Claim

Supporting the role of the **C**ommon agricultural policy in **LA**ndscape valorisation: **I**mproving the knowledge base of the contribution of landscape **M**anagement to the rural economy

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Analysis of relations between landscape perception and ecosystem service uses: a case study in area of Po Delta (Northern Italy)

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EUROPEAN COMMISION

SEVENTH FRAMEWORK PROGRAMME

Outline

- Objective
- Case study features
- Methodology
- First results
- Further development
- Discussion

Objective

Analysis of relationships between

- **awareness/perceptions** of rural landscape

  and

- **behaviors** (recreational activities and purchase of typical food products)
  - Existence?
  - Relevance?

Originality

Literature:

- Attribute monetary or non-monetary values to landscape features
- Tourists (or residents as potential tourists)
- attractive/touristic area
- Behavior (actual or intention) as explicative variable

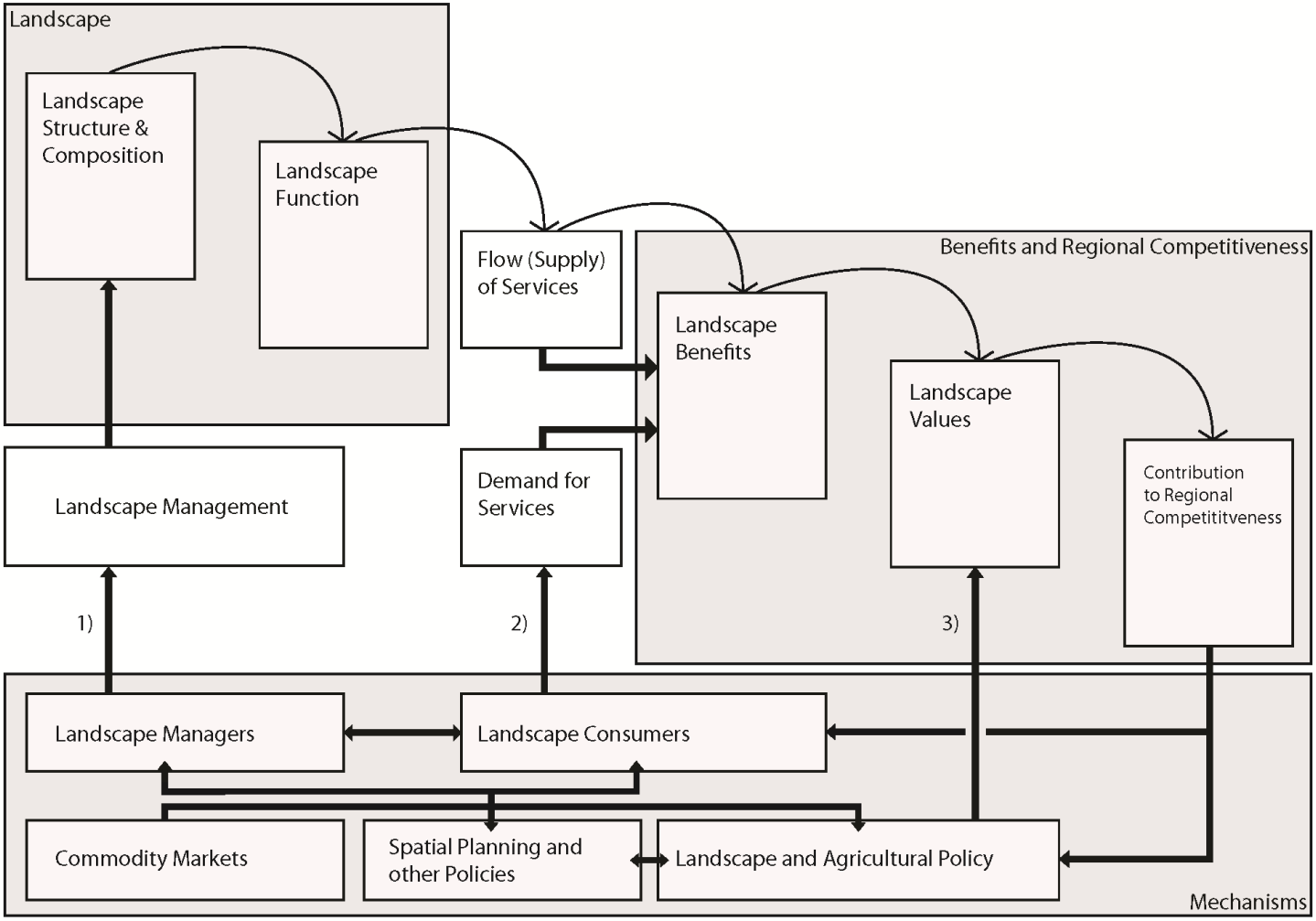
Our work:

- Understand connection between perceptions and actual behaviors
- Residents and area in which they live(“normal” agric. area)
- Behavior leading economic effects on local agriculture
- Methodology: latent class factor model

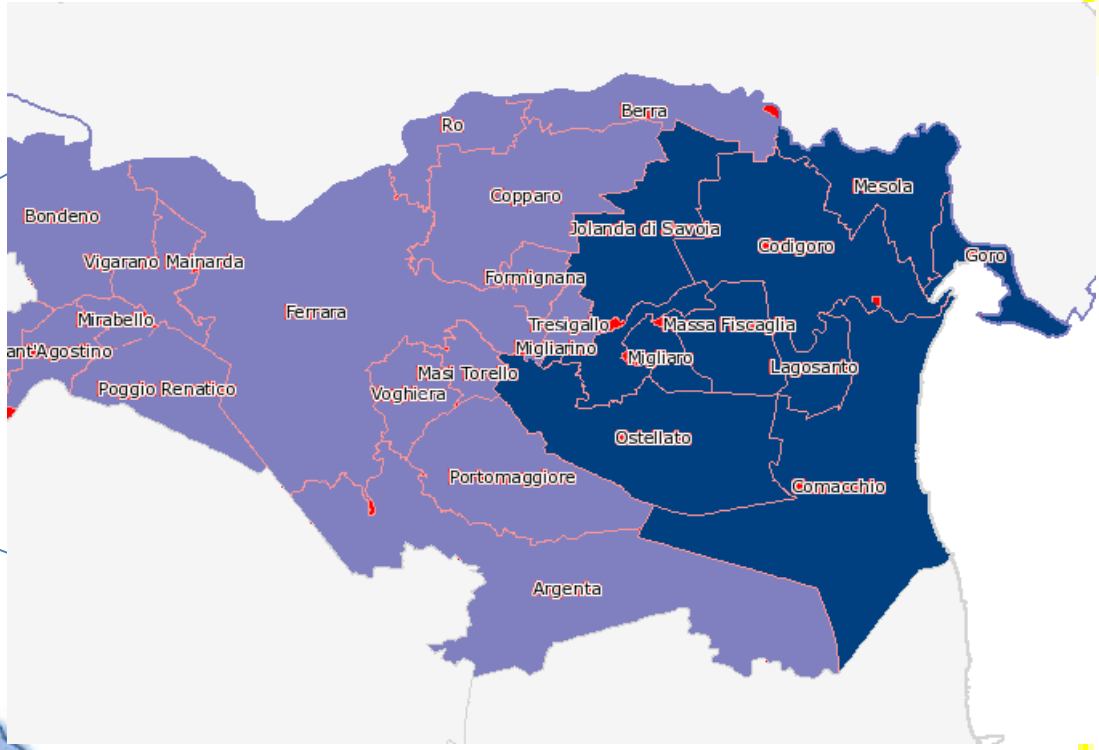
CLAIM Project

- *"Supporting the role of the Common agricultural policy in LAndscape valorisation: Improving the knowledge base of the contribution of landscape Management to the rural economy"*
- FP7, KBBE.2011.1.4-04 -The CAP and landscape management
- Budget: EU 1,5 M€
- 3 years (01/01/2012 - 31/12/2014)

CLAIM Framework



Italian case study area (1/3)



