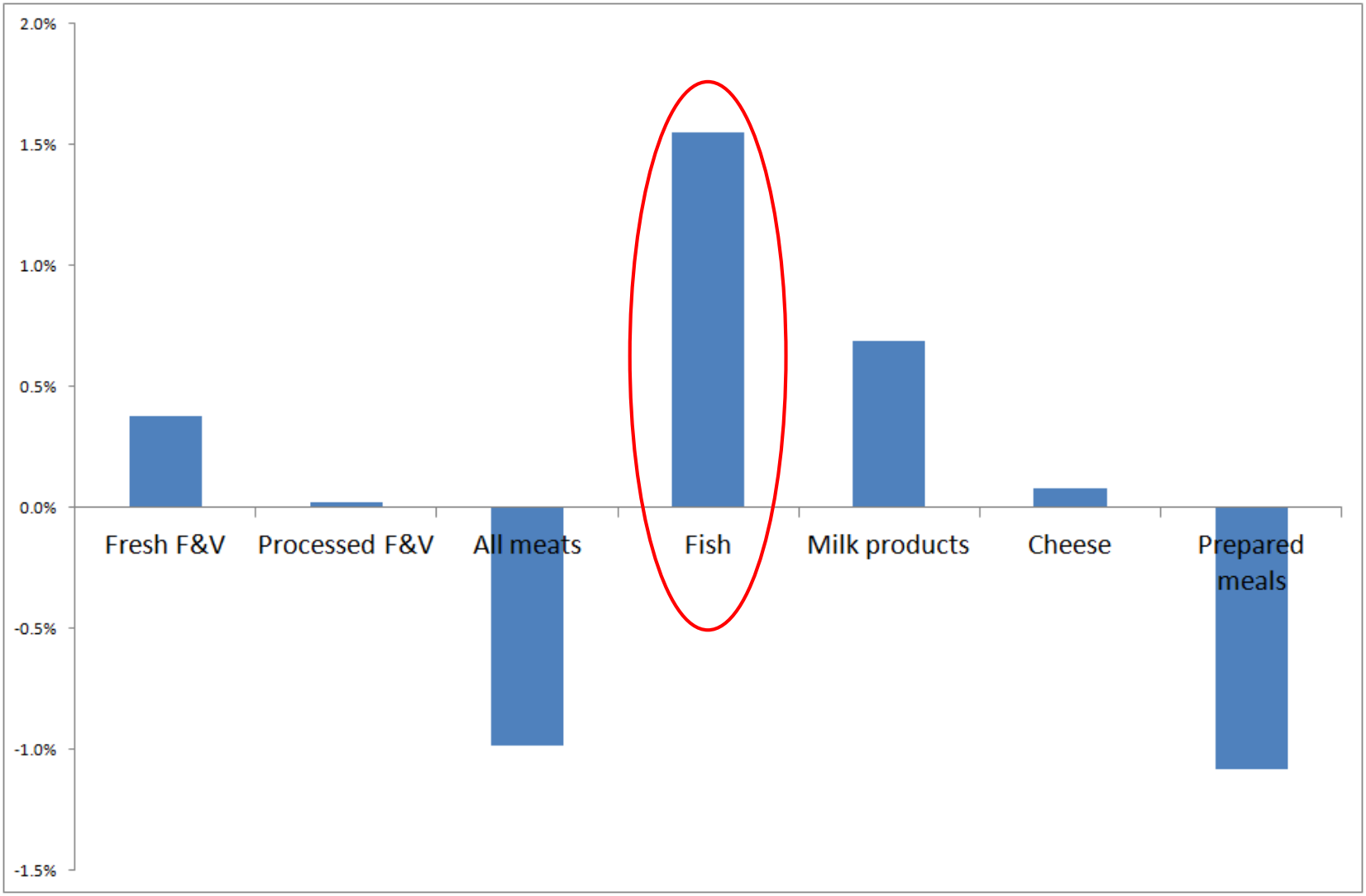
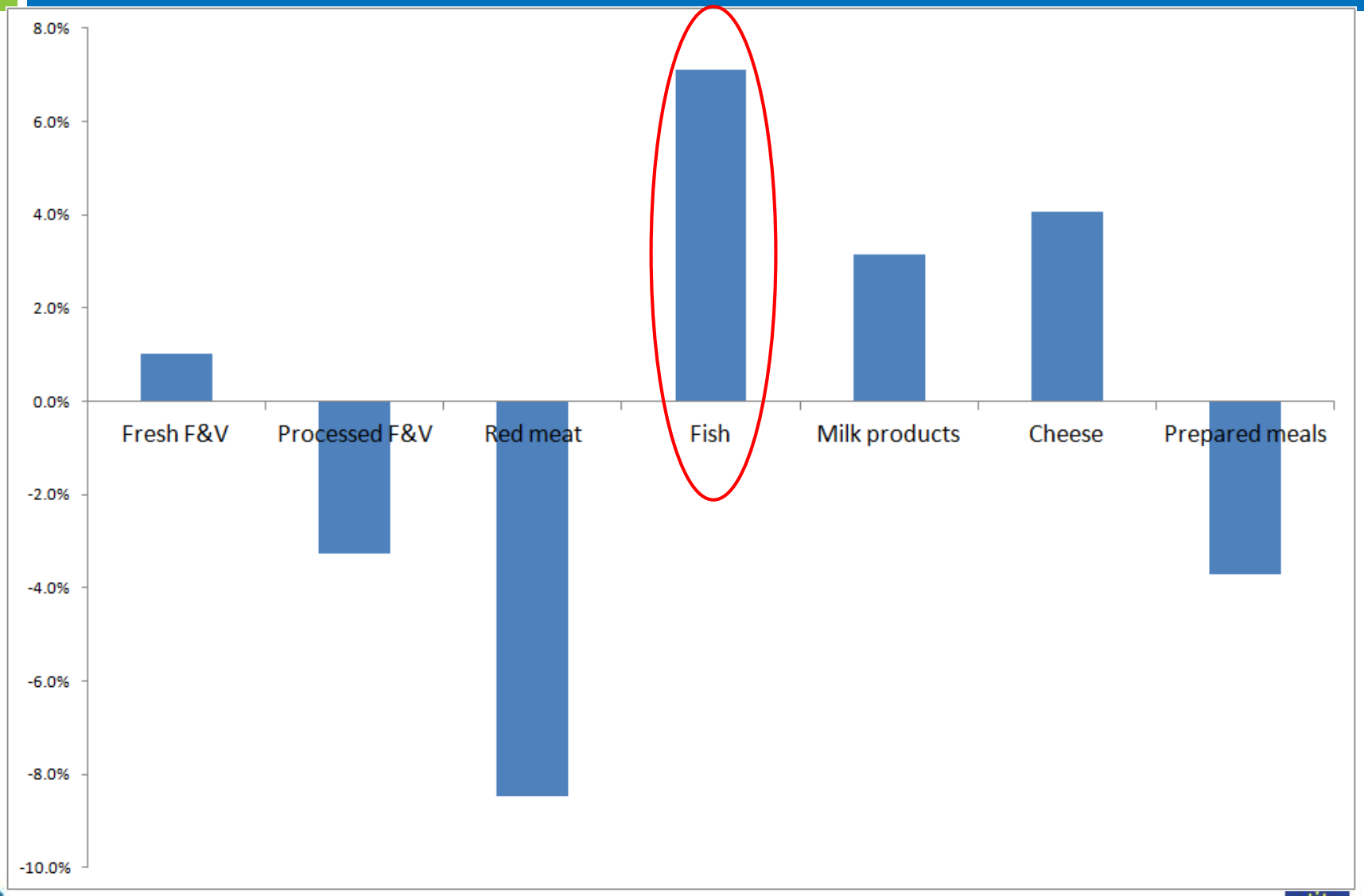
Diet change induced by a 5% decrease in red meat consumption (France)



