

# Segregation, Focal Distances & Neighbourhood Scales for EU and non-EU migrants in European Cities

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Introduction

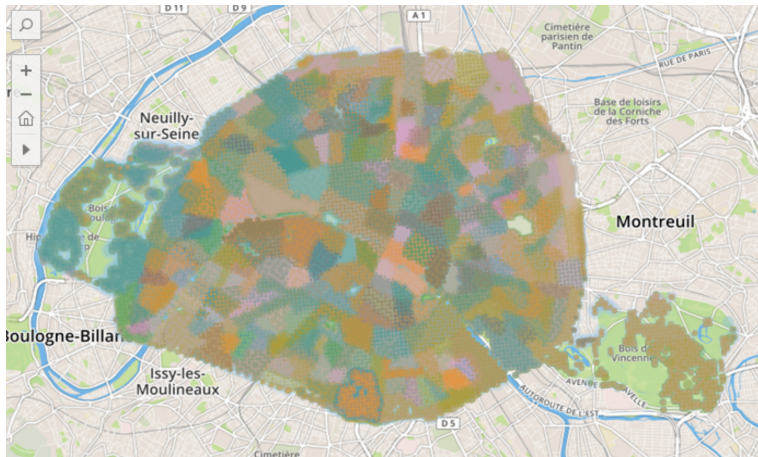
Multiscalar trajectories

Focal distances & Distortion coefficients

Distortion coefficients in 4 European capitals

Conclusions & Perspectives

## Introduction - Spatial dissimilarities: EU inhabitants in central Paris



non-uniform spatial distribution  $\Rightarrow$  (large) differences in perception

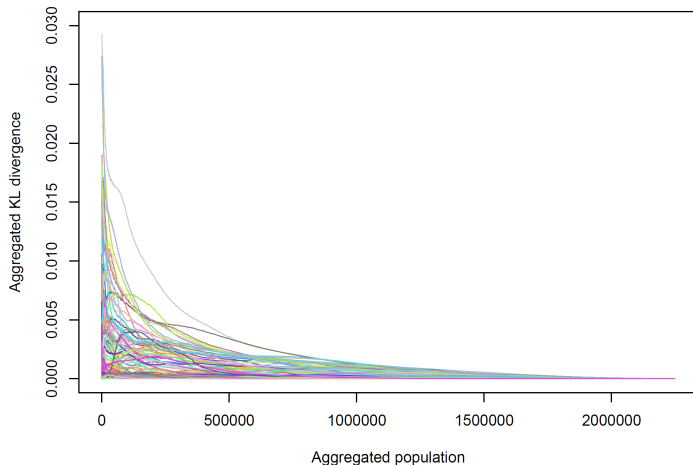
What does the city *look* like from a given point?

## Multiscalar trajectories

Building “continuous” multiscalar trajectories for all points

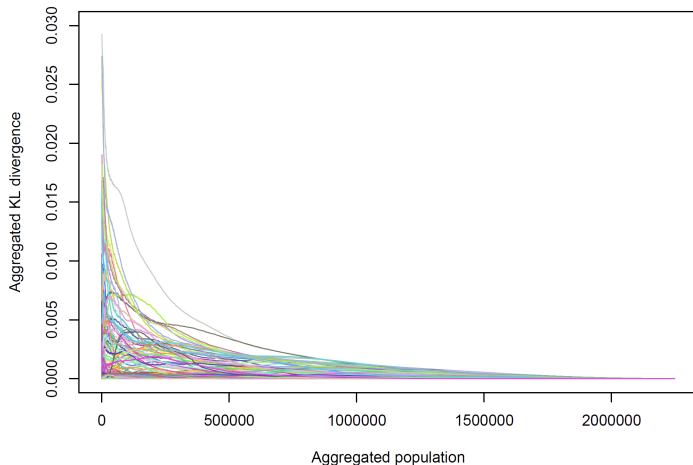
Fine-grained data (eg D4I)  $\Rightarrow$  Closer to *real life* experience

