

Travel Score

Open Data for Tourists

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Motivation

Ranking Travel Destinations by Attractivity

There are 35 American countries.

- Where can go as a tourist?
 - Is it safe?
 - Can you afford it?
 - What is there to do?



Can we answer these questions using open data?

Open Data to the rescue?

Travel & Tourism Datasets

- High quality T&T datasets do exist
 - But they are not open
- Open datasets do exist
 - But they are not directly about T&T

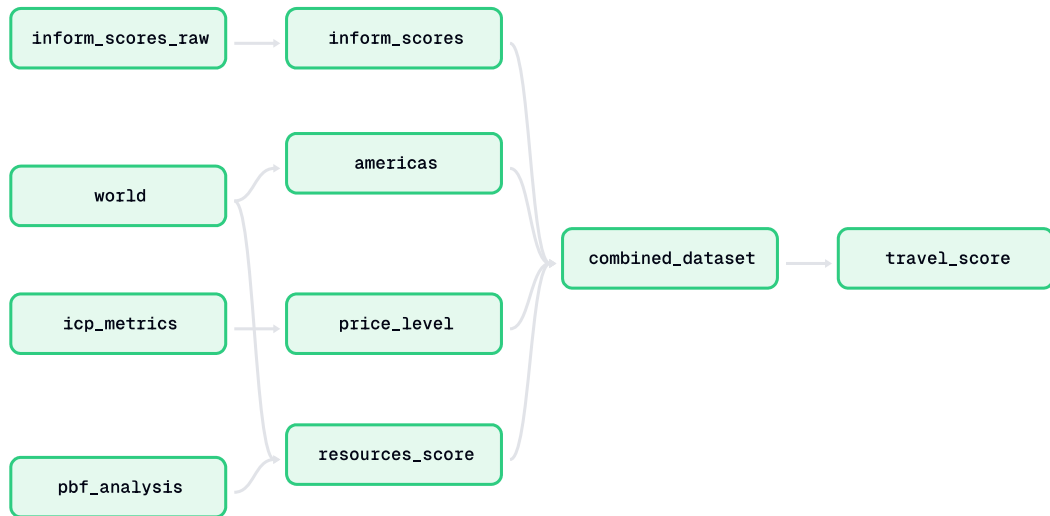


Data Processing

Travel-related Data Sources

Data source	License
Inform Risk Index	CC-BY 4.0
International Comparison Program	CC-BY 4.0
OpenStreetMap	ODbL
Natural Earth	PD

Data Pipeline

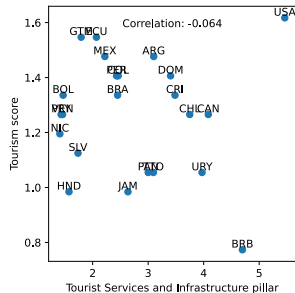
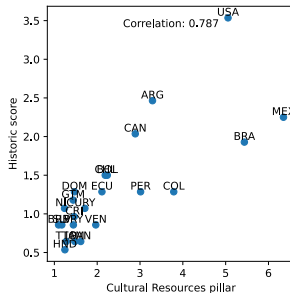
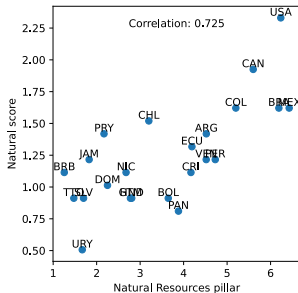
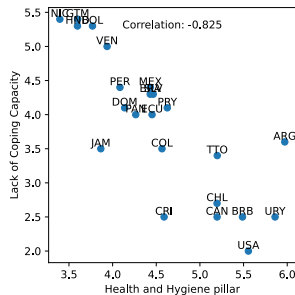
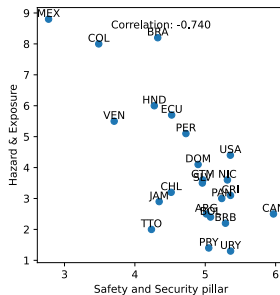
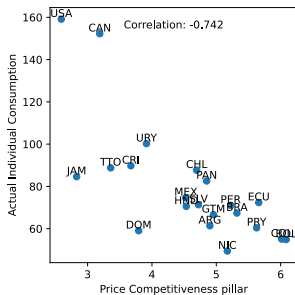


