



COVID-19 ERTes Impact Visualization in Barcelona

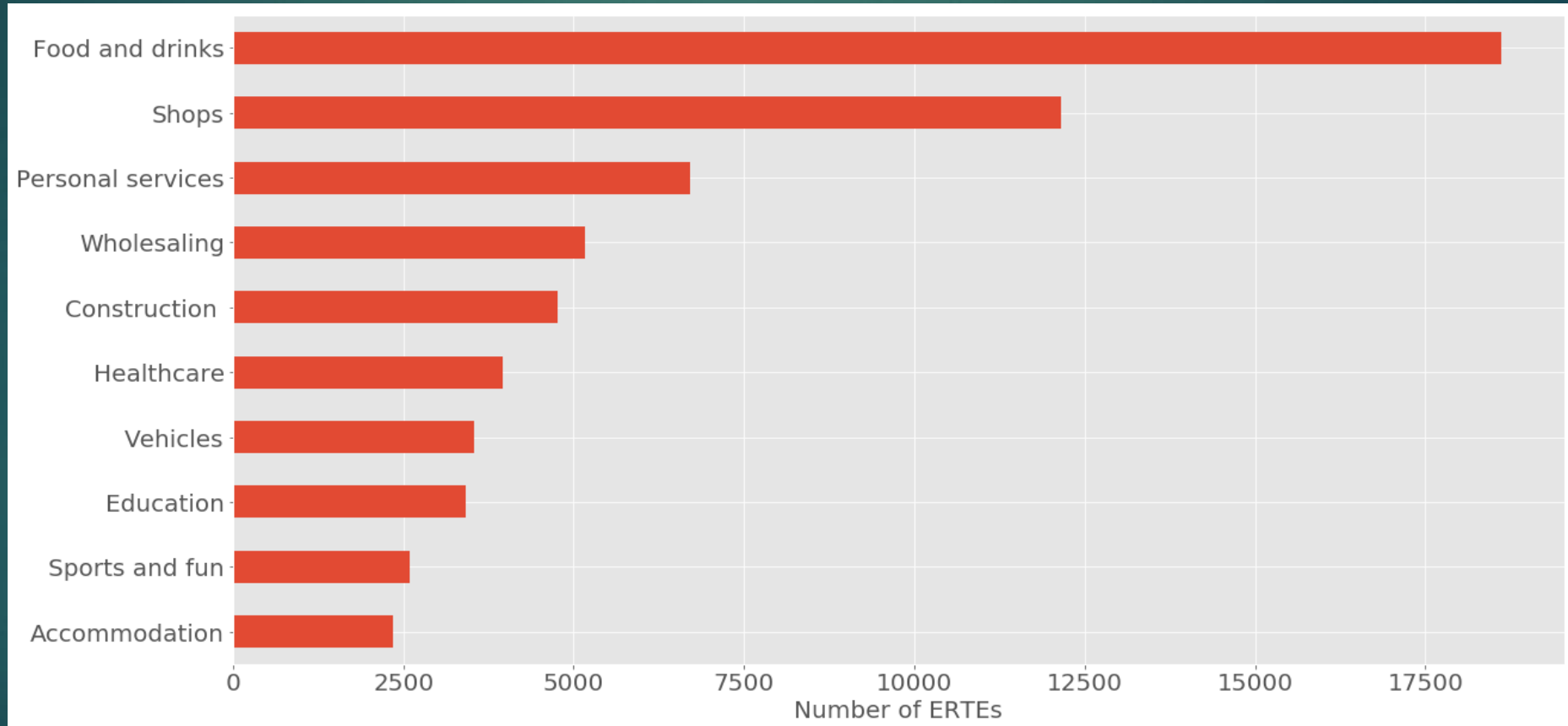
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The problem

- ▶ **Coronavirus disease** (COVID-19) outbreak from late December, 2019.
- ▶ Drastic consequences on **health** and **economy**.
- ▶ On March 14, 2020, the Spanish government declared **restrictions** for the **movement of the population** and the **economic activity**.
- ▶ Companies and business can temporarily fire one or more employees, during the time their economic activity is suspended, via a procedure called **ERTE**.
- ▶ **Question: how are ERTes affecting the city of Barcelona, Spain?**

