



University of Milano-Bicocca
Master Degree in Data Science
Academic Year 2022/2023



DATA VISUALIZATION PROJECT BY
JULIA TSYMBAL & PAOLA CAVANA

WHAT DOES THE COST OF LIVING MEAN?

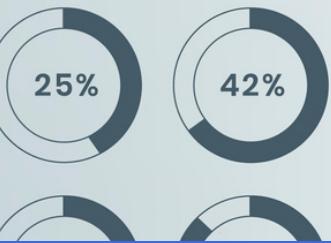
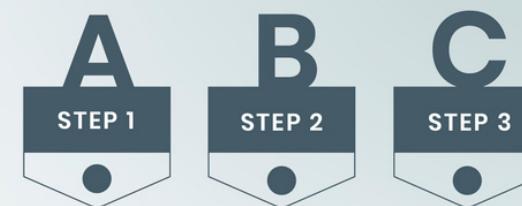
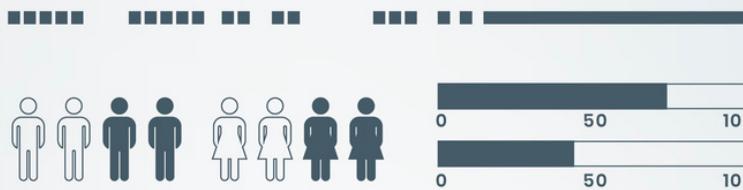
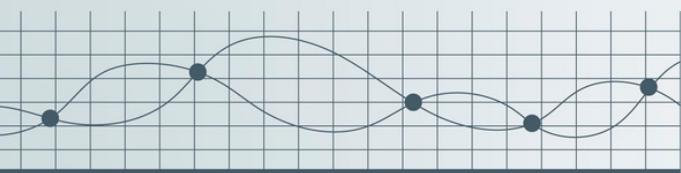
- The cost of living is the **amount of money** necessary to cover basic expenses such as: housing, food, taxes and healthcare, in a certain place and a certain period of time.
- The cost of living is closely related to the **salary**.
- The rising cost of living has been associated with a **reduction in wellbeing**, including increased anxiety and worsening mental health.

OUR GOALS

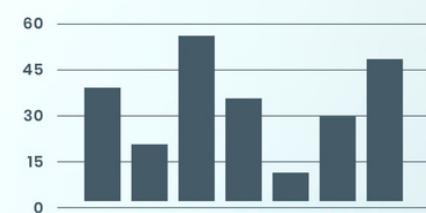
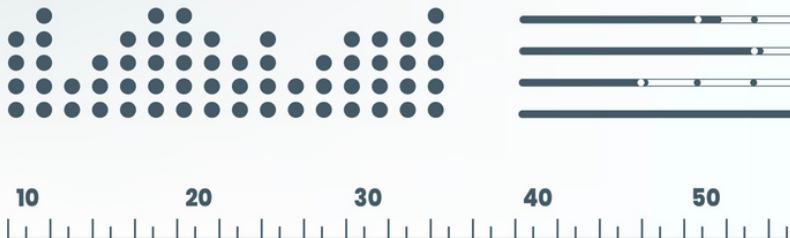
- Identify the best and worst countries in terms of living standards and understand why.
- Analyze some variables useful for the calculation of the cost of living

THE DATASETS

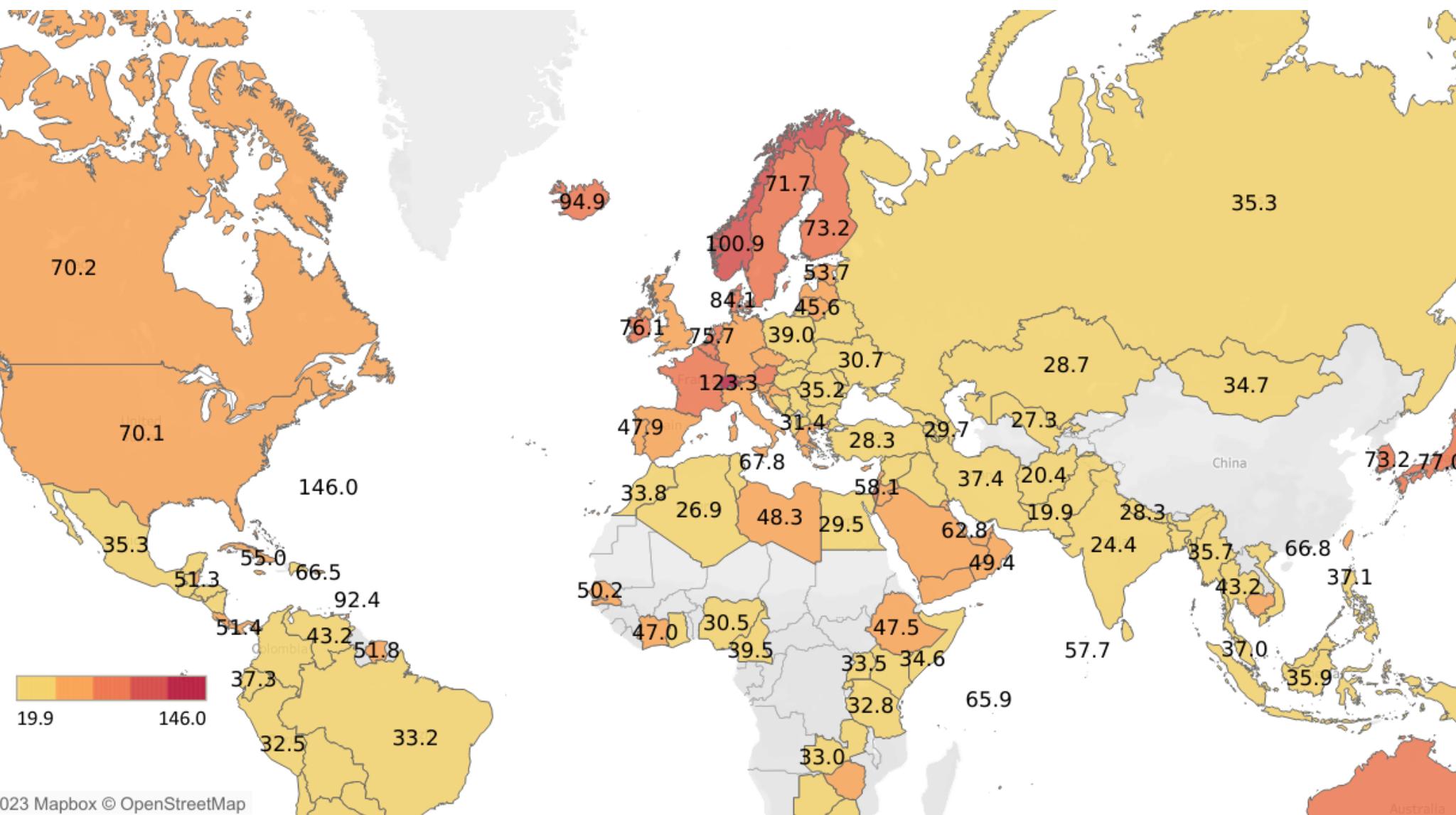
1. The **first** dataset used was obtained by scraping the Numbeo site with a Python program. This dataset contains the cost of living index of 180 countries.
2. The **second** dataset is available on the Kaggle platform and contains information about the cost of living in almost 5000 cities across the world updated on 3 December 2022. For each city we are provided with prices of various products and services.
3. The **third** dataset was obtained from the Kaggle platform as well. It contains additional information about capitals and continents.



