



# HOUSEHOLD FISH CONSUMPTION: DRIVERS AND SUSTAINABILITY EFFECTS



PrimeFish



Horizon 2020  
Programme



INRA  
SCIENCE & IMPACT



Luke

NATURAL RESOURCES  
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# Motivation, Objectives & Approach

## □ Motivation:

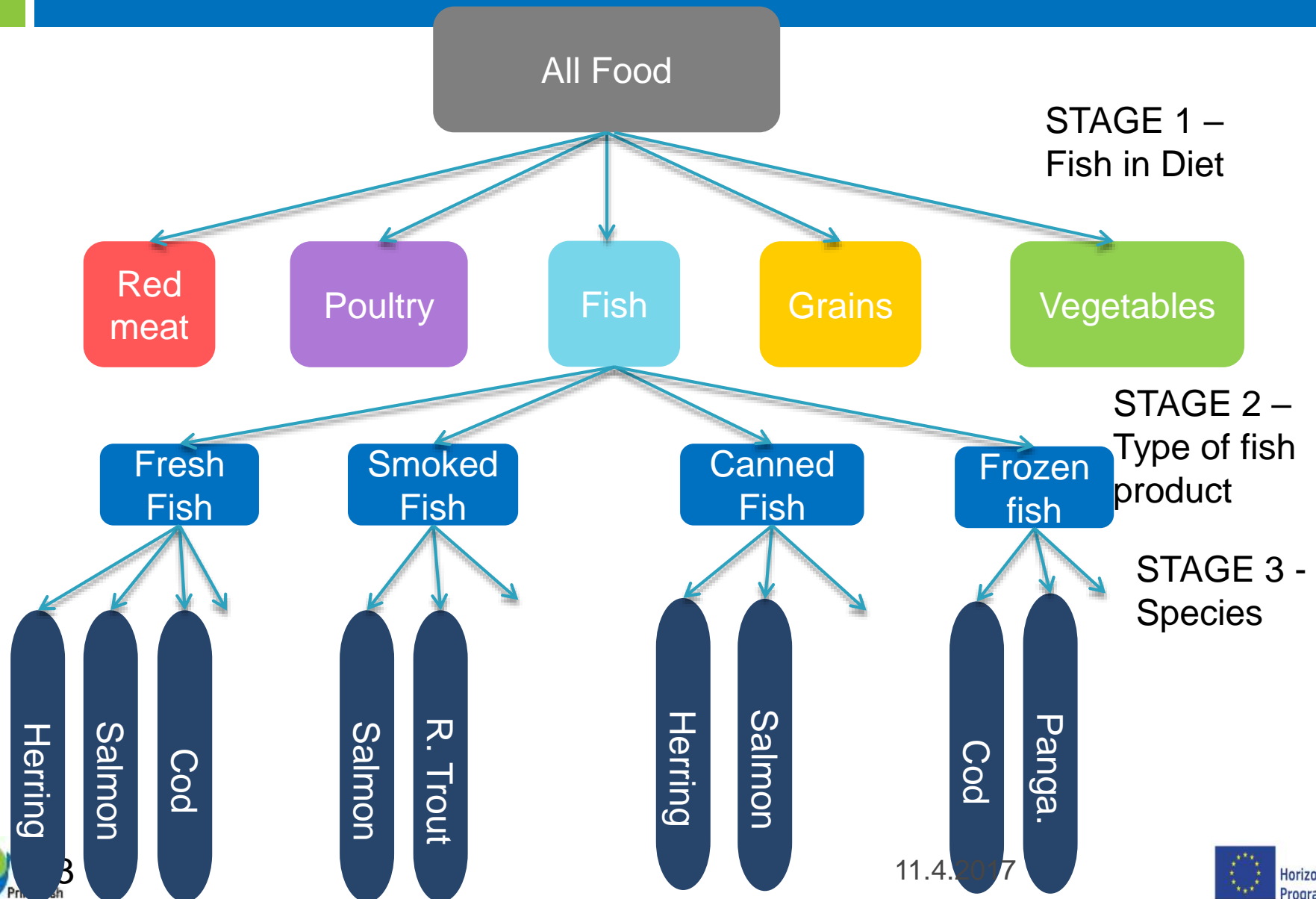
- Fish markets are changing – why and where to?
- What place for fish in sustainable diets?

