

# LET's have a look at the geographic concentration of activities

Florence Puech

Laboratoire d'Economie des Transports (LET)  
Université de Lyon - CNRS - ENTPE

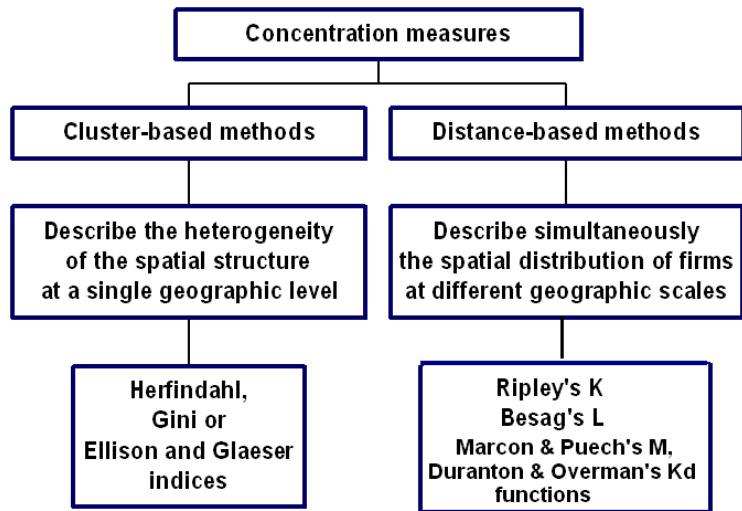
March 18, 2010

**“Step back and ask, what is the most striking feature of the geography of economic activity? The short answer is surely concentration”**. Krugman (1991, p.5)

- Agglomeration of economic activities: key subject in economics
- A good understanding of the determinants of agglomeration requires a good measure of the phenomenon

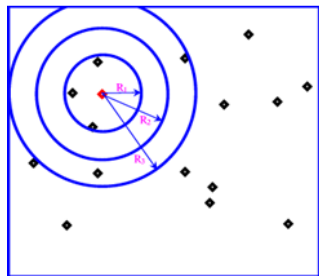
- **1990's:** Renewed interest in the spatial concentration measures
- **2000's:** Several authors list the properties that any "good" measure should respect (Duranton and Overman, 2005).
  - **Important property:** cluster-based methods could be biased
  - **Important advance:** introducing distance-based measures in economics

# Improving geographic concentration measures

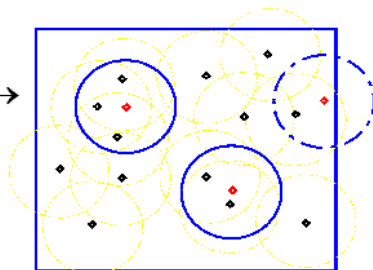


# Basic ideas of distance-based methods (1/3)

**Count the average  
number of neighbors →  
of firms**



← **At every distance**

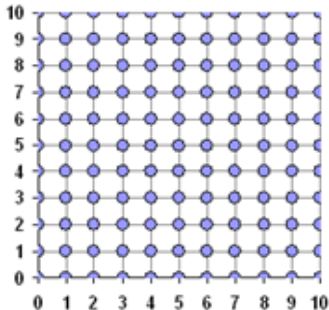
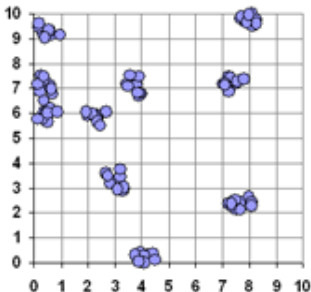


# Basic ideas of distance-based methods (2/3)

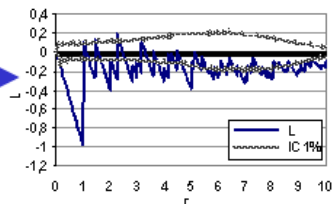
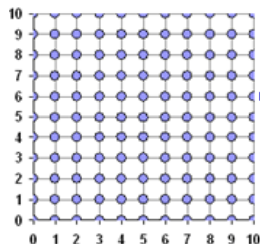
## Compare the number of neighbors to the benchmark

More observed neighbors  
= **aggregates**

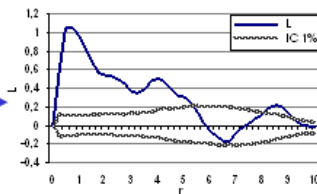
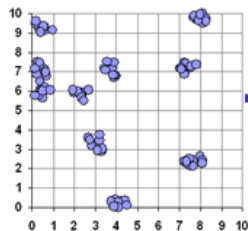
Less observed neighbors  
= **regular distribution**



## Theoretical examples



Dispersion:  
negative peaks



Concentration:  
positive peaks

# Next step?

- Discussing the notion of "distance" for distance-based measures
- Euclidean distance is perhaps not the best candidate for evaluating the real distance on the network
  - **introducing the "LET team value-added"!**
- by using the actual distance on the network between stores (shortest path)...
- ... thanks to **MOSART (MOdelling and Simulations of Accessibility to netwoRks and Territories)**, a very powerful decision making tool for private and public urban mobility authorities

**Recent study** (supported by the ANR "Villes Durables" - Plainssud project coordinated by A.Bonafous):

*Puech F., Ovtracht N., Jensen P. and V. Thiebaut, Does "distance" really matter for distance-based measures of geographic concentration?*

**Three main conclusions on:**

- the absolute concentration (ex.)
- the relative concentration (ex.)
- the unique correcting factor (ex.)

**... this certainly paves the way for future "LET studies" !**