INFOGRAPHICS

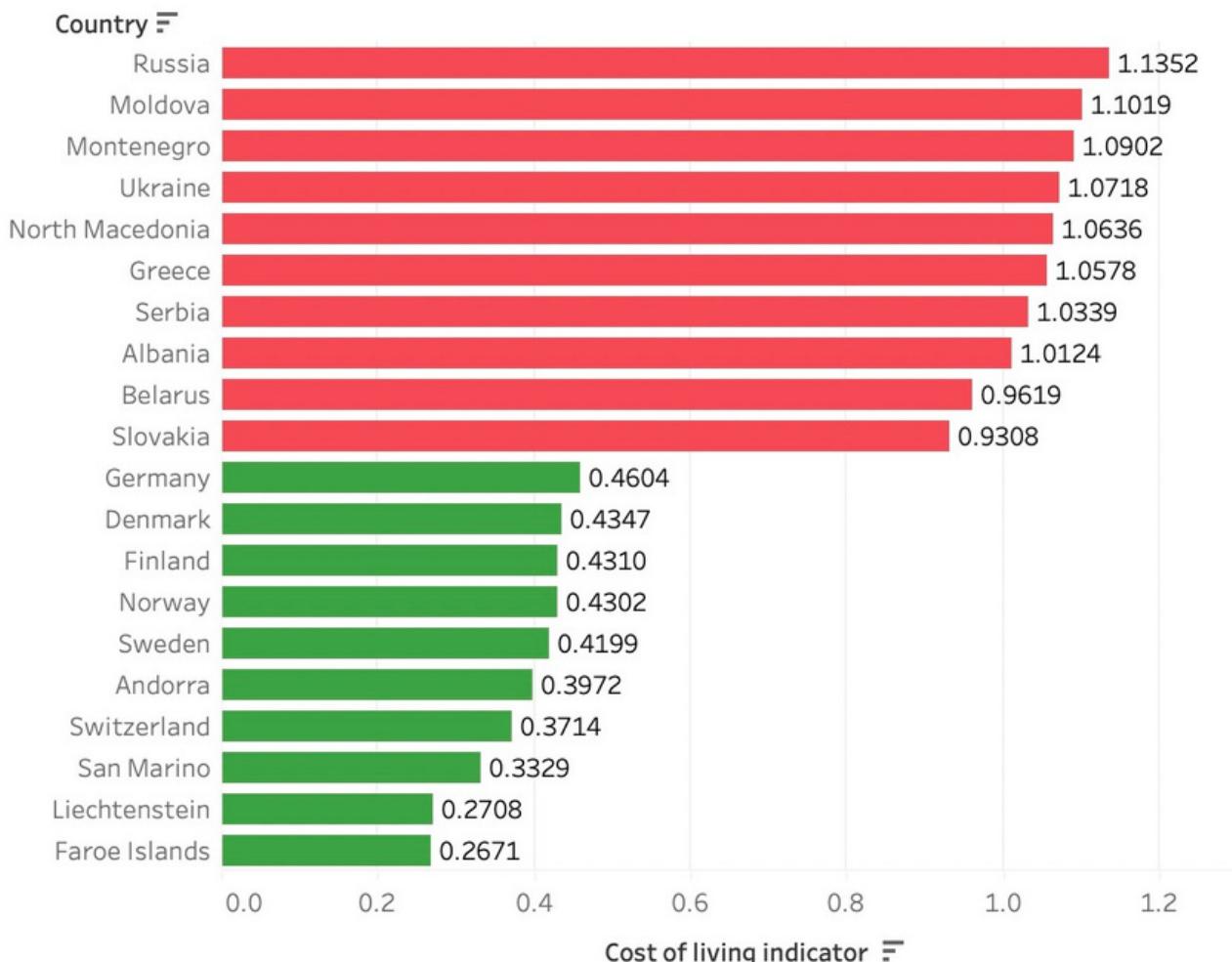


NUMBEO'S COST OF LIVING INDEX



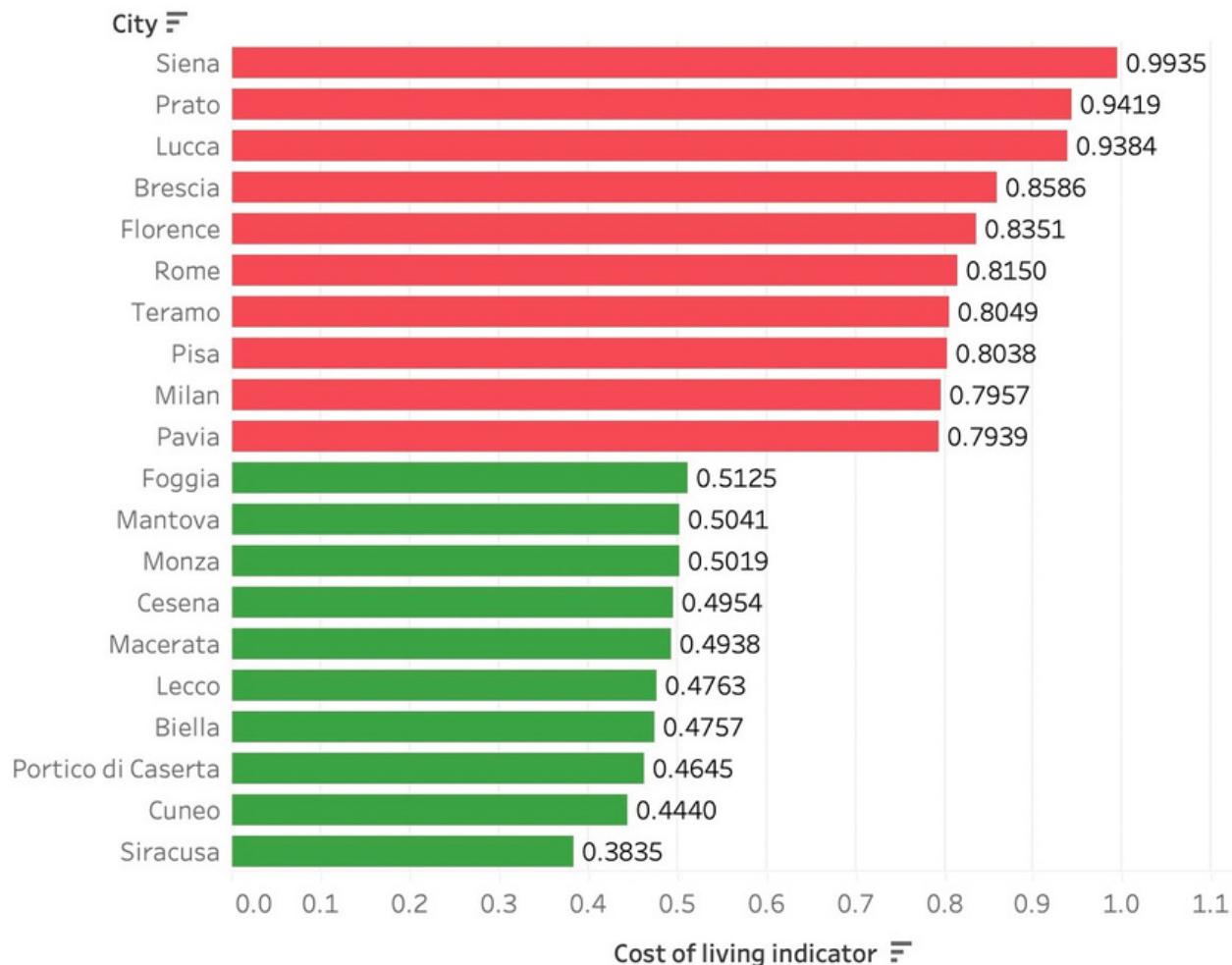
COST OF LIVING BY COUNTRY

- Top 10 countries with **highest** cost indicator
- Top 10 countries with **lowest** cost indicator

