

# Residential Segregation in Brazil: An Inference Framework Based study for Selected Cities

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**Abstract.** This is the abstract

**Keywords:** Residential Segregation · Inference Framework · Brazilian Cities · PySAL

## 1 Introduction

Residential segregation is a major topic of study

[?] goes here [?]

Talk about it is census tract level (and not neighborhood)

## 2 Related work

[?]

Here, in this section I cite renan, [?]

I also cite all brazilian papers of the literature [?] [?] [?] [?] [?] [?] [?] [?]

Why we chose those cities

## 3 Framework

Here, I discuss the hyphotesis present the null hyphotesis and alternative hyphotesis

and limitaitons of the approach recovering the Reviewer comments.

Discuss the dimensions o Massey...

Queen matrix

Segreagation measures choses

## 4 Results

Hardware,

### 4.1 Point Estimation of segregation measures

Here I put the maps Here I put all point measurements and discuss

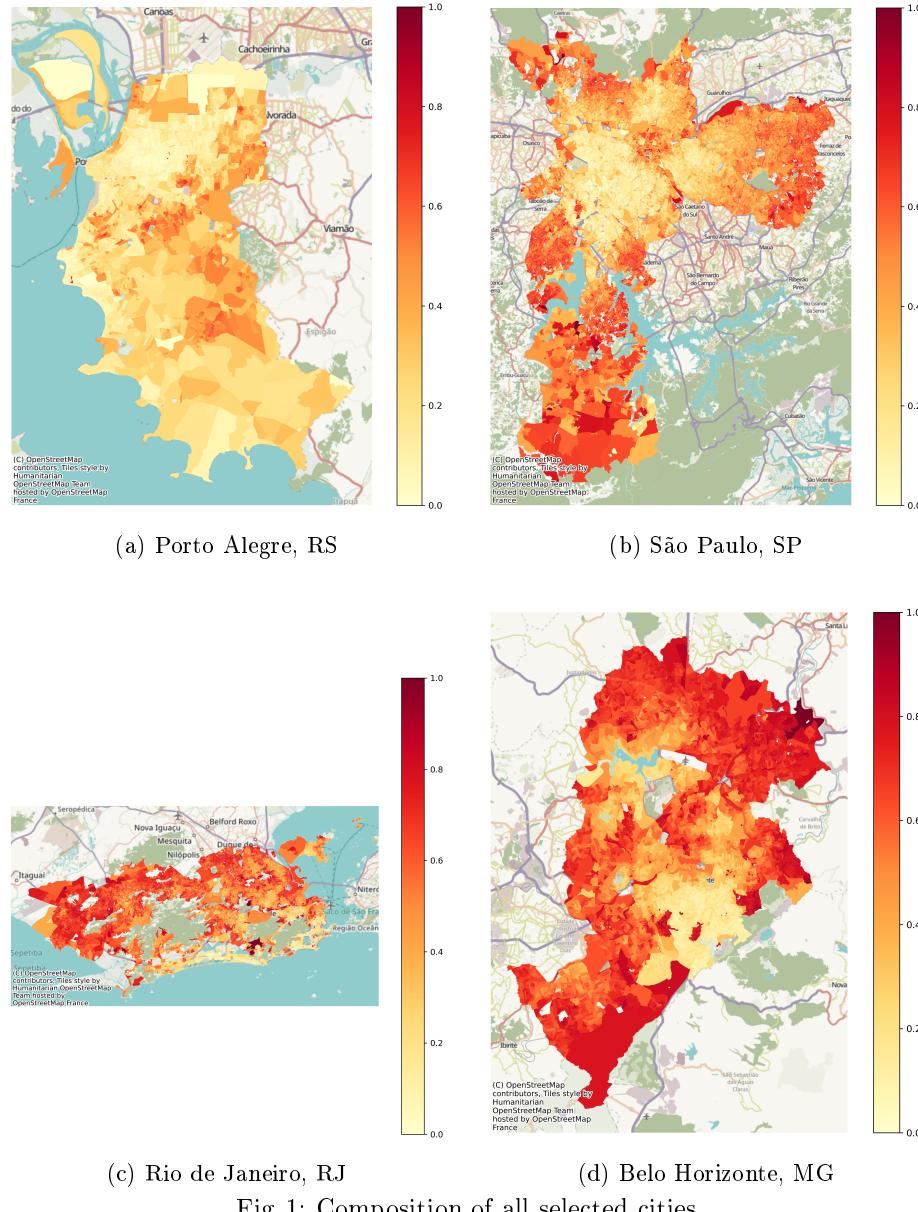


Fig. 1: Composition of all selected cities

## 4.2 Inference results

### Computational challenges

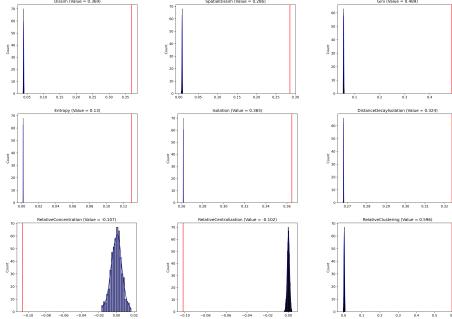


Fig. 2: Point Estimation with systematic approach

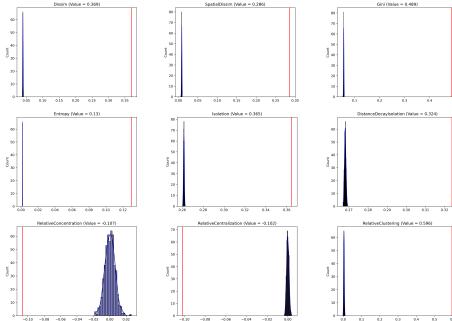


Fig. 3: Point Estimation with evenness approach

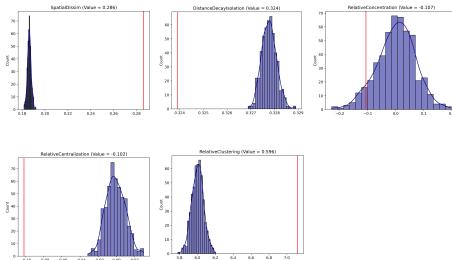


Fig. 4: Point Estimation with Geographic Permutation approach

## 5 Discussion and Future Work

More cities Comparative framework detangling with shapley Street network based

## References

1. Allen, R., Burgess, S., Davidson, R., Windmeijer, F.: More reliable inference for the dissimilarity index of segregation. *The econometrics journal* **18**(1), 40–66 (2015)
2. Barber, S., Diez Roux, A.V., Cardoso, L., Santos, S., Toste, V., James, S., Barreto, S., Schmidt, M., Giatti, L., Chor, D.: At the intersection of place, race, and health in brazil: Residential segregation and cardio-metabolic risk factors in the brazilian longitudinal study of adult health (elsa-brasil). *Social Science & Medicine* **199**, 67–76 (2018). <https://doi.org/https://doi.org/10.1016/j.socscimed.2017.05.047>, <https://www.sciencedirect.com/science/article/pii/S0277953617303489>, the role of Racism in Health Inequalities: Integrating Approaches from Across Disciplines