10 municipalities: Comacchio, Codigoro, Goro, Mesola, Jolanda di Savoia, Lagosanto, Massafiscaglia, Migliarino, Migliaro, Ostellato

about 80,000 ha 55.000 inahibitants

Italian case study area (2/3)

- Altitude: from - 4 to +19 m
- Role of reclamation
  - 13% wetlands
  - 4% covered by water areas
- Park of Po Delta (about 53000 ha)
- Coastal tourism (beaches)

Italian case study area (3/3)

- Intensive agricultural activity:
  - Large farm specialised in intensive mixed cereal production (mainly wheat, maize and rice)
  - Specialisation orchard (mainly pear and apple)
  - Horticulture
  - Typical products: rice, wines, eels, clams, water melon, pears, melon…




Methodology

- Survey:
  - 300 telephone interviews to residents (stratified sample: municipalities, age, gender)

- Data analysis:
  - Descriptive statistics
  - Latent class factor model

Questionnaire

- **Awareness** of rural landscape elements:
  - example: “is the presence of protected area an advantage for agricultural sector/tourism sector/residents?” (perceptions)
- **Behaviors**:
  - Purchase of typical food products (rice, wine, eels, fruit and vegetables)
  - Recreational activities in rural areas (walking, bird watching, fishing, cycling,…)
- **Socio-demographic variables:**
  - age, gender, profession, education, income, house location, years of residence, family type,…

Latent class factor variable model: definition

"A Latent Variable model relates a set of observed (usually discrete) multivariate variables to a set of latent variables. It is called a **Latent Class model** when the latent variable is discrete.

Latent Class Analysis is used to find groups or subtypes of cases in multivariate categorical data. "

Magidson, J., Vermunt, J.K., 2001.

(our) Latent class factor model

Manifest variables (indicators):

- perceptions
- behaviors (purchases and recreational activities)

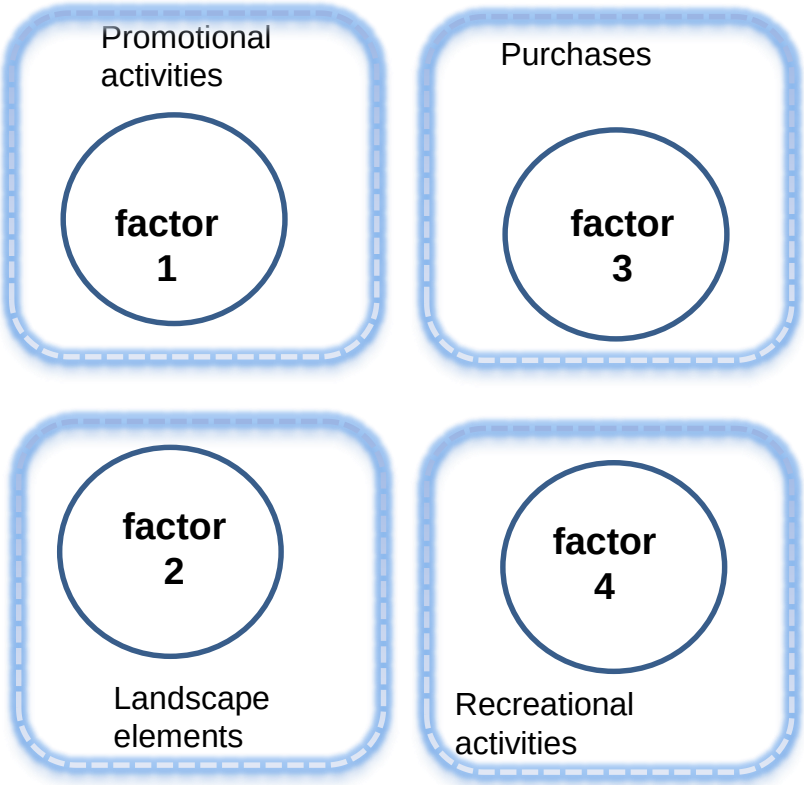
Latent factors:

- Appreciation/awareness of rural landscape
- Attitude toward using landscape services