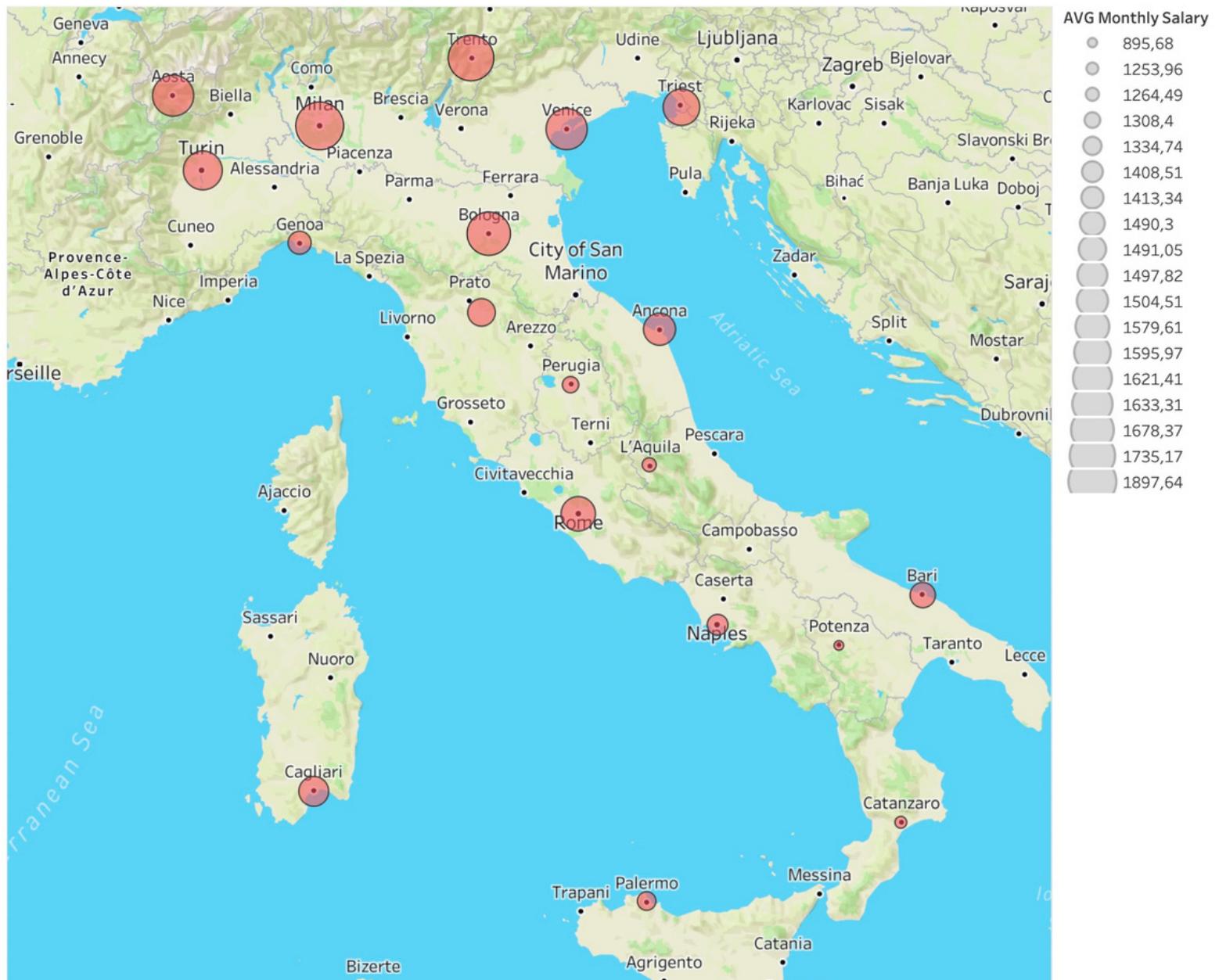


COST OF LIVING BY CITY

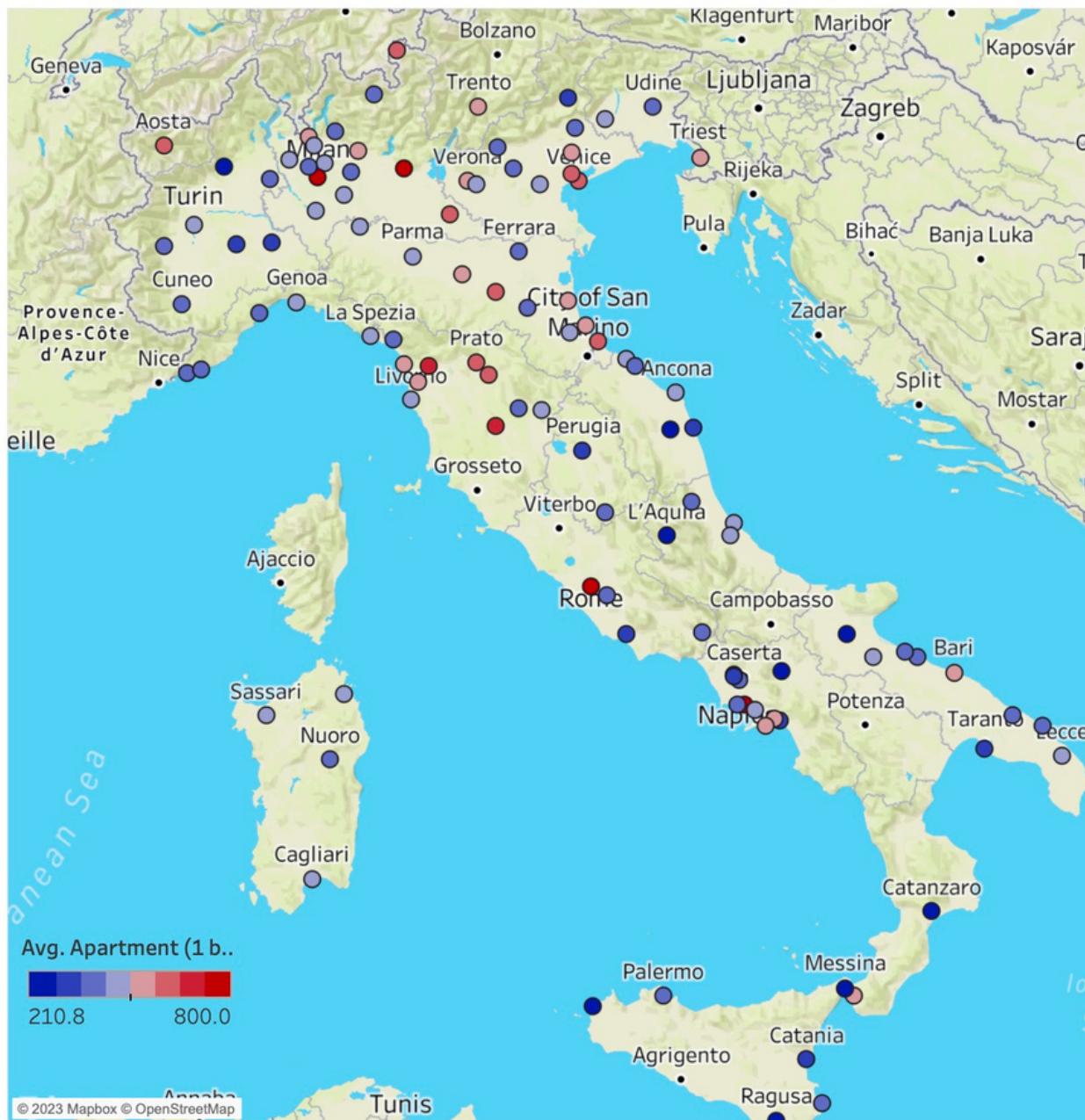
- Top 10 countries with **highest** cost indicator
- Top 10 countries with **lowest** cost indicator