## □ 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)

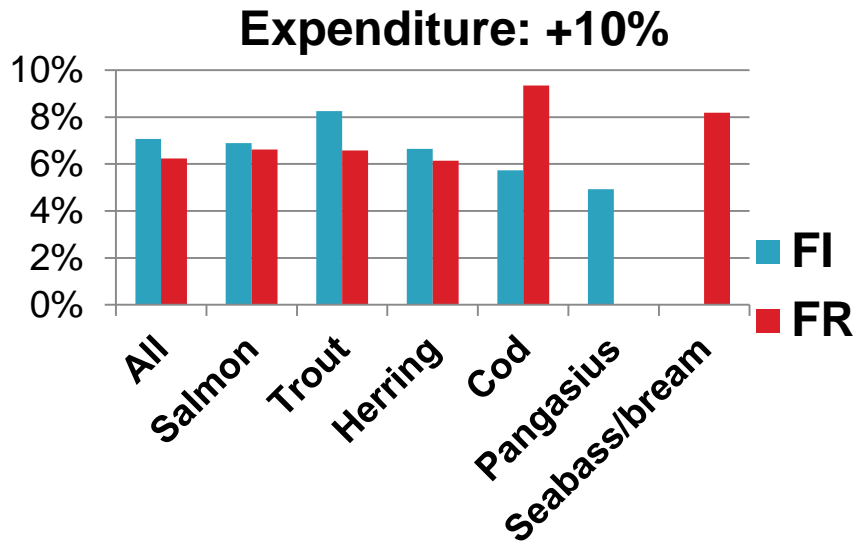
# Three-Stage Budgeting



# Influence of Household Socio-Demographics

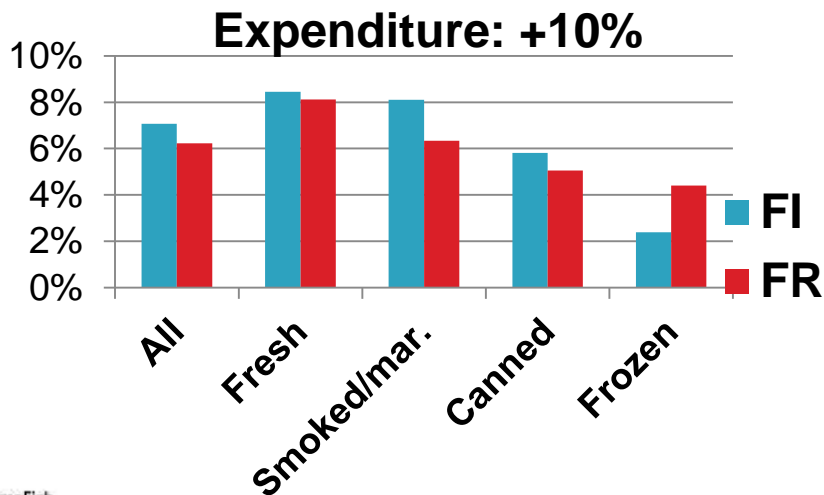
- Strong influence of socio-demographics on fish demand at all stages:
  - Age, HH structure (size, children), region, education, class
  - Effect depends on both product type and species:
    - Age → More fresh fish, with preference for salmon
- Strong country-specificity of fish demand
- High heterogeneity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

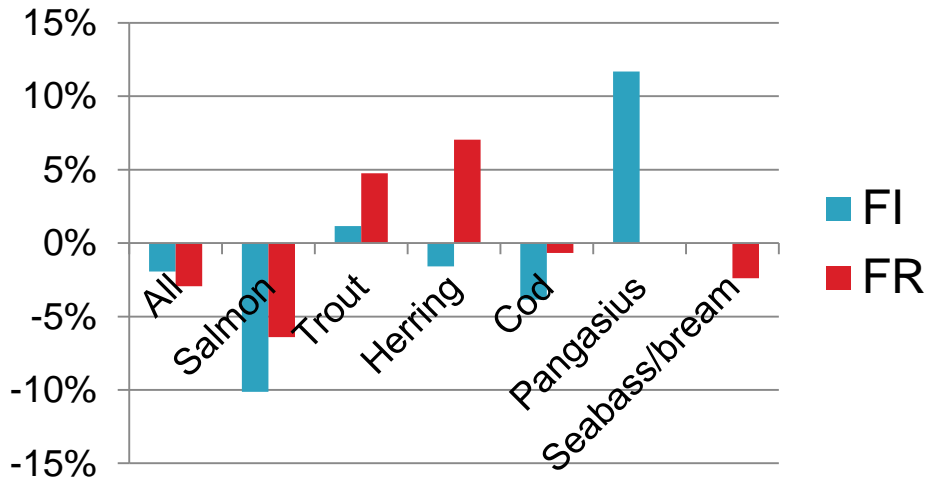
- Among PrimeFish Species, those benefit most:
  - Cod/seabass in FR
  - Trout in FI