3. Barros, J., Feitosa, F.d.F.: A segregação étnico-racial nas regiões metropolitanas de são paulo e londres: reflexões sobre um estudo comparativo. *Revista Brasileira de Estudos de População* **41**, 1–28 (8 2024). <https://doi.org/10.20947/S0102-3098a0262>, <https://rebep.org.br/revista/article/view/2362>
4. Barros, J., Feitosa, F.F.: Uneven geographies: Exploring the sensitivity of spatial indices of residential segregation. *Environment and Planning B: Urban Analytics and City Science* **45**(6), 1073–1089 (2018). <https://doi.org/10.1177/2399808318760572>
5. Cortes, R.X., Rey, S., Knaap, E., Wolf, L.J.: An open-source framework for non-spatial and spatial segregation measures: the pysal segregation module. *Journal of Computational Social Science* **3**(1), 135–166 (2020). <https://doi.org/10.1007/s42001-019-00059-3>
6. França, D.: Segregação residencial por raça e classe em fortaleza, salvador e são paulo. *Caderno CRH* **35**, e022045 (12 2022). <https://doi.org/10.9771/ccrh.v35i0.42018>, <https://periodicos.ufba.br/index.php/crh/article/view/42018>
7. Gonçalves, A.P.V., Mercedes Strauch, J.C.: Segregação racial em belo horizonte: o que mudou em mais de uma década? *Cadernos Metrópole* **28**(65) (2 2026), <https://revistas.pucsp.br/index.php/metropole/article/view/71128>
8. Massey, D.S., Denton, N.A.: The dimensions of residential segregation. *Social forces* **67**(2), 281–315 (1988)
9. Rey, S., Cortes, R., Knaap, E.: Comparative spatial segregation analytics. *Spatial Demography* **9**, 1–26 (01 2021). <https://doi.org/10.1007/s40980-021-00075-w>
10. de Sousa Filho, J.F., dos Santos, G.F., Andrade, R.F.S., Paiva, A.S., Freitas, A., Castro, C.P., de Lima Friche, A.A., Barber, S., Caiaffa, W.T., Barreto, M.L.: Inequality and income segregation in brazilian cities: a nationwide analysis. *SN Social Sciences* **2**(9), 191 (2022). <https://doi.org/10.1007/s43545-022-00491-9>, <https://doi.org/10.1007/s43545-022-00491-9>
11. Sousa Filho, J.F.d., Pedeira, S.C., Santos, G.F.d., Guimarães, J.M.N., Ferreira, A.J.F., Alves, F.J.O., Nascimento, G.R., Paiva, A.S.S., Andrade, R.F.S., Góes, E.F., Barreto, M.L., Aquino, E.M.L.: Segregação racial e econômica no brasil: uma análise nacional das desigualdades socioeconômicas e socioespaciais. *Revista Brasileira de Estudos de População* **40**, 1–24 (out 2023). <https://doi.org/10.20947/S0102-3098a0247>, <https://rebep.org.br/revista/article/view/2166>