A spatial approach of urban inequalities : the French metropolitan area exemple

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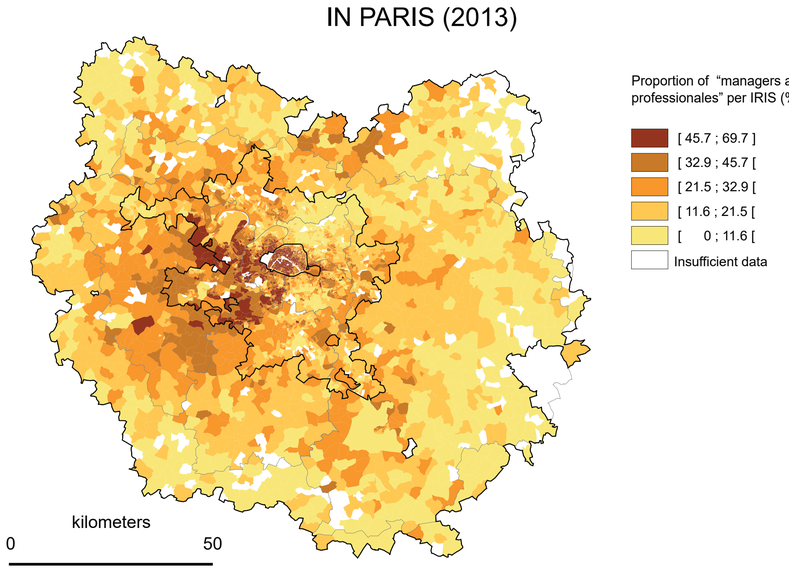
The study of the distribution of social groups in a city is a vast area studied by social science researchers. Since the 1960s, the quantitative analysis methods have complemented the qualitative approaches developed in the 1920s by the School of Chicago researchers. What we propose here is to combine various recent quantitative methods to enrich these studies. Our work focuses on the 4 biggest French urban areas, at the smallest French census scale (IRIS), from the 2013 census data. Only Paris is presented here.

Thematic cartography

Thanks to the cartographic method, we are able to offer a description of the studied social groups' distribution in space.

SPATIAL DISTRIBUTION OF THE "MANAGERS AND PROFESSIONALS" IN PARIS (2013)



Measuring the inequalities

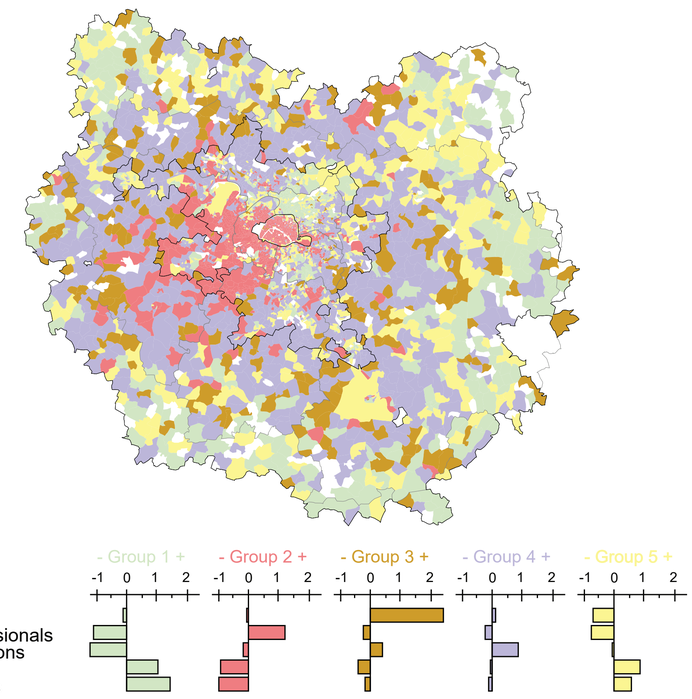
The segregation indicex let us study and quantify different forms of inequalities in the population distribution in a city. With the use of indices of equality, concentration and grouping (Massey, Denton, 1988) we were able to show that these three forms of population distribution inequalities are not mechanically linked. Rather, they appear to be complementary to each other.

The population is more inequally distributed in the far periphery of cities and in the inner city, but it is in the near periphery that the population concentrations and groupings are the biggest. Since these indices do not allow us to spatialize the studied phenomena, we have come to complement them with a hierarchical cluster analysis (HCA).

Typology

The HCA processes multiple variables simultaneously inside of each spatial unit. It creates a social portrait of the territory. However this analysis method does not take into account the neighboring of each spatial unit to set up the classification. Using local indicators of spatial association (LISA) will let us take into account the neighborhood of each spatial unit.