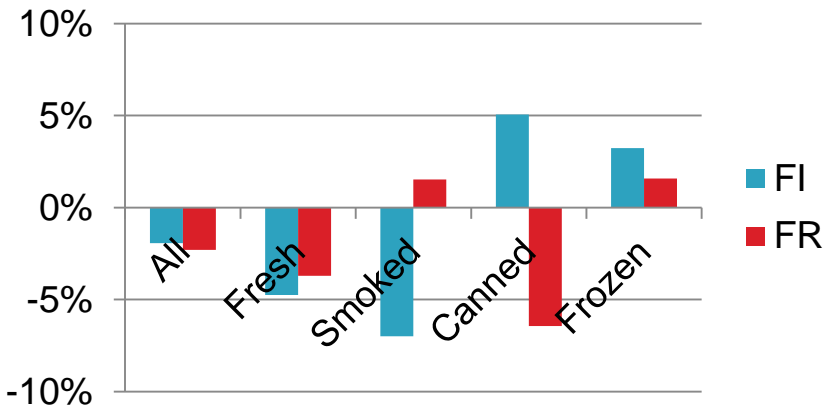
- By product type: reallocation of fish budget towards fresh & smoked and away from frozen category as that budget expands

# Influence of Prices – Price of salmon +10%

Price of salmon: +10%



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

# Demand & Prices – Some Selected Results



- 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

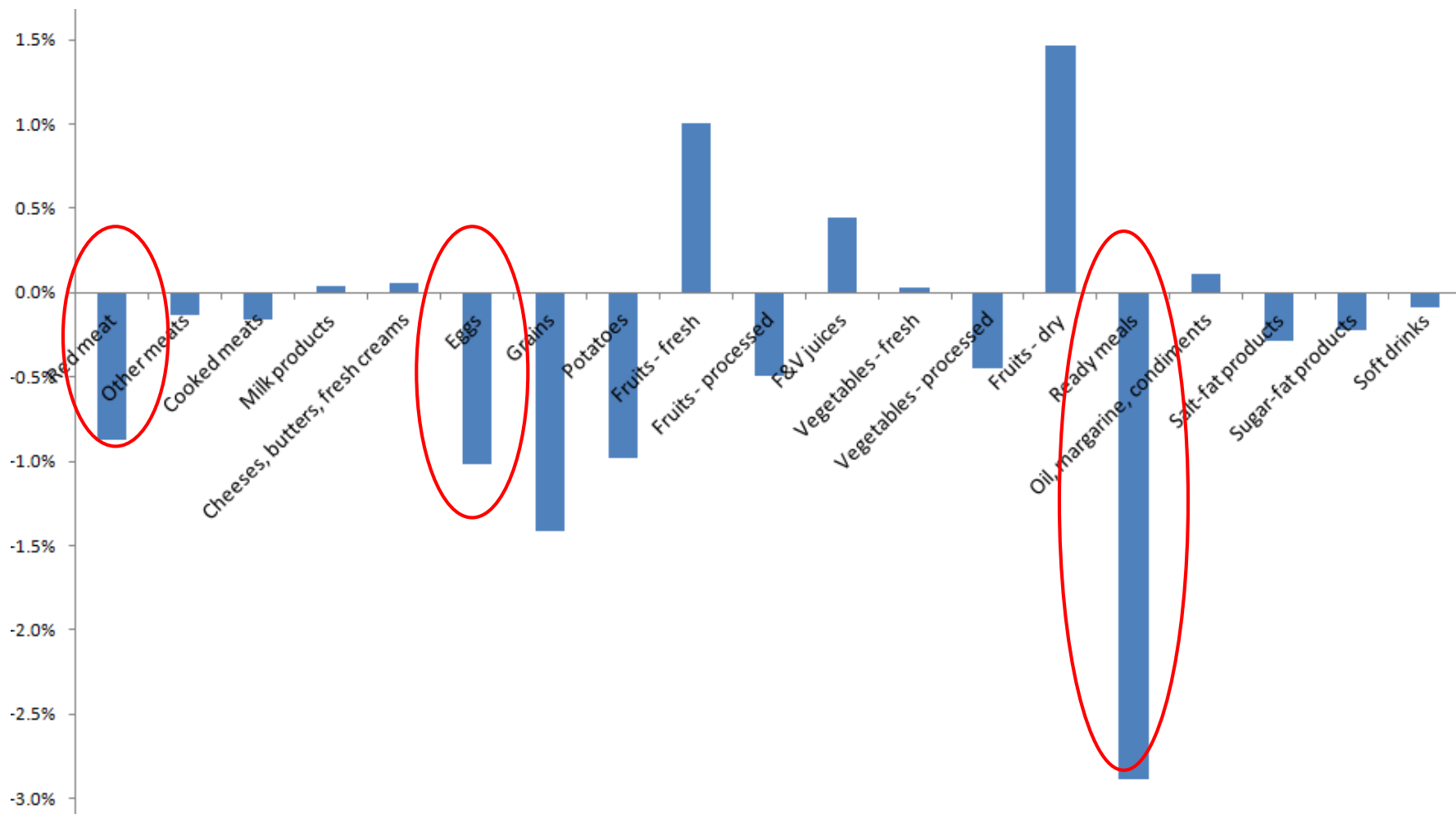
- How does the adoption of dietary recommendations (e.g. increase in fish consumption) affect consumers' diets (given current preferences, current prices...)?
- What is the impact of this diet change on public health (incidence of chronic diseases and mortality) and the environment (Greenhouse gas emissions) ?
- Can an increase in fish consumption contribute to more sustainable diets?