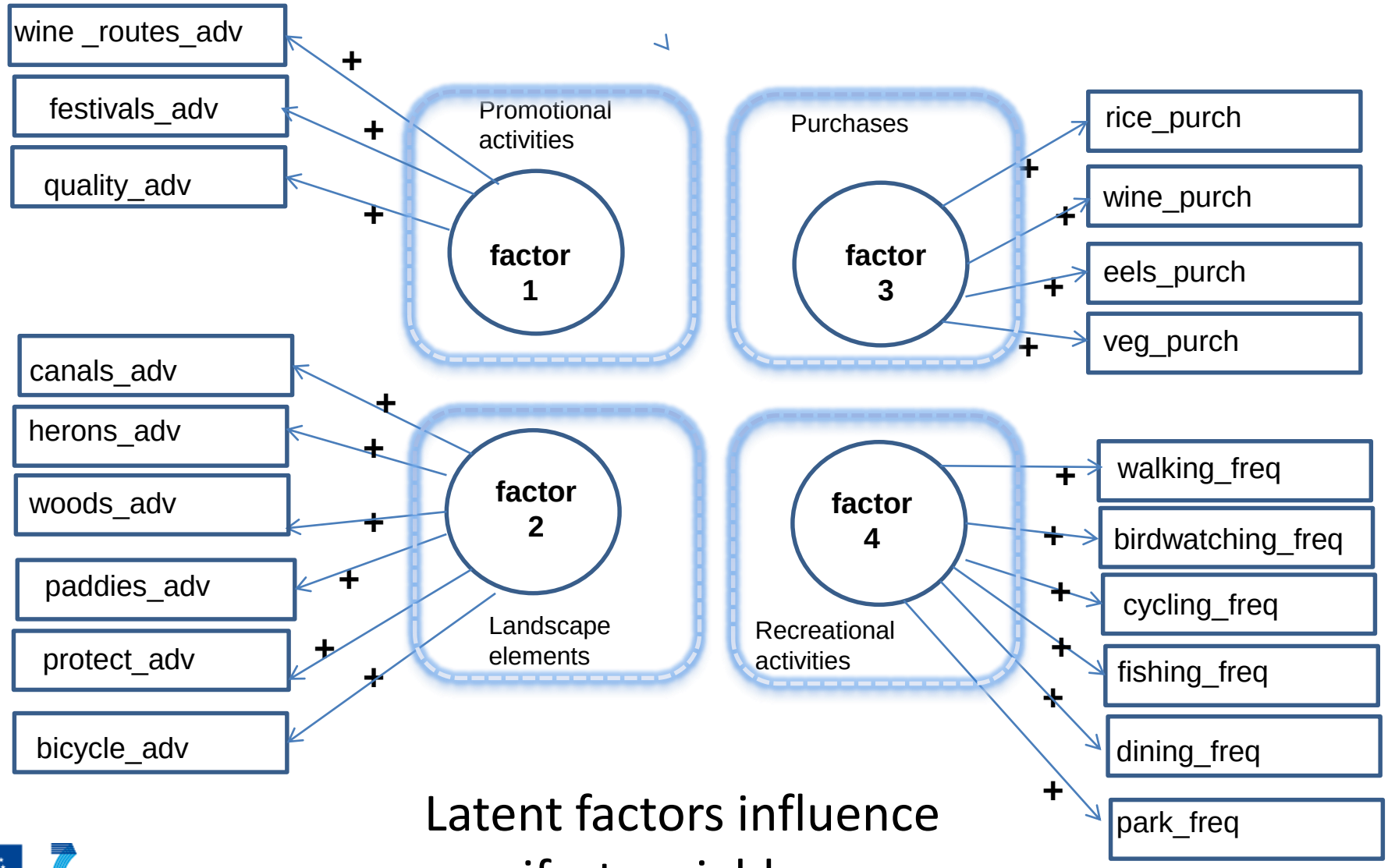
Covariates:

- socio-demographic characteristics

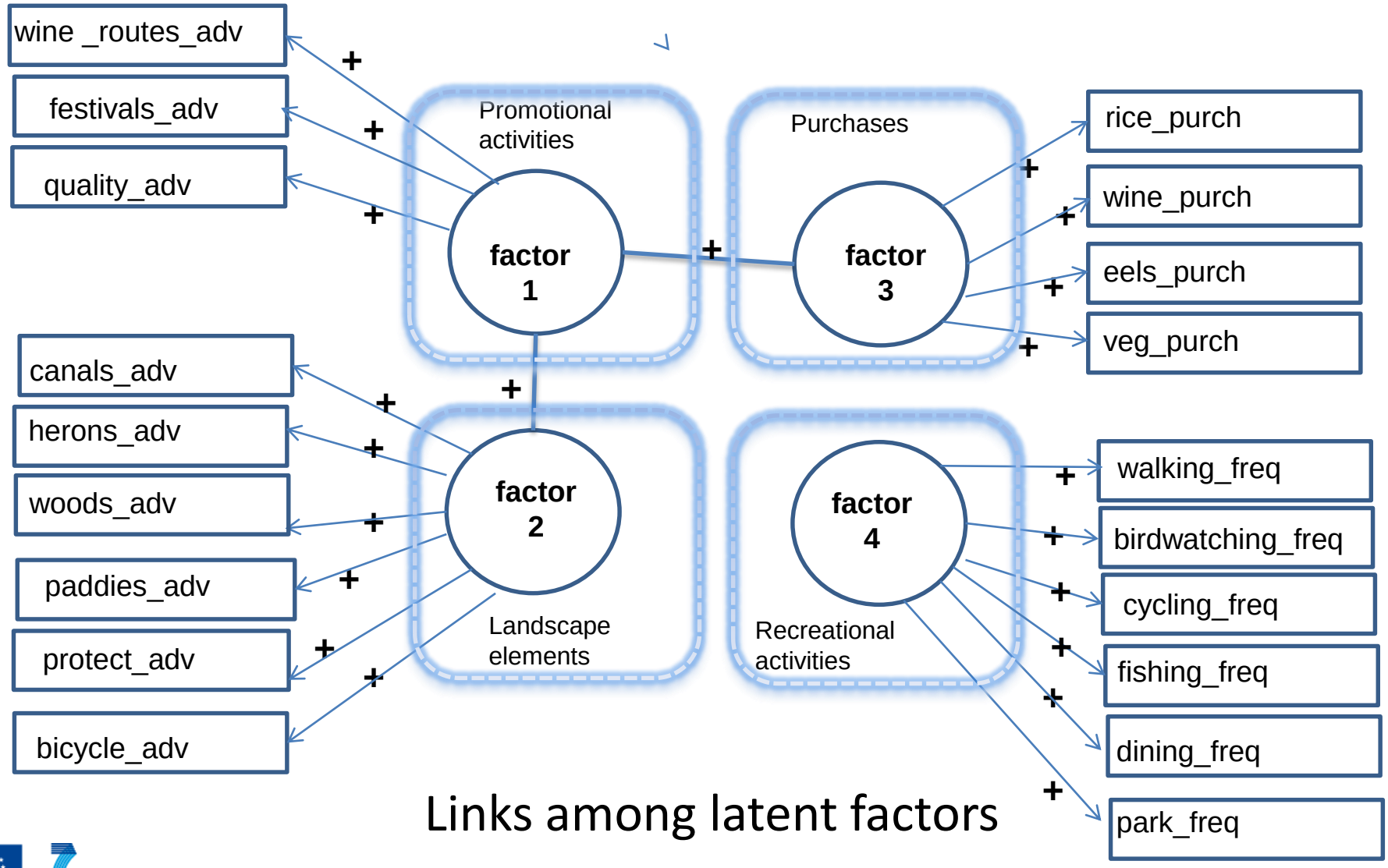
(our) Latent class factor model



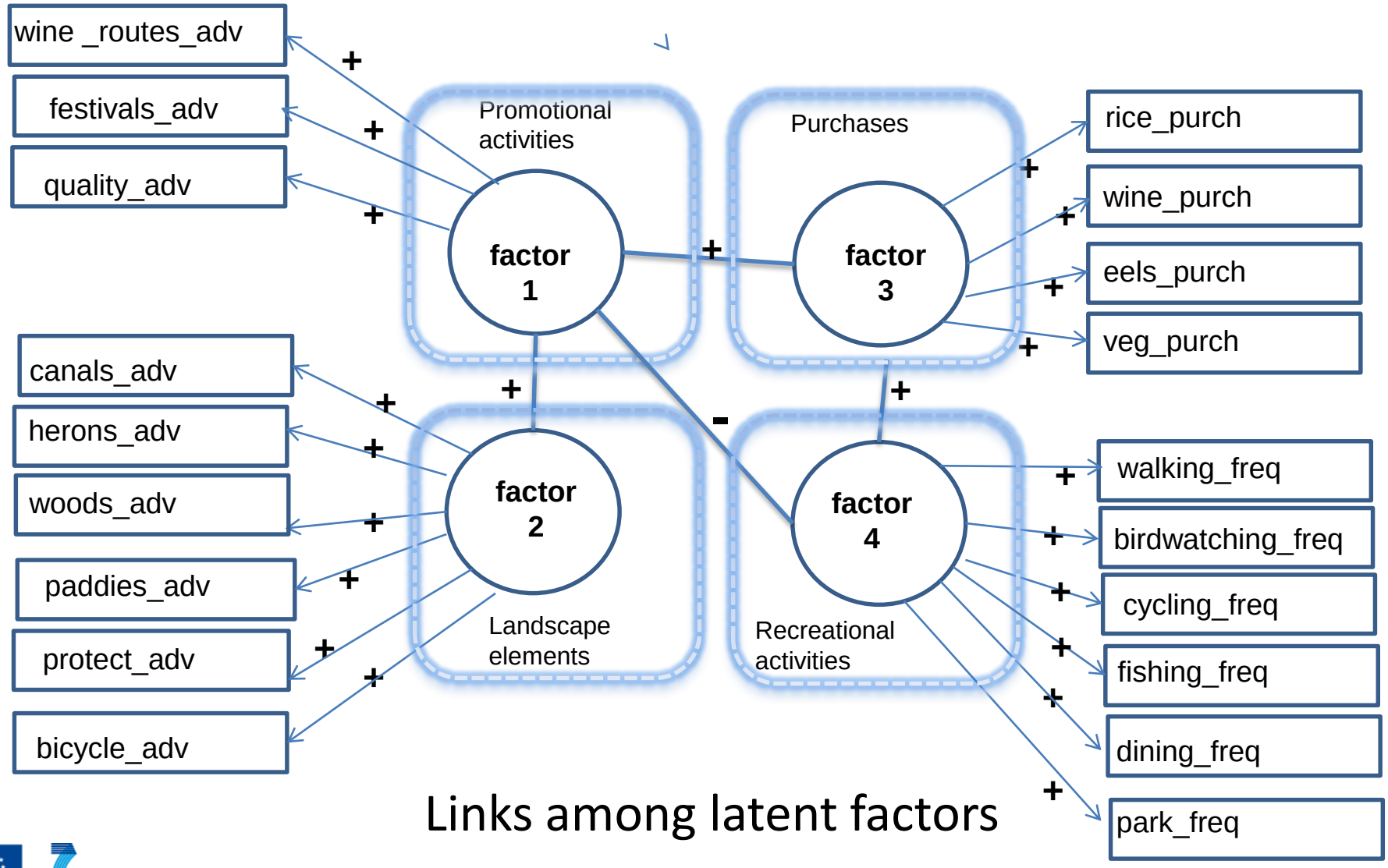
4 latent factors



Latent factors influence manifest variables



Links among latent factors



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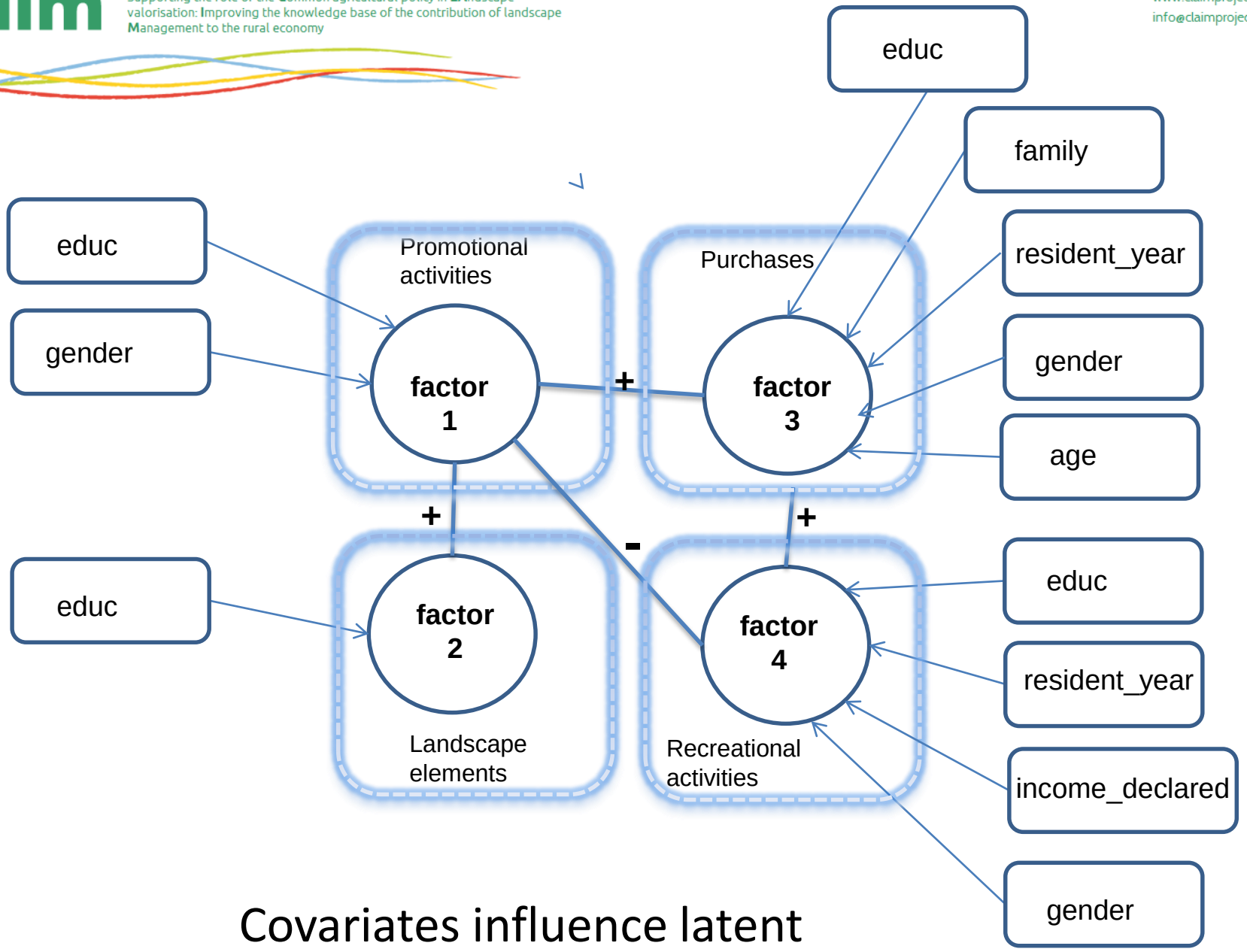

Covariates influence latent factors (only signif. covariates)

Remarks 1/2

- Results seem consistent with features of case study area (validated also by stakeholders)
- Significant association between landscape awareness and landscape service uses
- Central contribution of landscape promotional activities (linked to attitude to purchase and appreciation on landscape elements)
- Not high relevance in terms of population percentage (about 1/3 are “landscape aware and user)

Remarks 2/2

- Informational gap about landscape
- Need to increase the awareness
  - valorization and promotional activities?
- Need to improve the landscape management
  - "nicer" elements or aspects?

Thanks!

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Further development

- Improve discrete latent factor models (use of original responses, better understanding of the effects of covariates)
- Include directional dependency among latent factors (does awareness affect consumptions or viceversa?)
- Structural Equation Model