## Multiscalar trajectories: a *fingerprint* of the city



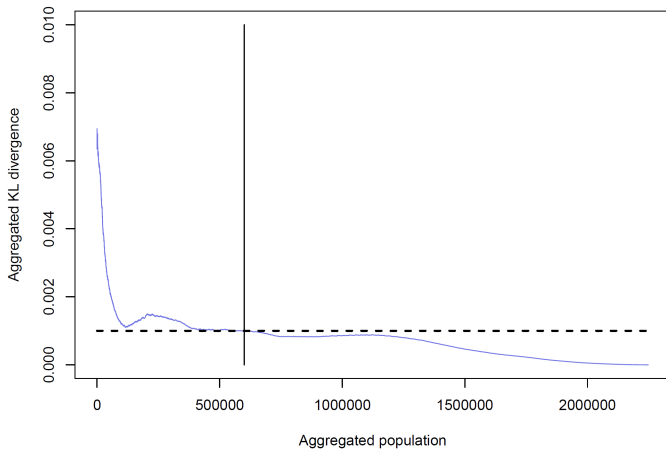
- ▶ Kullback-Leibler divergence between distributions (“relative entropy”)
- ▶ reference distribution = whole city / metropolitan area
- ▶ KL trajectories: a **fingerprint** of the city

## Multiscalar trajectories: a *fingerprint* of the city



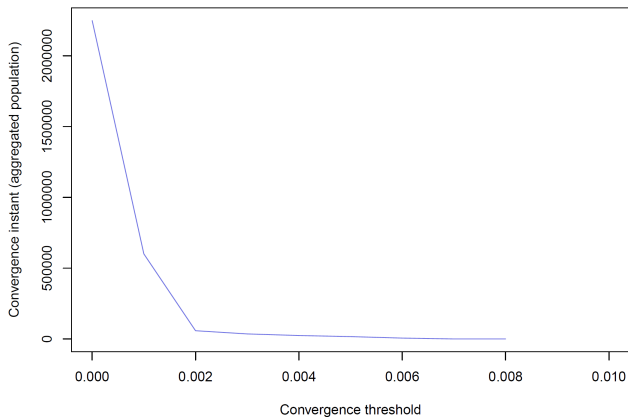
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## Focal distances and distortion coefficients



► Convergence at threshold  $\Delta$  → **focal distances**

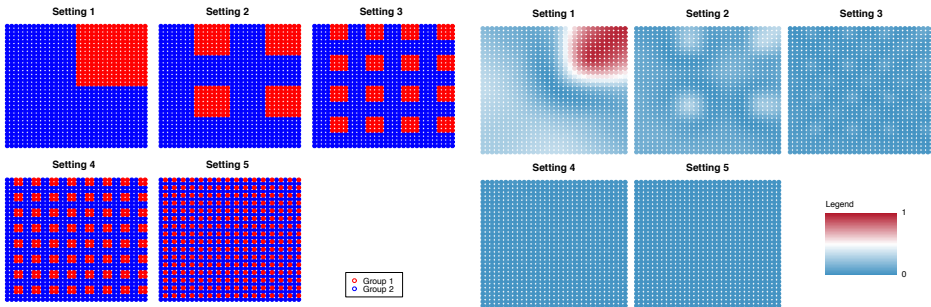
## Focal distances and distortion coefficients



- ▶ For every threshold  $\Delta \rightarrow$  focal distance
- ▶ Then : integral of  $\Delta$  trajectory, ie
- ▶ Sum of focal distances for all  $\Delta \rightarrow$  **distortion coefficient**



## Distortion coefficients – identifying *hot-spots* of segregation



Simulated Configurations

Distortion Coefficients

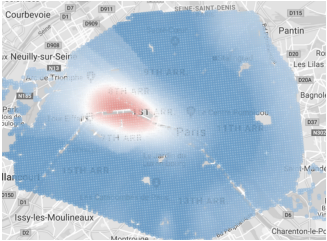
Distortion coefficient **close to 1** = Perception close to **maximal segregation**