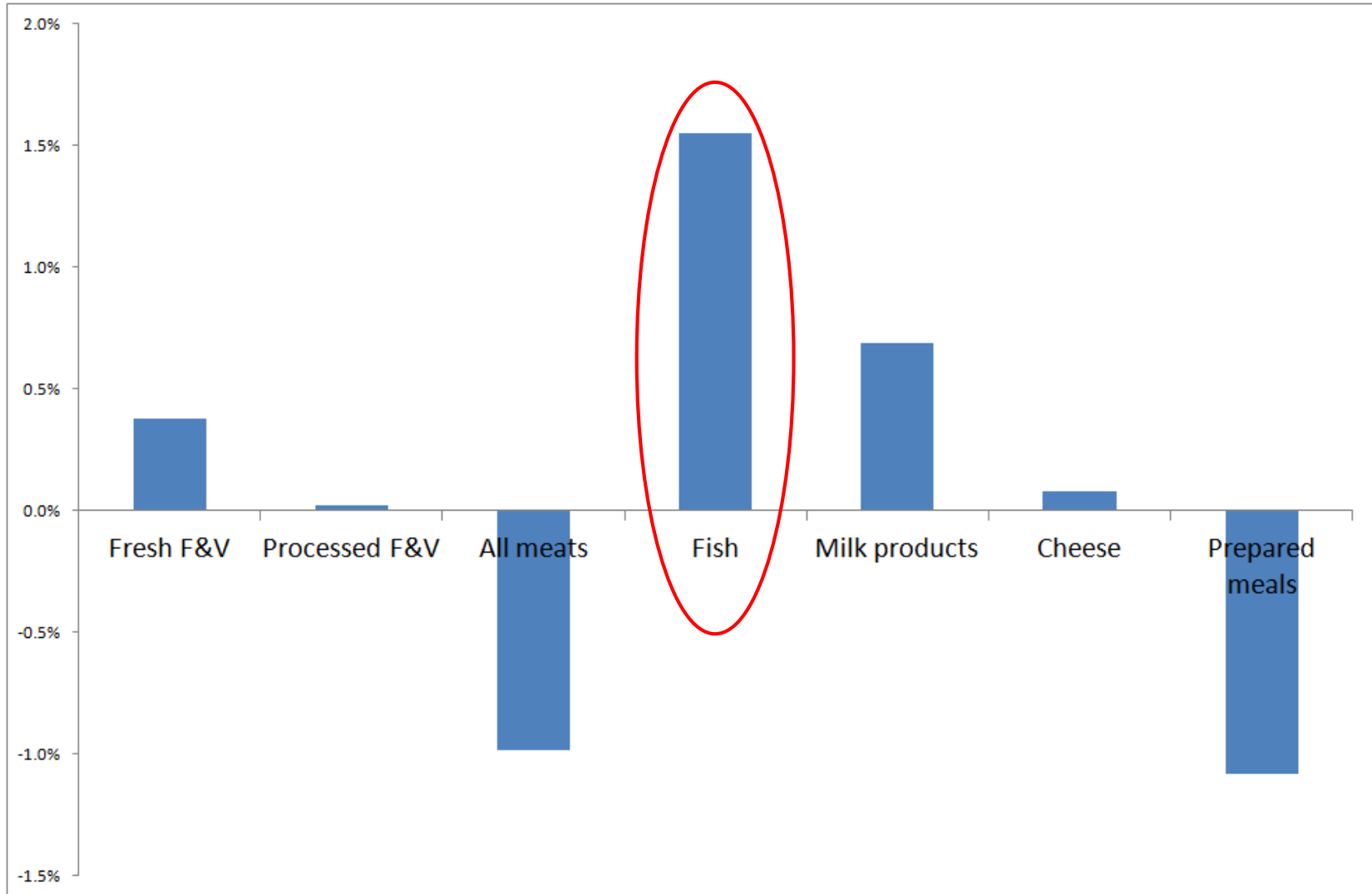
# Simulations

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