SALARY IN ITALY



APARTMENT COST IN ITALY



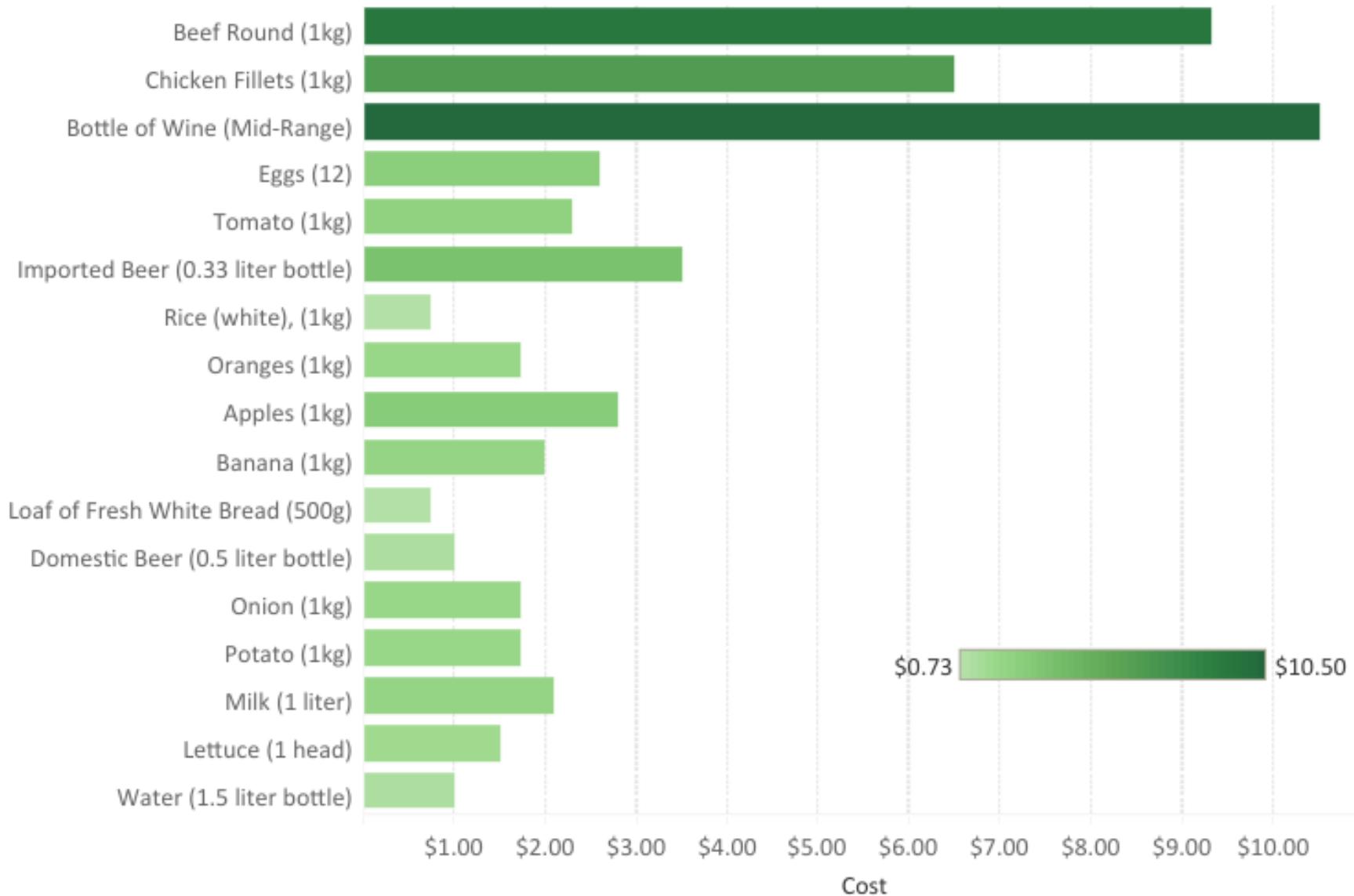
SALARY VS APARTMENT



MCMEAL AT MCDONALDS

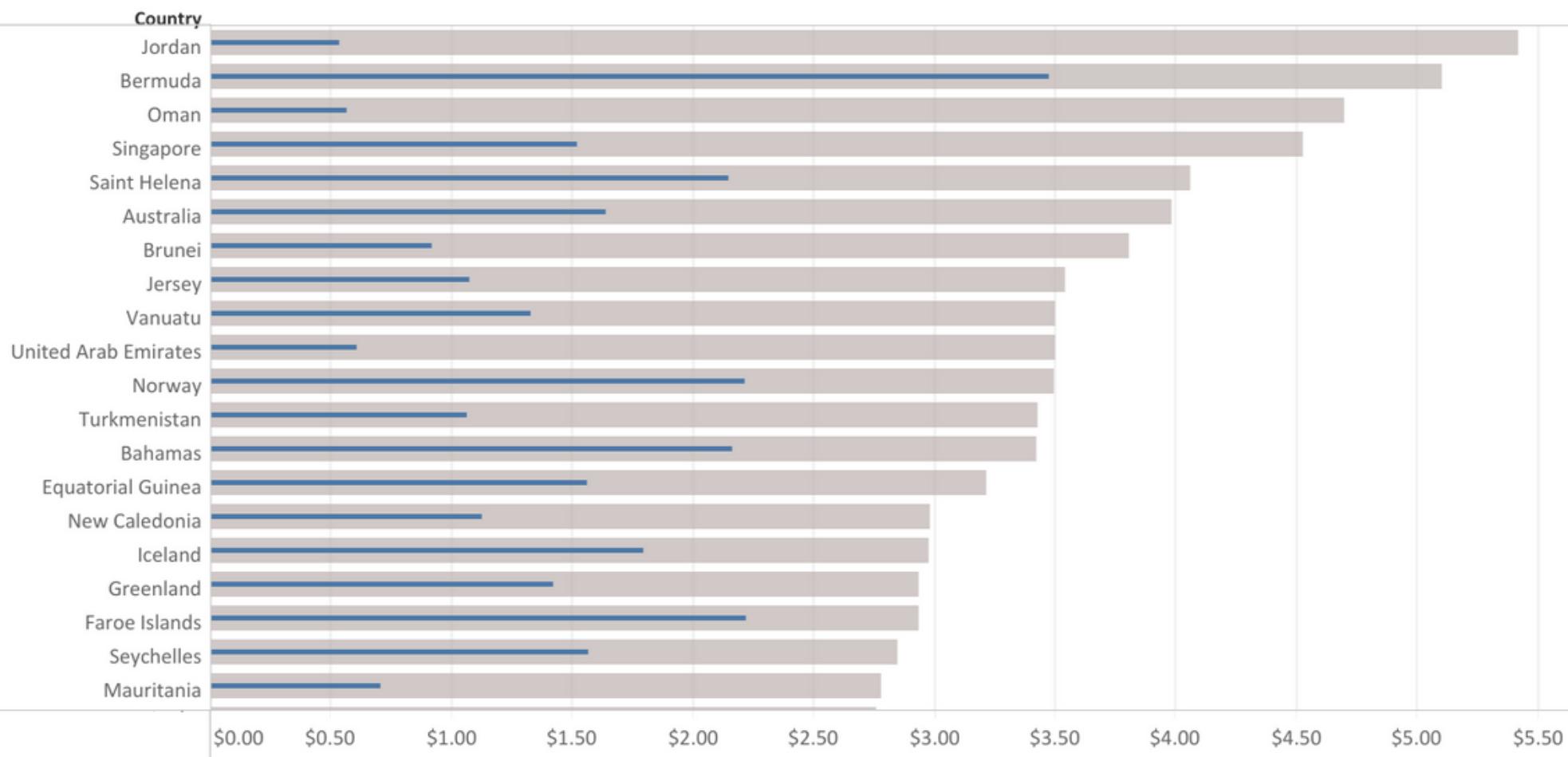
Country	Country
American Samoa	\$22.13
Equatorial Guinea	\$20.08
Greenland	\$15.96
Switzerland	\$15.64
Faroe Islands	\$15.60
Israel	\$15.20
Solomon Islands	\$15.19
Bermuda	\$15.00
British Virgin Islands	\$15.00
Turks And Caicos Islands	\$15.00
Liechtenstein	\$14.53
Haiti	\$13.75
Chad	\$12.85
Norway	\$12.67
Saint Kitts And Nevis	\$12.48
Marshall Islands	\$12.00
Iceland	\$11.86
Luxembourg	\$11.86
Saint Helena	\$11.69
Gabon	\$11.65
Lesotho	\$11.48
French Polynesia	\$11.44
	\$3.42
	\$3.42
	\$3.35
	\$3.29
	\$3.28
	\$3.22
	\$3.17
	\$3.14
	\$3.13
	\$3.08
	\$3.07
	\$2.98
	\$2.98
	\$2.88
	\$2.87
	\$2.84
	\$2.83
	\$2.67
	\$2.47
	\$2.34
	\$2.21
	\$2.09