ERTEs in Catalonia per economic sector



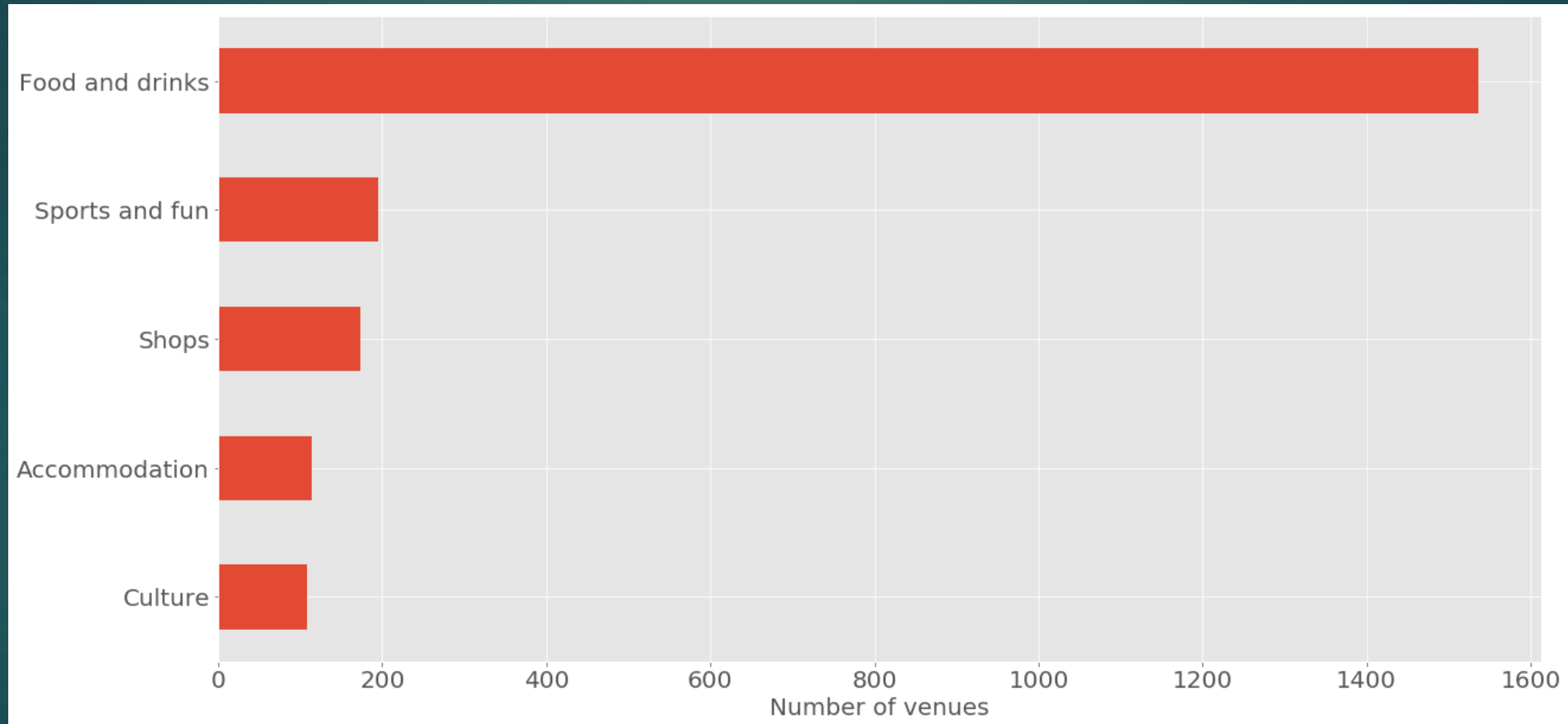
ERTEs impact per economic sector

- ▶ For each economic sector, define

$$Impact = \frac{Number\ of\ ERTes}{Number\ of\ companies}$$

- ▶ This is roughly the probability that a company of a certain economic sector suffered one ERTE.