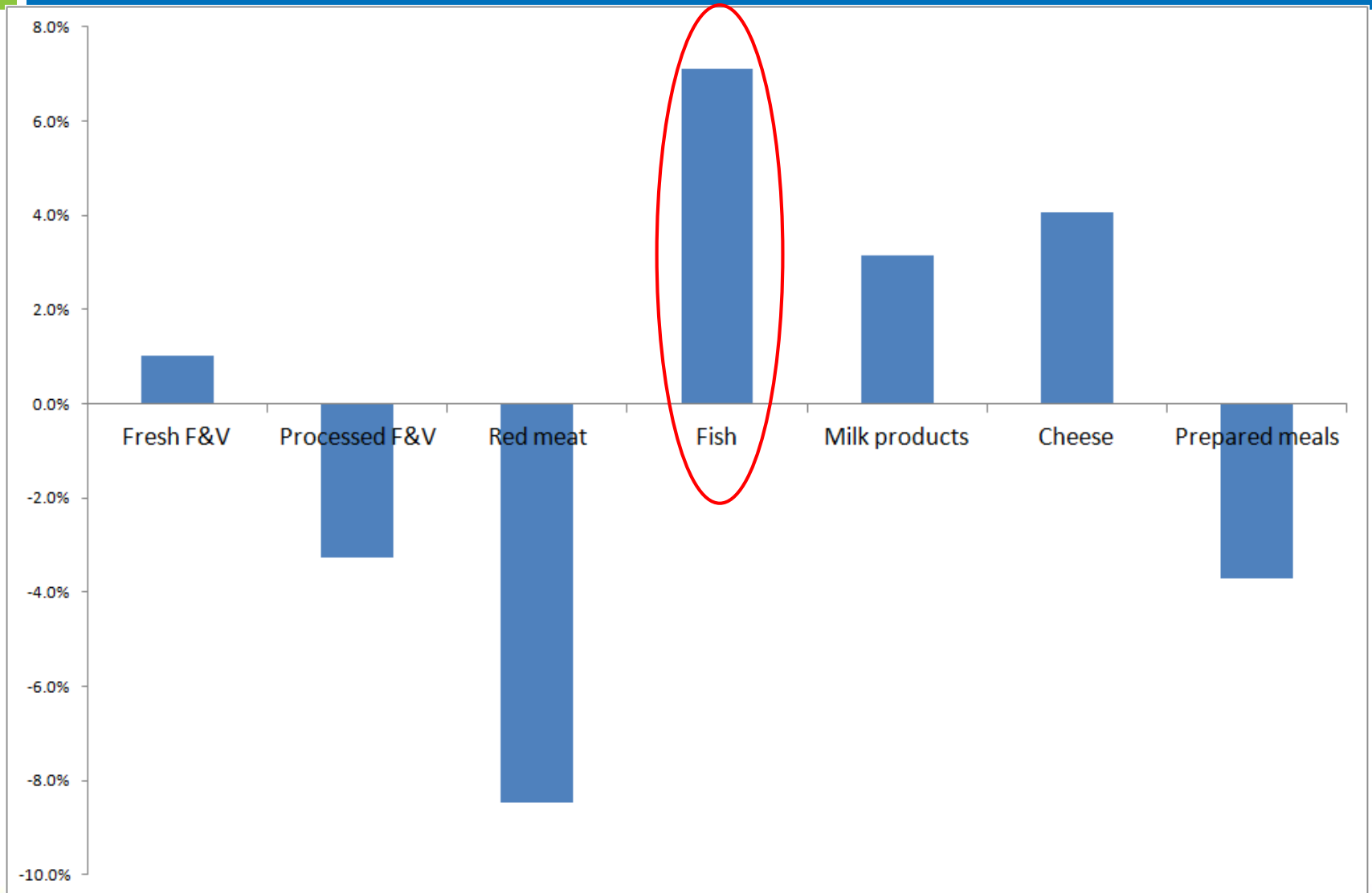
# Diet change induced by a 5% increase in fish consumption (France)