COST OF FOOD AT THE MARKET BY COUNTRY



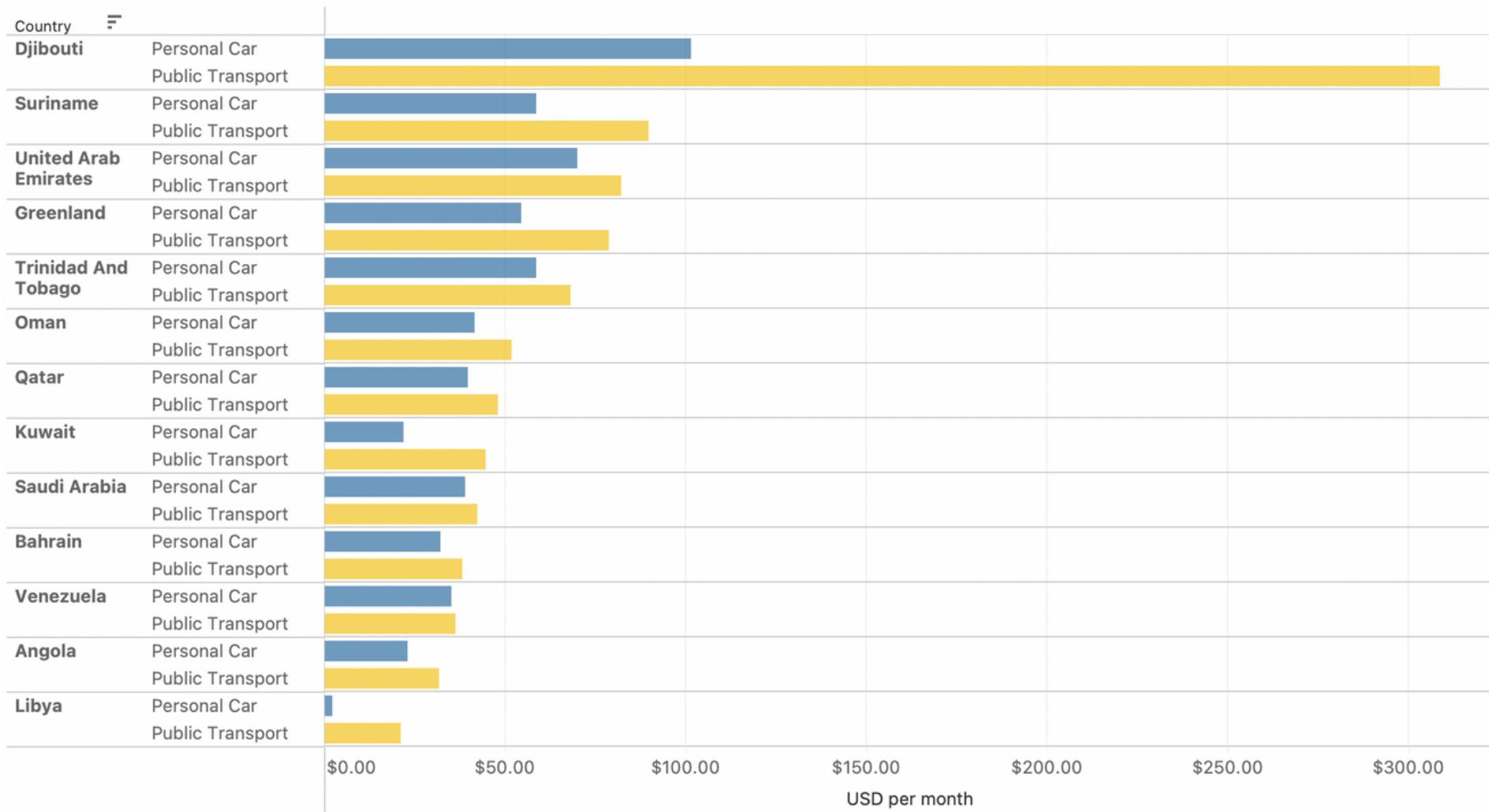
BEER VS WATER

- Domestic beer (0.5 liter bottle)
- Water (1.5 liter bottle)