Orders of magnitude:

**EU cities**  $\sim$  **0.3-0.5%** of maximum possible (vs **10-25%** in **Los Angeles**)

Low values  $\rightarrow$  “Smoothing out” due to the number of communities

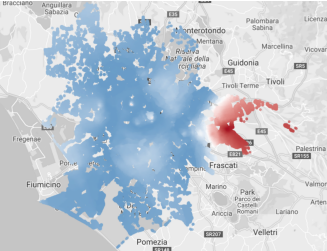
# Distortion coefficients for EU migrants in 4 European capitals



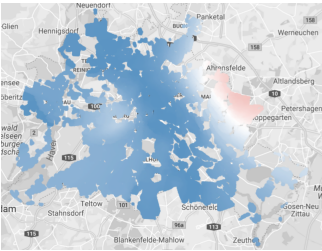
Paris



Madrid



Rome

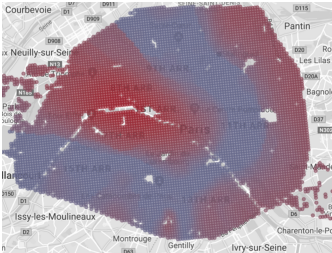


Berlin

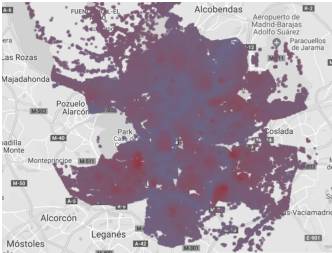


(% of max. seg.)

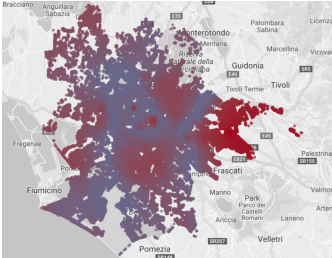
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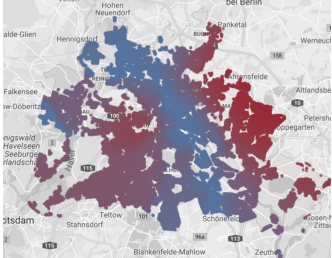
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Madrid



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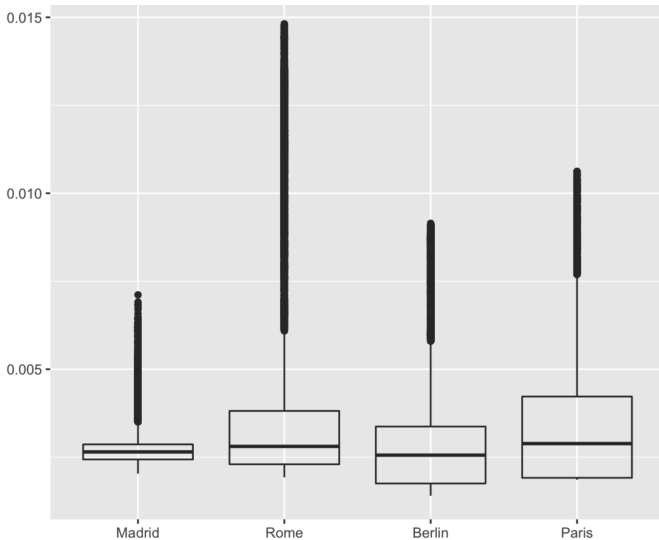
Berlin



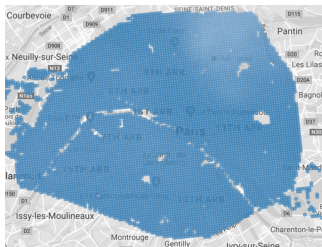
% of max. seg.

