COVID-19: does space matter? What Regional Science can teach to decision makers and to non spatial economists

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OBJETIVES

Stress the relevance of space (spatial processes, spatial effects and MAUP) through analogies between Regional Science and Economics and COVID-19 issues (Spatial Epidemiology)

METHODOLOGY

- **<u>Spatial processes (causes), Spatial effects (problems), and Tools</u>**

o Spatial processes related to contagion and to policies (Haining, 2003)

- Contagion
  - Diffusion (an attribute of the population): knowledge / contact between infected and non-infected
  - Dispersal (of the population): movement of people
- Policies
  - Interaction (outcomes at one location influence and are influenced by outcomes at other locations): retail prices / health policies

o Some spatial effects (problems):

- Spatial dependence
- Spatial heterogeneity

o Which is the proper unit of analysis and of policy: health areas municipalities, provinces … ? Scale and aggregation problems - Modifiable Areal Unit Problem (MAUP): Haining (2003); Pablo-Martí and Muñoz-Yebra (2009)

Tools

- Geolocalization tools (Radar Covid etc.): prevent the spread, test whether confinements are real or not ….
- Spatial autocorrelation measures (Haining, 2003; Arauzo 2020), distance-based measures (Marcon and Puech, 2017; Gómez-Antonio and Alañón-Pardo, 2020) and dasymetric mapping approaches (Batista e Silva, F., Freire, S., Schiavina, M. *et al.,* 2020) .to overcome MAUP, to study concentration, and to help design health areas and confinement areas.

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