Diet change induced by a 5% decrease in all meats consumption (France)

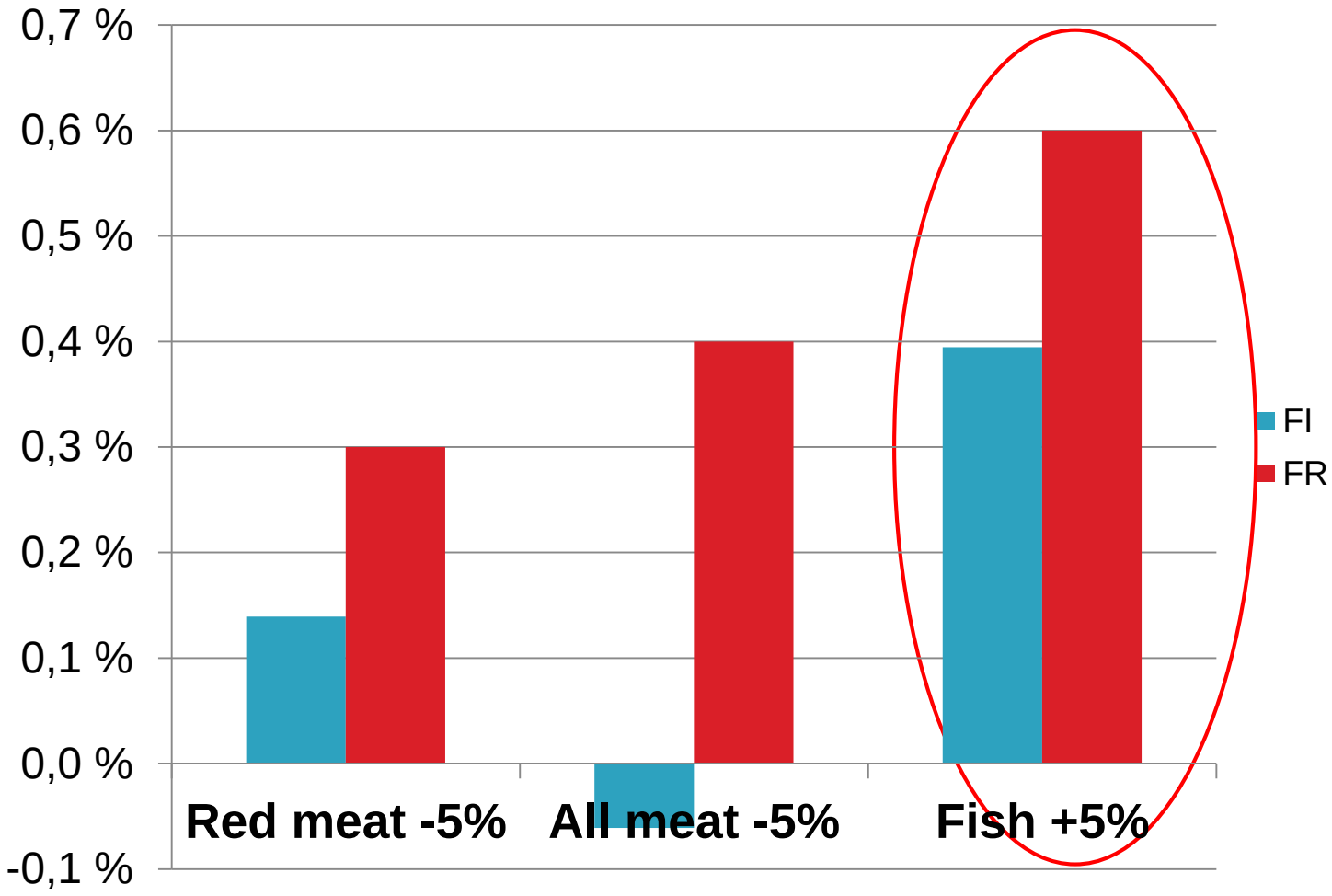


Health and environmental outcomes

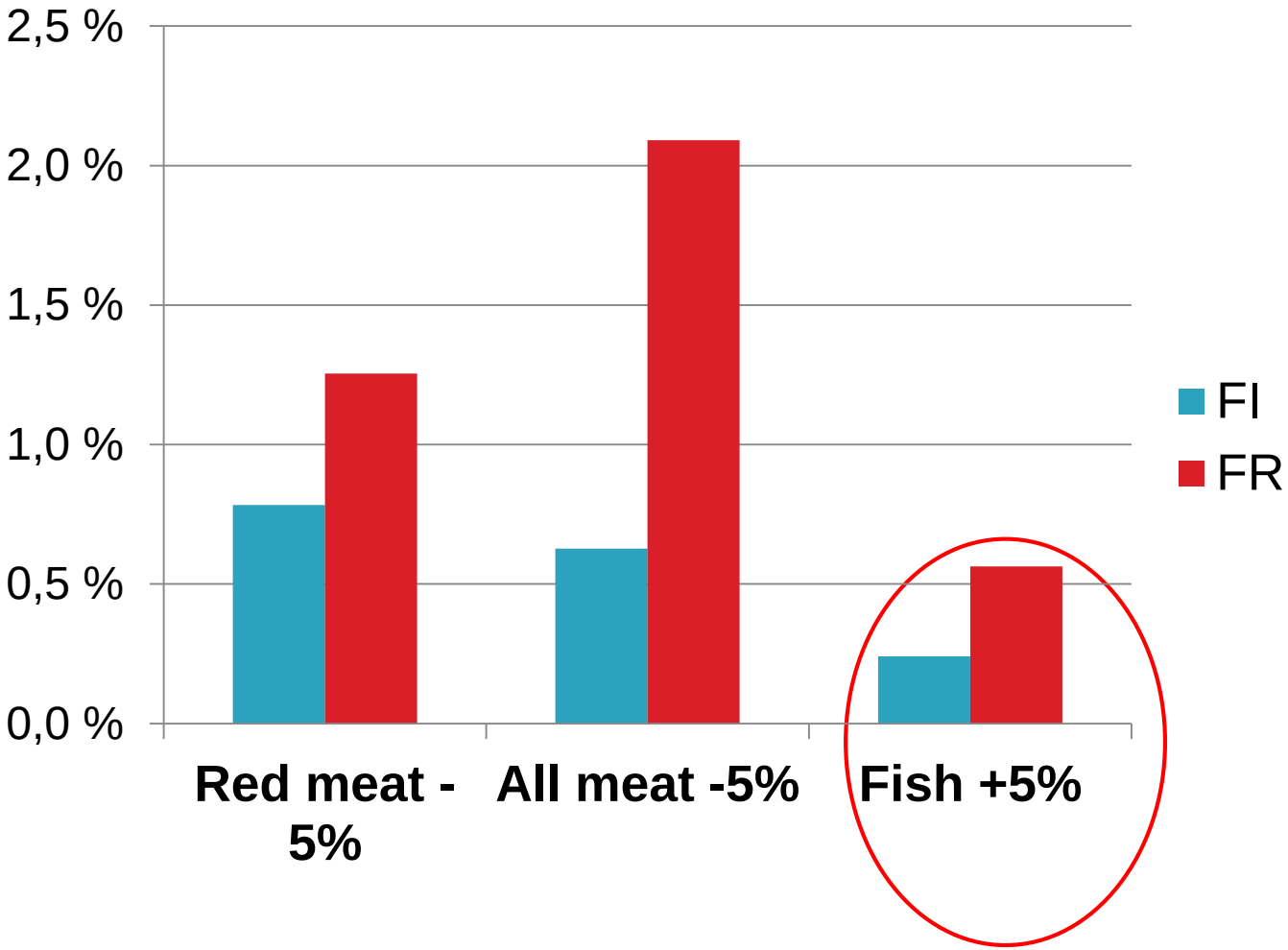
- Health and nutrition:
  - Incidence of chronic diseases (cancers, T2 diabetes, strokes…)
  - Mortality (number of deaths avoided)

- Environment
  - GreenHouse Gas emissions linked to the whole diet (production, processing, transport, cooking…)

% deaths avoided induced by the adoption of food-based recommendations (France and Finland)



% reduction of GHG emissions induced by the adoption of various food-based recommendations (France and Finland)



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Conclusions

- In French and Finnish contexts, an increase in fish consumption would result in healthier and more sustainable diets

- Promoting fish consumption would likely be cost-effective

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Thank you!

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