Combined Dataset

iso	name	continent	geometry	inform risk index	lack of coping capacity	lack of coping capacity (infrastructure)	lack of coping capacity (institutional)	hazard & exposure	hazard & exposure (human)	hazard & exposure (environmental)
VEN	Venezuela	South America	MultiPolygon	5.6	5	4.4	5.6	5.5	5.1	5.1
URY	Uruguay	South America	Polygon	2.3	2.5	1.4	3.5	1.3	0.1	0.1
USA	United States of America	North America	MultiPolygon	3	2	1.1	2.9	4.4	0.3	0.3
TTO	Trinidad and Tobago	North America	MultiPolygon	2.8	3.4	1.3	5	2	0.1	0.1
SUR	Suriname	South America	Polygon	3.1	5.3	3.7	6.5	1.8	0.1	0.1

Full dataset contains 35 rows and 89 columns

Benchmarking against TTDI



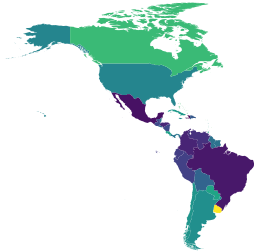
Travel Score Calculation

$$\text{total score} = \|\text{safety} \cdot \text{affordability} \cdot \text{attractiveness}\|$$

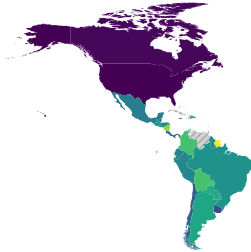
Results

Result Maps

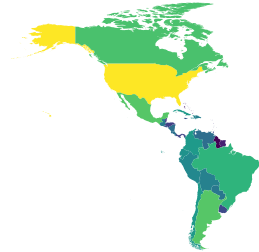
Safety



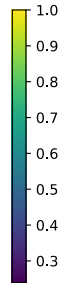
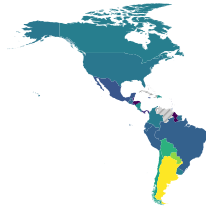
Affordability



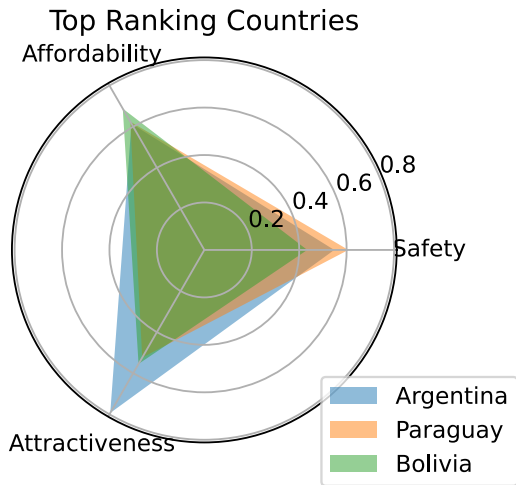
Attractiveness



Total Score



Top 3 Countries



Outlook

Current Limitations

Methodology

- Objective ranking does not consider personal preferences
- Limited amount of push- & pull-factors could be included

Data

- Lower accuracy due to biases?
- Data misaligned with tourist perspective?
- Aggregation at country level is not ideal

Further Ideas

Zooming in

- Calculate scores on finer resolution than per-country
 - Possible with OSM data
 - Requires new data sources for risk and price level

Zooming out

- Calculate scores for other continents as well
 - This is possible with current data sources!
 - But OSM is heavily biased towards Europe
 - Improved methodology is necessary

References

Travel Score

<https://github.com/tims777/travel-score/>

Travel & Tourism Development Index

<https://www.weforum.org/publications/travel-tourism-development-index-2024/>

Inform Risk Index

<https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk>

International Comparison Program

<https://www.worldbank.org/en/programs/icp>

OpenStreetMap

<https://www.openstreetmap.org/about>

Natural Earth

<https://www.naturalearthdata.com/>