Log. scale

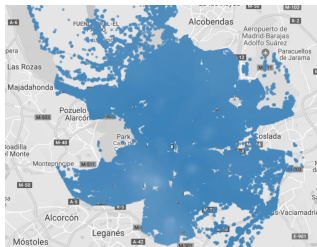
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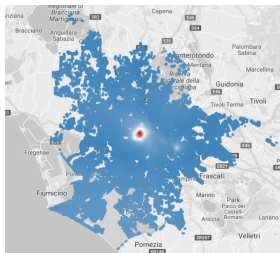
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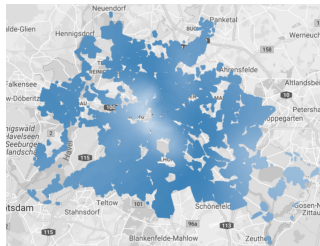
Paris



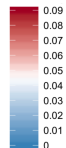
Madrid



Rome

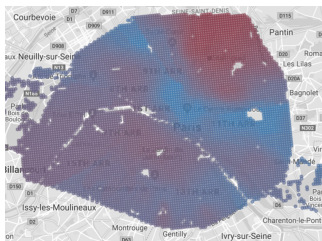


Berlin

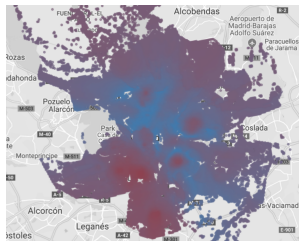


(% of max. seg.)

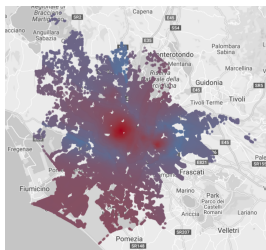
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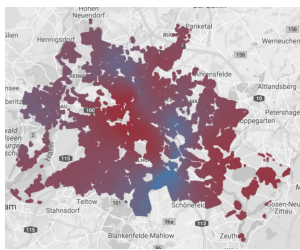
Paris



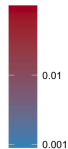
Madrid



Rome



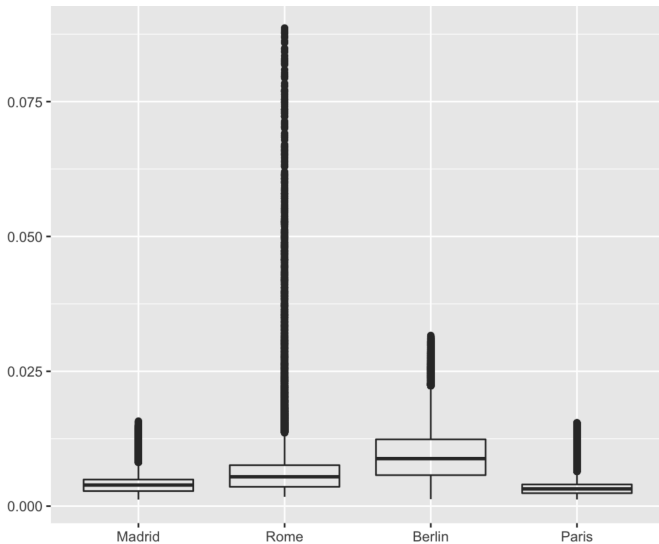
Berlin



% of max. seg.

Log. scale

## Distortion coefficients for NON-EU migrants in 4 European capitals



## Conclusions & Perspectives

- ▷ In a time of
  - ▶ questions on the nature of European citizenship,
  - ▶ intense immigration debates,
  - ▶ questions about European security,residential clustering of minorities poses a threat to
  - ▶ social integration,
  - ▶ community cohesion,
  - ▶ and ultimately citizenship and identity.
  
- ▷ Part of creating a solution is
  - ▶ good data,
  - ▶ and state-of-the-art analysis.
  
- ▷ Measuring the *actual patterns* of segregation, how they *interact* with the *urban structure*, and how they are *experienced by people*
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**Thank you for your attention**