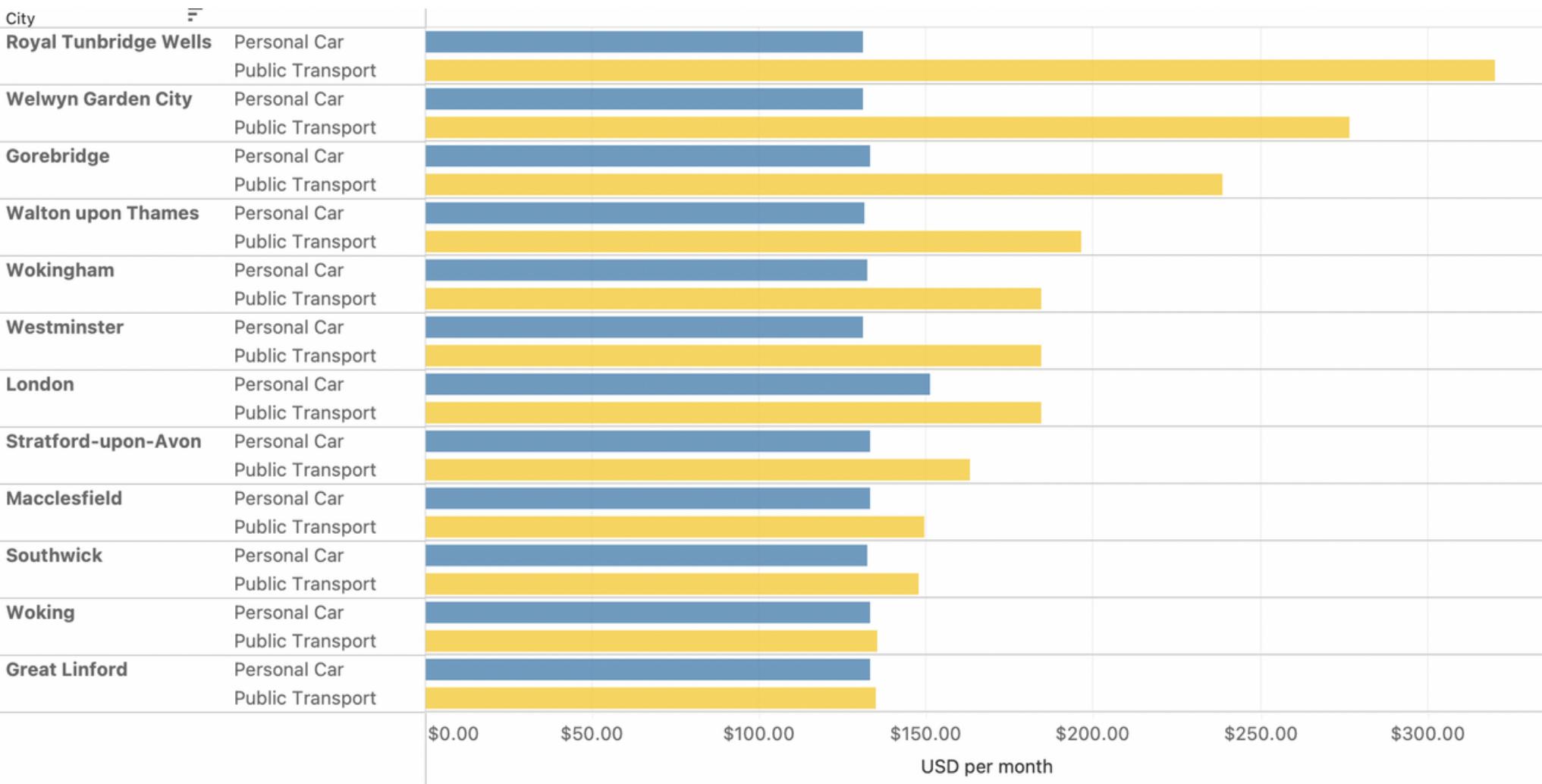
TRANSPORT BY COUNTRY

■ Private car
 ■ Public transport

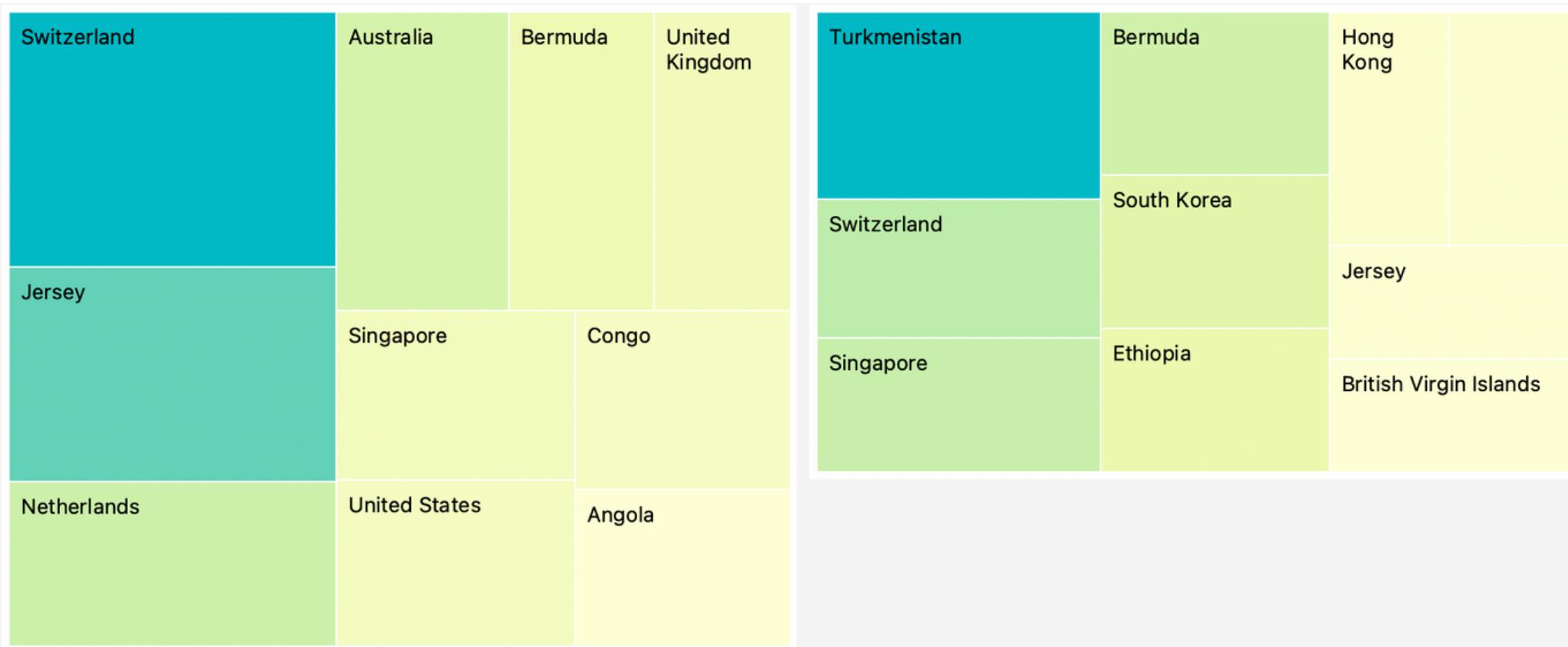


TRANSPORT BY CITY

- █ Private car
- █ Public transport

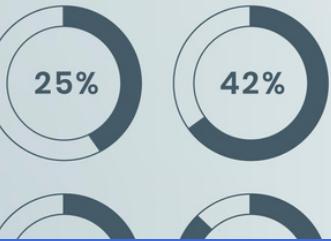
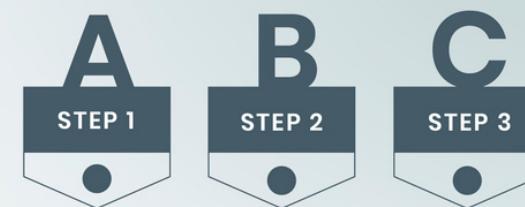
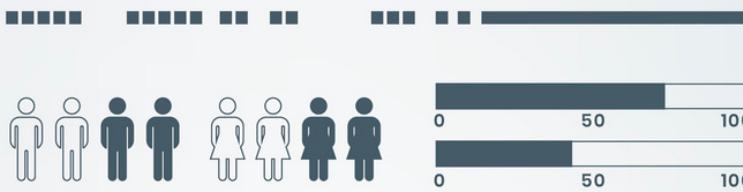
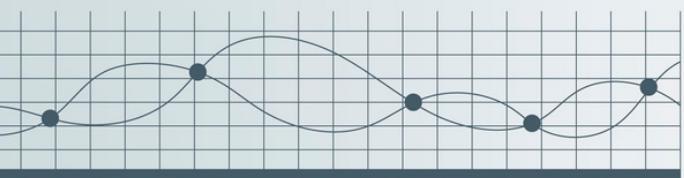


TOP 10 COUNTRY WITH HIGHEST COST OF EDUCATION

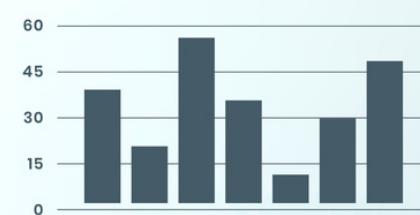
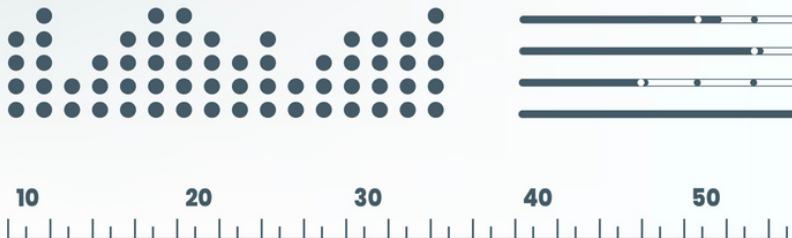
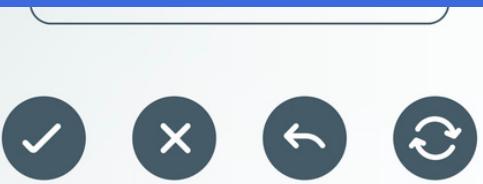


Preschool, Full day, Private
(monthly for 1 child)

International primary school
(yearly for 1 child)

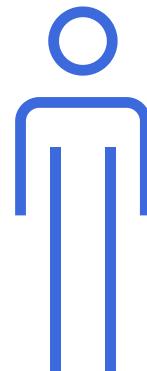
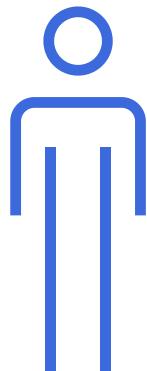
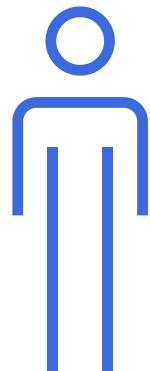


QUALITY ASSESSMENT



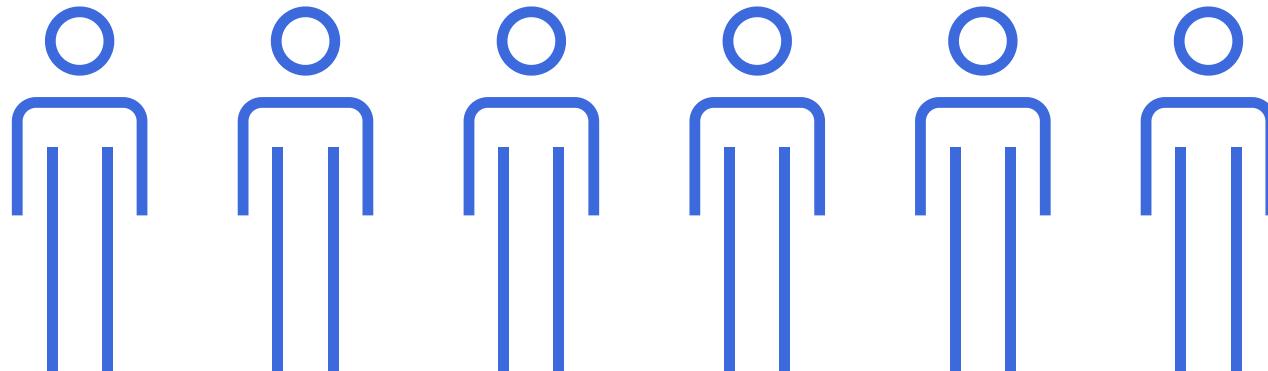
- **Heuristic Test**
- **Heuristic evaluation**
- **Psychometric questionnaire**