Top economic sectors in the city of Barcelona



Impact in Barcelona

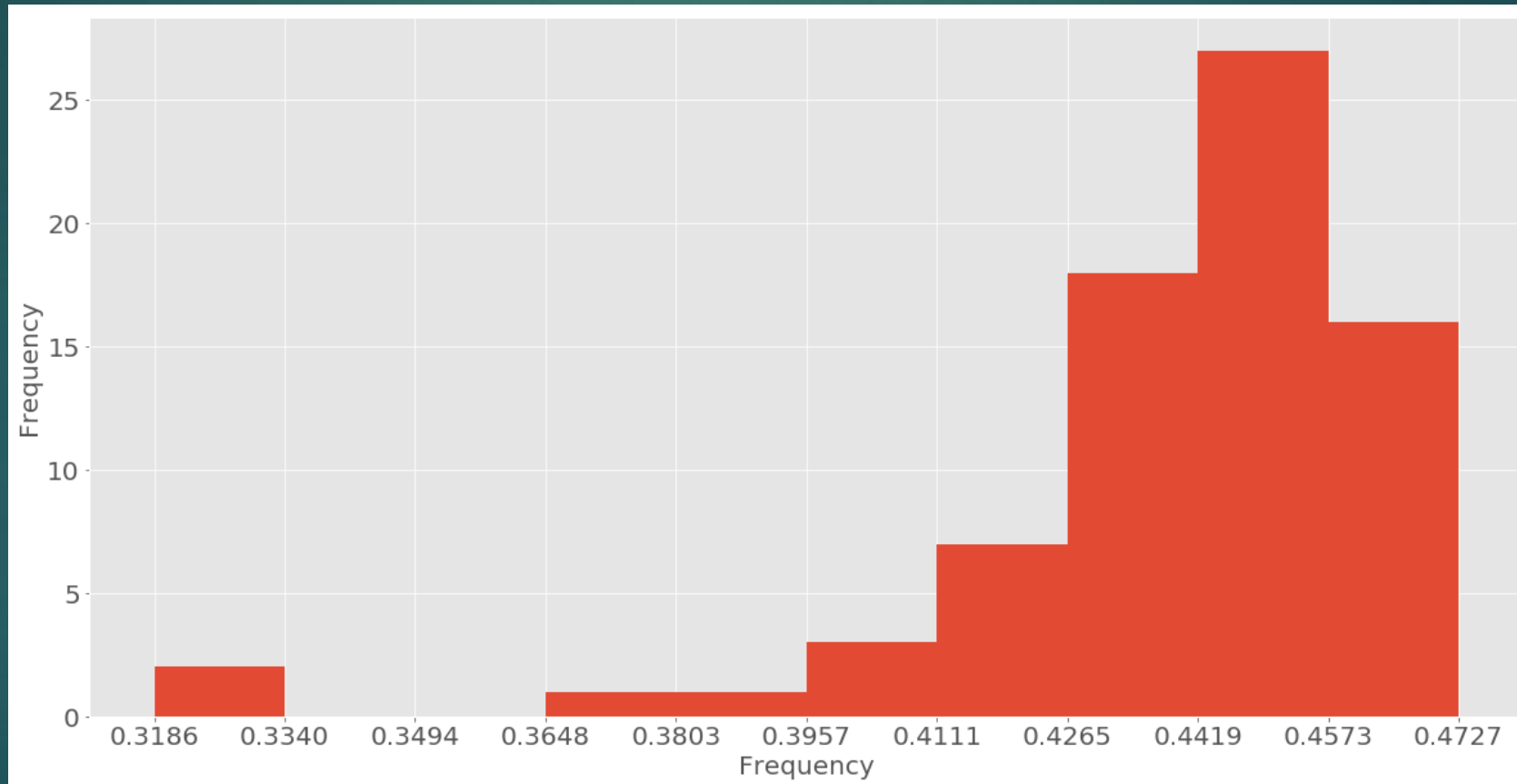
| Economic sector | Impact |
|-----------------|--------|
| Food and drinks | 0.4700 |
| Sports and fun | 0.1735 |
| Shops | 0.3682 |
| Accommodation | 0.5370 |

