

Report DOPP Exercise 3

Topic 16 - Change of City Quality of Life Rankings over Time

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Report

Executive Summary

We have been analysing data for various city and country rankings and indices, measuring overall quality of living (QoL). These data were merged with additional statistics for cities and countries related to health, environmental and economical situation. The main focus was on the ranking published by Mercer, ranking and indices published by Numbeo and statistics published by WHO, the United Nations, and other data collected by Gap Minder.

Our goal was answering the questions:

- How do the rankings change over time?
- How do these rankings correlate with each other for one specific year?
- How do they correlate with other statistics about the countries in which the cities are located? How do they correlate with quality of living rankings of the country in which the cities are located?
- What are the determining characteristics for livability of a city? How do they correlate with cost of living?

We found that the quality of living indices are going upwards - except for the last three years where there is a small downwards trend visible.

There is a strong correlation between the rankings published by Mercer and the one calculated by Numbeo. Other city rankings (e.g. UN Habitat ranking) do not correlate so well.

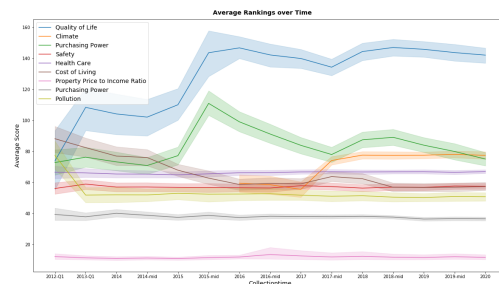
The correlation of country-level statistics (e.g. GDP per capita, emission damage, health care system) to the city-level QoL ranking turned out to be surprisingly high. Almost 50% of the variance of the QoL index can be explained by country-level statistics.

Similarly, the correlation with country-level QoL rankings (e.g. the Numbeo country ranking) is again very high. We looked into cities which are not following the country trend, like Mumbai (vastly exceeding the QoL of India) and Rome (much lower QoL as the Italy).

We found that the three major characteristics determining the livability of a city (according to these QoL rankings) are health care, cost of living and purchasing power.

Change of QoL Rankings and Indices over Time

The following plot shows the average index values over time for the Quality of Live (QoL) identified by Numbeo, together with the components which influence this index.



Correlation of City QoL Rankings with each other

With this plot we investigated the correlation of the rankings identified by Numbeo with those identified by Mercer as well as the UN Habitat data, specifically looking into the year 2012 (where the most data was available).

Correlation of City QoL Rankings with Country QoL Rankings



We looked into the correlation of health-related, economical and environmental statistics of countries and their influence on the Quality of Living for their cities.

lation of GDP per capita (per country) and Numbeo