HEURISTIC TEST



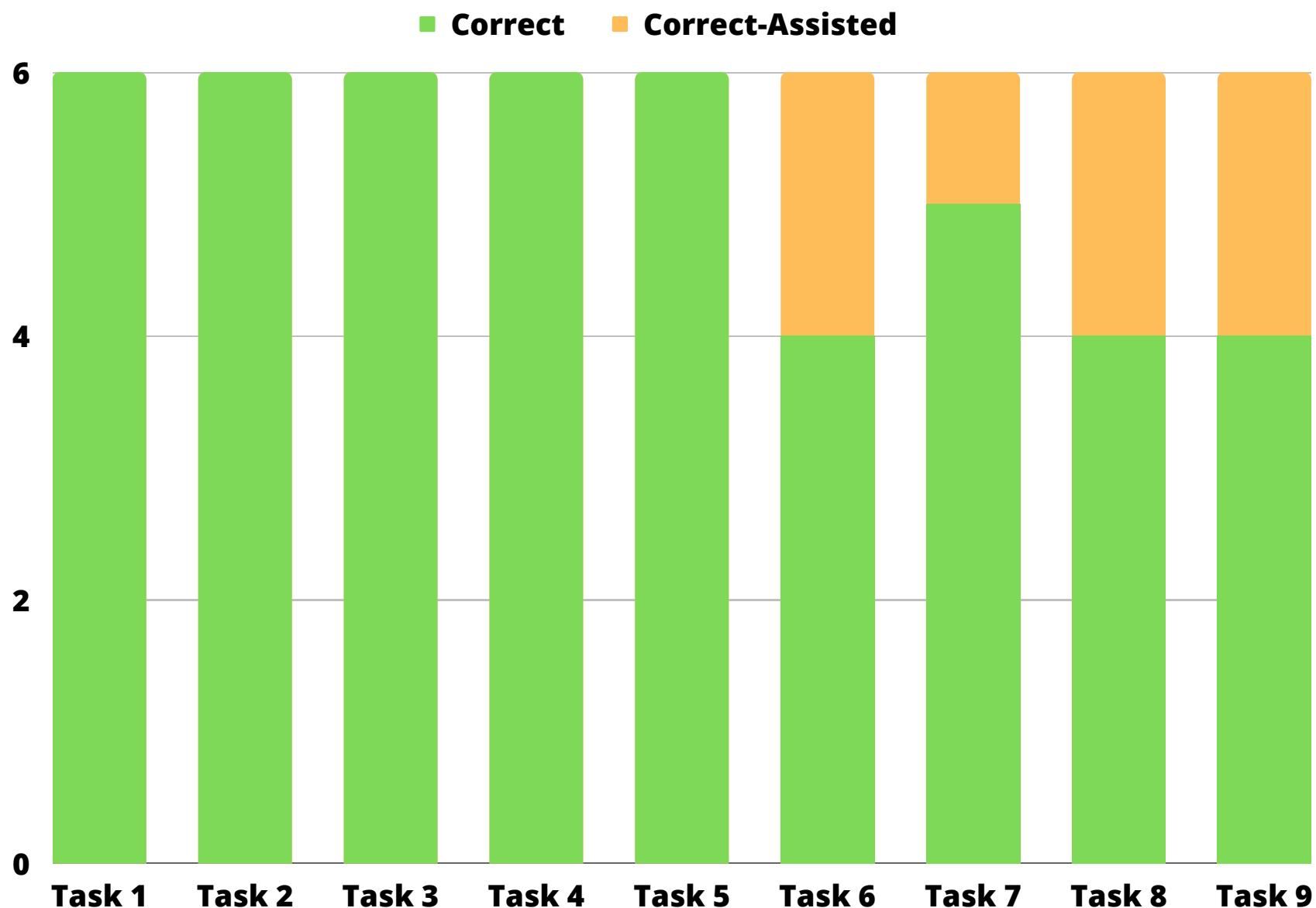
For this test we involved 3 different users and the purpose of this test was evaluating the work done with a “think aloud” protocol and taking into account all the problems encountered by the users throughout the navigation between the infographics.

HEURISTIC TEST

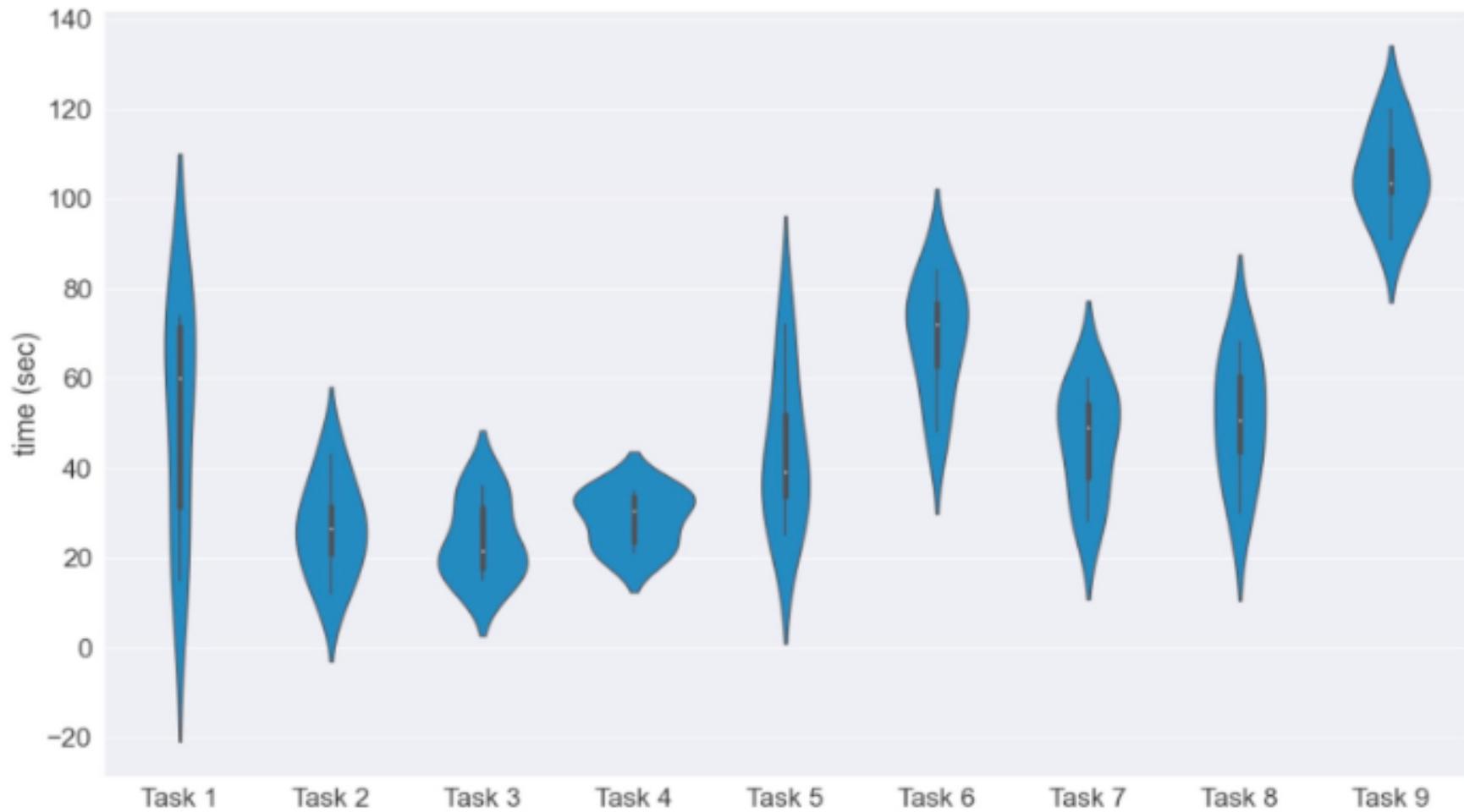


For the heuristic evaluation we asked for the participation of 6 users, who performed nine different tasks. Each user had the dashboard available, where he was free to navigate and for each chart was presented the task on a sheet.