Impact per neighborhood

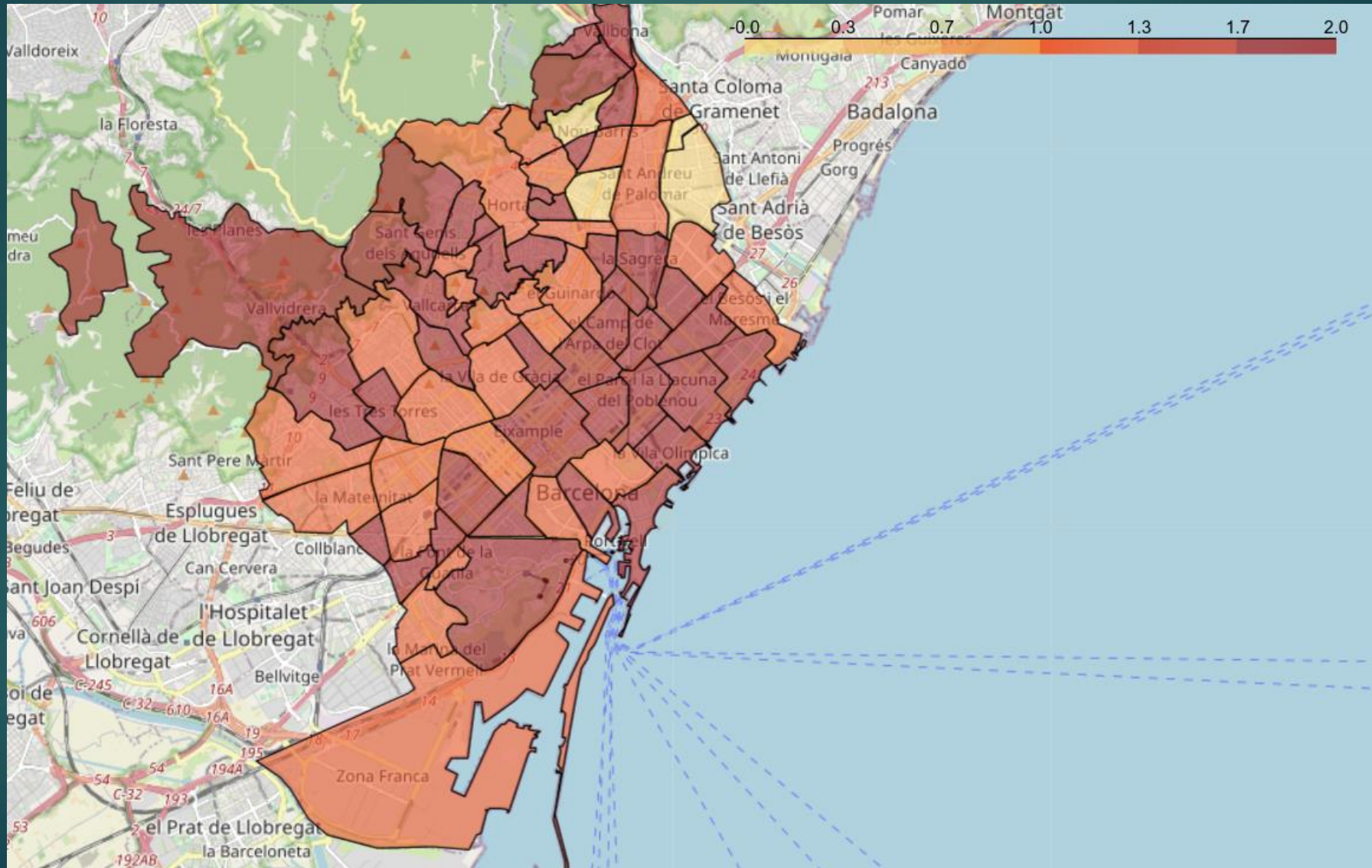
- ▶ N_{fd}, N_{sf}, N_s, N_a : number of 'Food and drinks', 'Sports and fun', 'Shops' and 'Accommodation' business in the neighborhood, respectively.
- ▶ I_{fd}, I_{sf}, I_s, I_a : impact ERTes on 'Food and drinks', 'Sports and fun', 'Shops' and 'Accommodation', respectively.

$$Impact = \frac{N_{fd}I_{fd} + N_{sf}I_{sf} + N_sI_s + N_aI_a}{N_{fd} + N_{sf} + N_s + N_a}$$

Impacts on neighborhoods: histogram



Impacts on neighborhoods: map



Conclusions

- ▶ For most neighborhoods, around 40 to 50% of business have suffered an ERTE.
- ▶ Very few neighborhoods have had a low ERTE impact. **The vast majority of neighborhoods** have experienced either a **moderate impact** (around 40% of business have suffered an ERTE in them) or a **high impact** (around 45%).
- ▶ Nevertheless, **these results are just a rough approximation of the actual situation.** The particular demographic and economic features of each neighborhood are not taken into account.