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



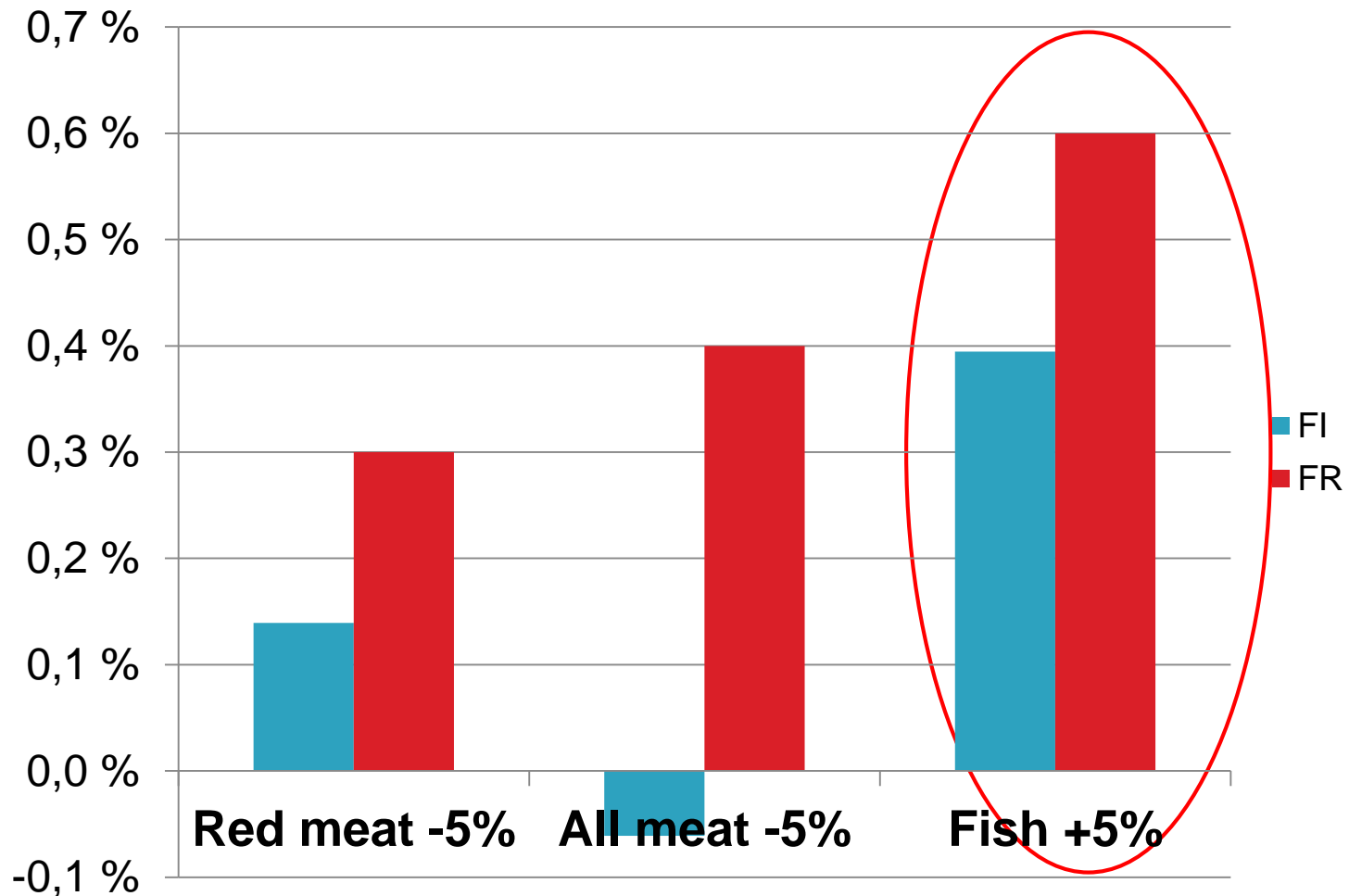
# Diet change induced by a 5% decrease in all meats consumption (France)