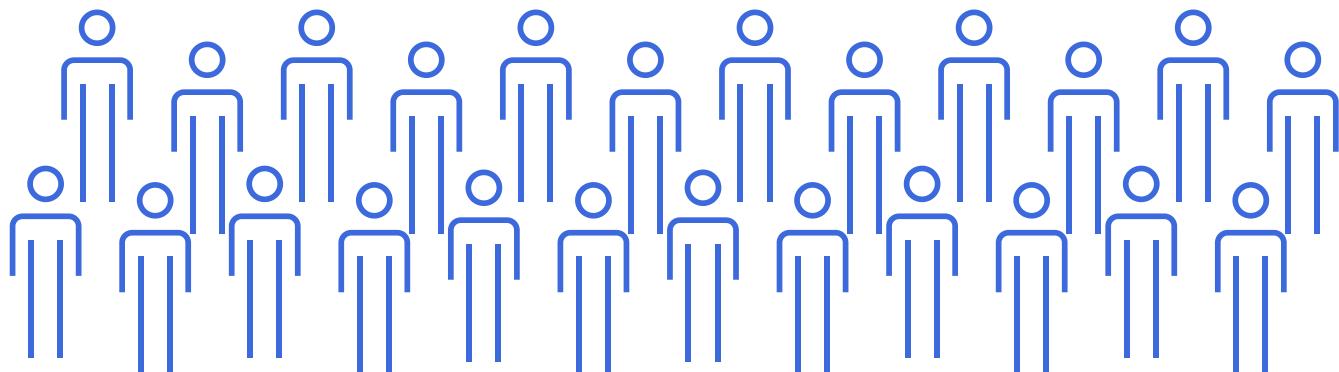
HEURISTIC TEST RESULTS



HEURISTIC TEST RESULTS

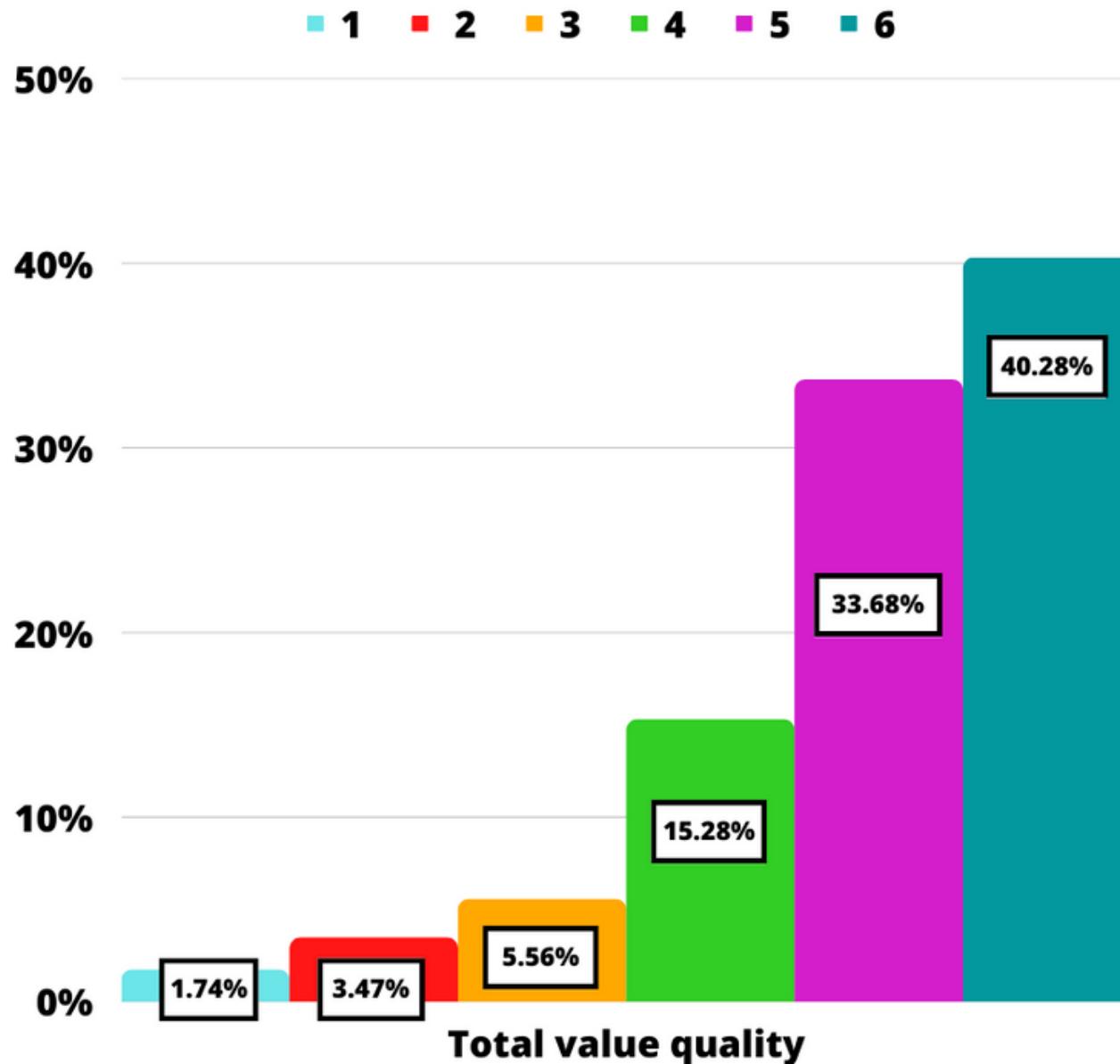


PSYCHOMETRIC QUESTIONNAIRE

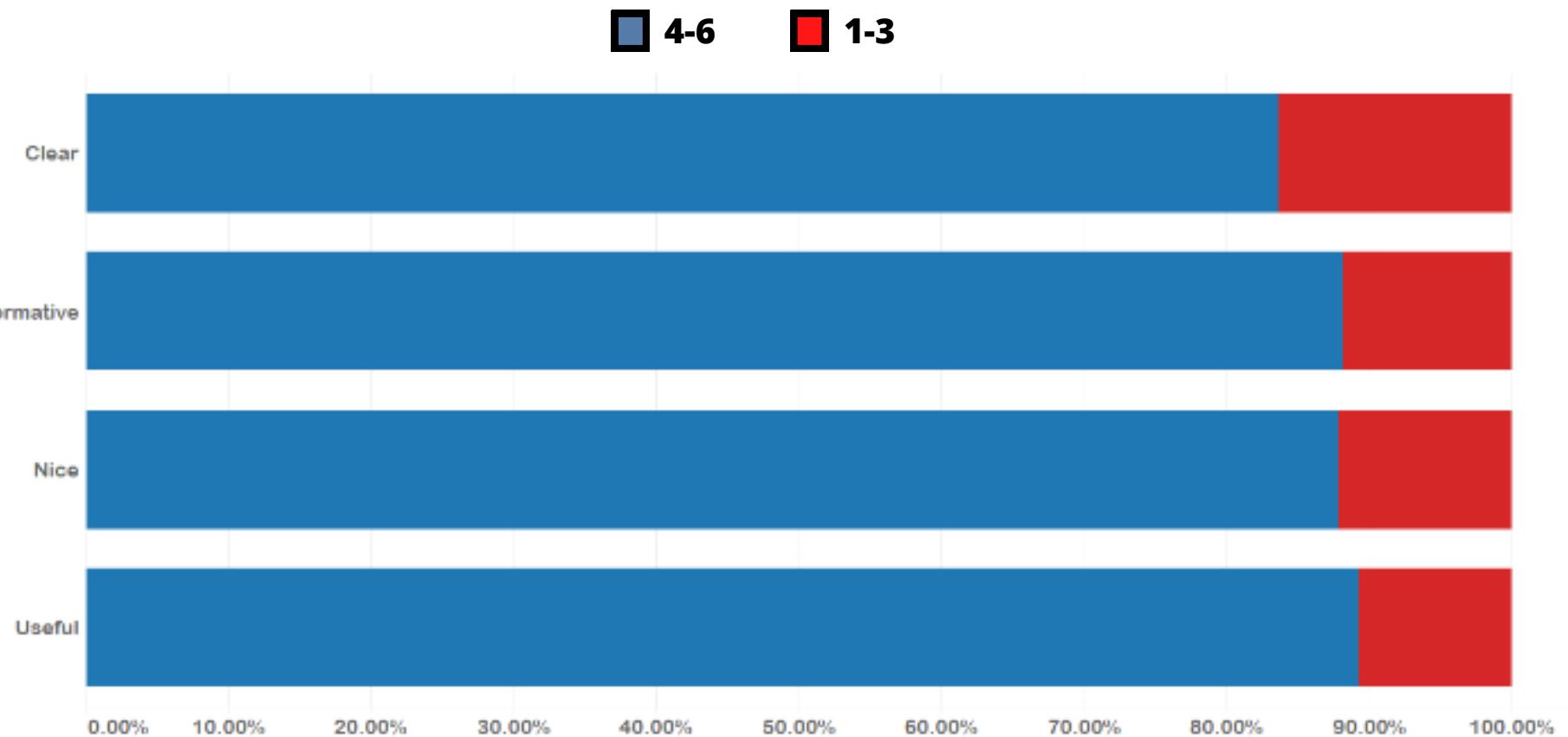


In conclusion, we provided the psychometric questionnaire with the Cabitza-Locoro scale to 24 users.

PSYCHOMETRIC QUESTIONNAIRE RESULTS



PSYCHOMETRIC QUESTIONNAIRE RESULTS





**Thanks for your
attention!**

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