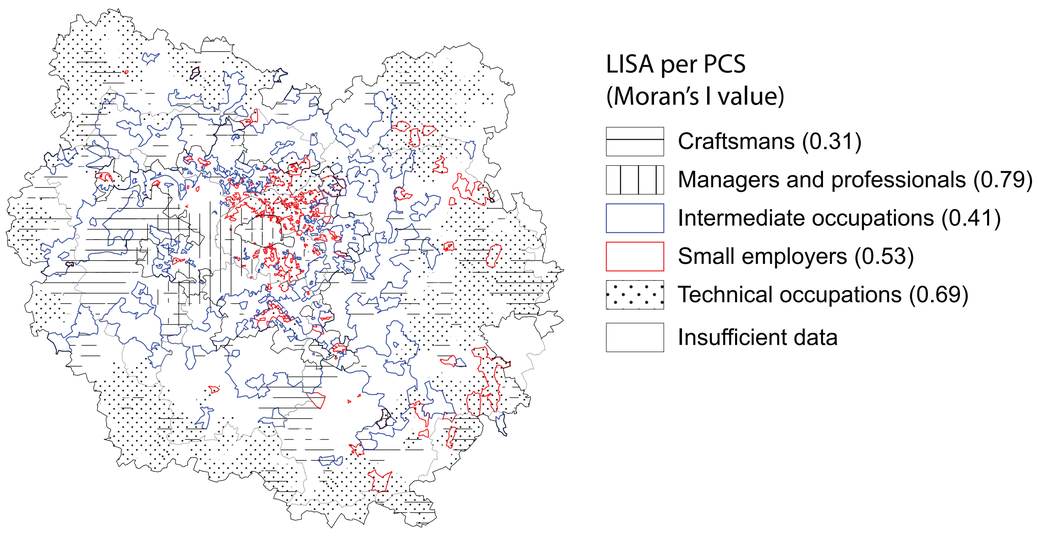
HIERARCHICAL CLUSTER ANALYSIS OF SOCIOPROFESSIONAL CATEGORIES IN PARIS (2013)



Measure of clustering

The LISA (Anselin, 1995) identify the variables that present significant spatial groupings (spatial autocorrelation). Here we overlay the LISA results on different variables. While the HCA studies the links between the different variables in the spatial units, the LISA highlight the variables' spatial grouping in neighboring spatial units.

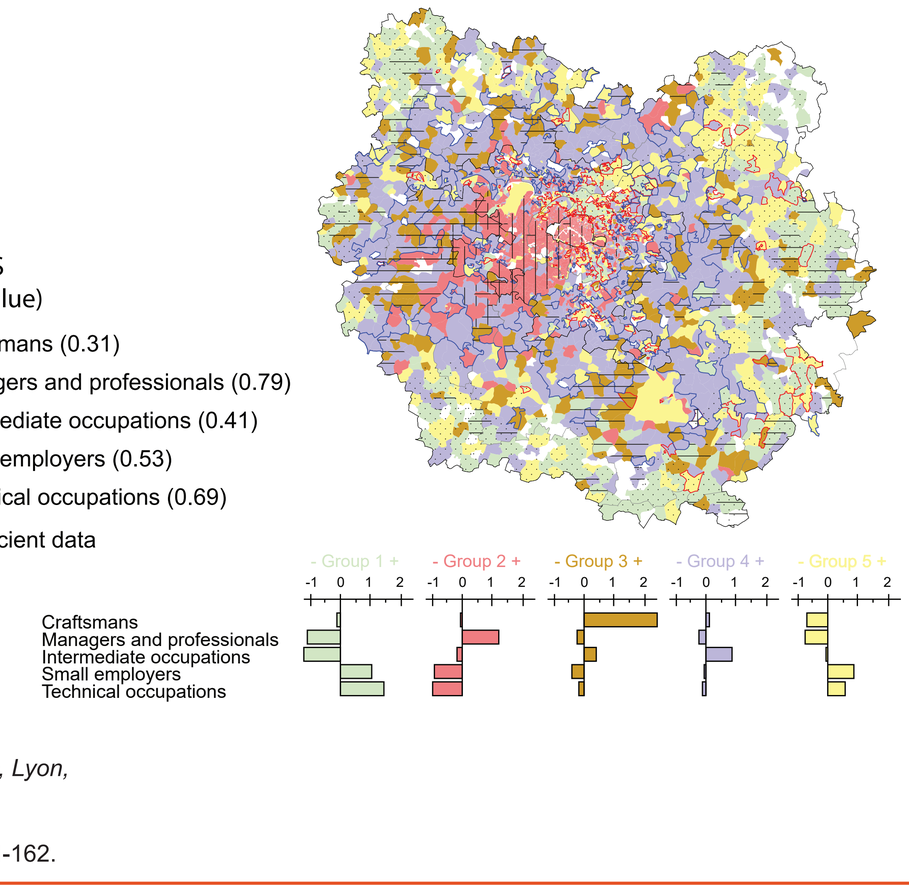
LISA OF SOCIOPROFESSIONAL CATEGORIES IN PARIS (2013)



Combination of methods

The population distribution structures from the HCA and LISA show similarities. However, this resemblance is not a redundancy. The LISA separate the groupings when the HCA studies the individual concentration. The fact that a population group is both concentrated and grouped is a different situation from a group only concentrated or only grouped (Reardon, O'Sullivan, 2004).

SOCIOPROFESSIONAL CLASSIFFICATION AND LISA IN PARIS (2013)



Conclusion

Our study demonstrates the interest of cross-analyzing different quantitative methods. The combination of these methods let us expand the perception of the studied phenomena.
With the combining of both HCA and LISA, we highlighted the grouping and concentration effects of socio-professional categories.
For further details on the methods used, and more detailed results regarding the French metropolises, please refer to the work of Q. Godoye (2017).

Bibliography

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