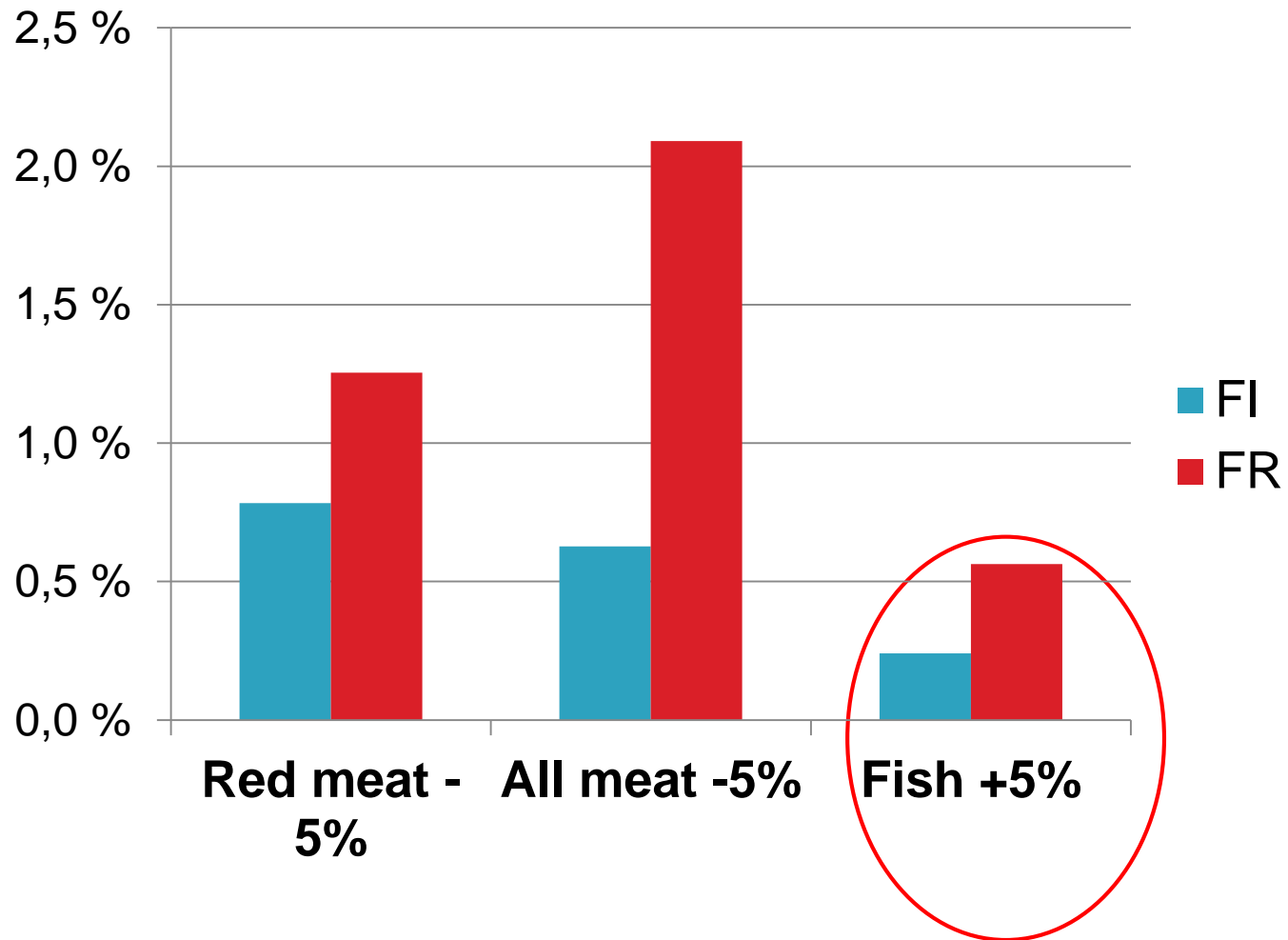
# Health and environmental outcomes

- 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)



# 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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