

Technical exercise for Data Scientist position (Part I)

To analyze changes and potential trends in the use of safely managed sanitation services (% of population), as well as the variance between income groups, I retrieved the relevant indicator from the World Bank API, transformed it into tabular form, joined information about a country's respective income level to the indicator data, and generated a chart from the combined indicator/income group data.

The below chart displays the time range for which data was available via the API on the x-axis and the share of a population that is using safely managed sanitation services on the y-axis. The lines indicate the average share of the population using safely managed sanitation services by income group for a given point in time. The bands on either side of each line are confidence intervals.

The chart indicates that the use of safely managed sanitation services seems to be changing with a positive trend throughout all income groups. Large differences between income groups can be observed in the indicator's level. Countries associated with a high-income level have the highest share of their populations using safely managed sanitation services, while countries associated with a low-income level score lowest. However, the graph needs to be considered carefully: Data on the use of safely managed sanitation services is primarily available for high-income countries, some middle-income countries, but almost no low-income countries. Accordingly, the average over the included countries is likely not indicative of the global average, and the trends for low- and middle-income countries should only be used with caution.

