Waste

Analysis of the World Bank's dataset from Jan 2, 2024 on solid waste management from around the world

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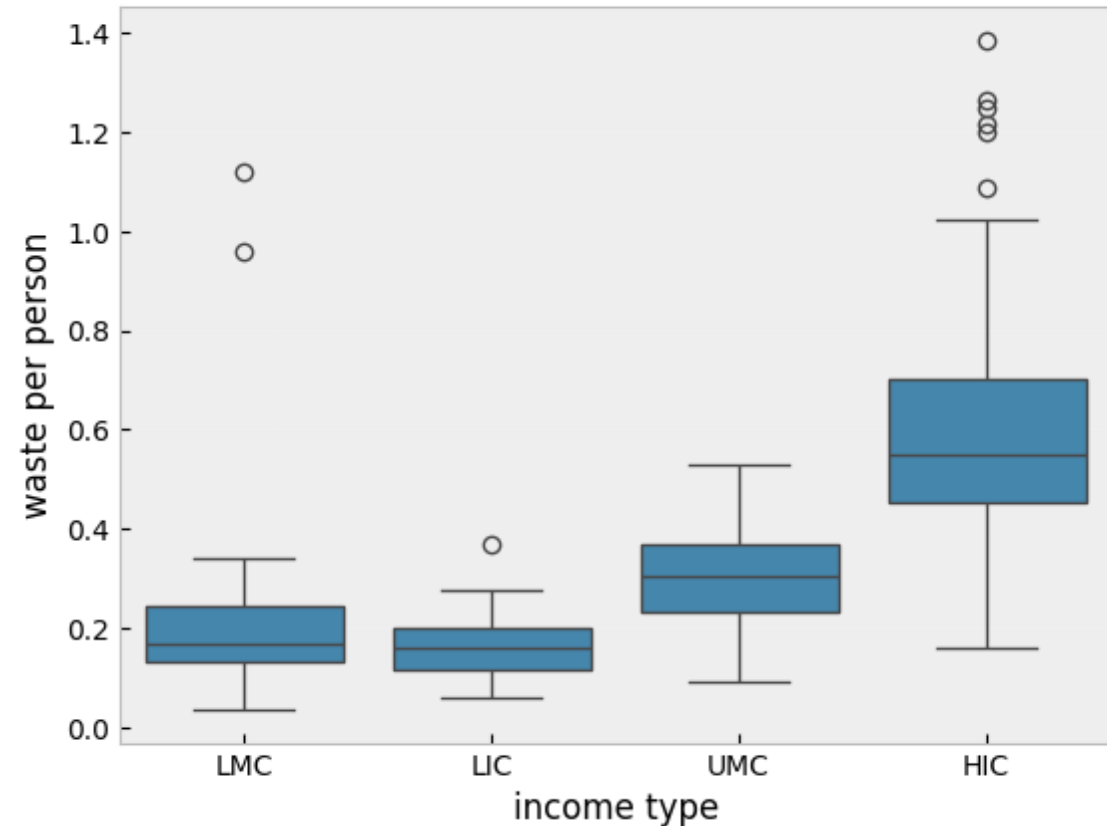
GDP vs Percentage of Waste Collection

- Apon further exploration I noticed that waste collection percentage is missing in dataset (even for countries like the US or Monaco)

- But overall trend shows that the better the economy the higher waste collection coverage is

GDP vs Percentage of Waste Collection

Waste per person depending on the income type

- The outliers in HIC are mostly islands (Virgin Islands(U.S.), Bermuda, Monaco, Puerto Rico)

- The outliers for LMC are Moldova and Mongolia

- We can still see that the higher the income the bigger will be waste per person

- The countries that have the least waste per person are Lesotho, Timor-Leste and Lao (LMC)

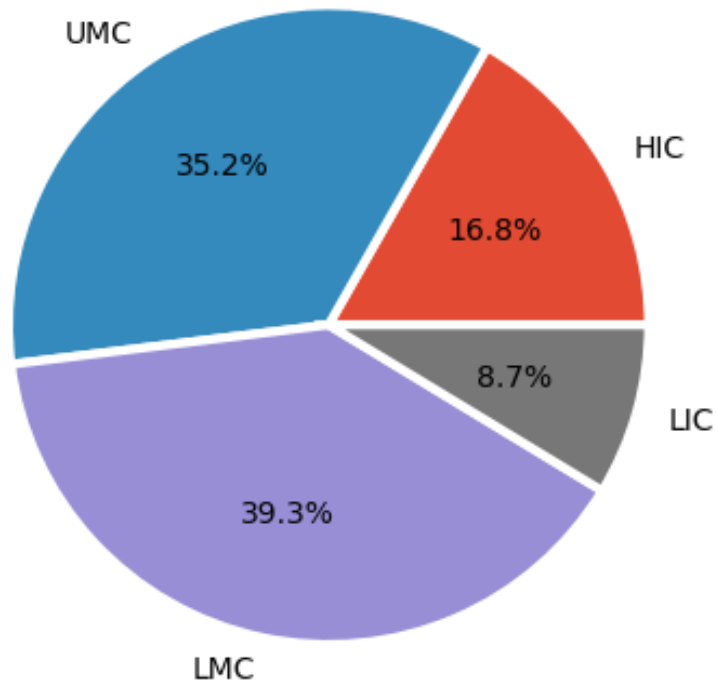Waste per person distribution for countries with different income

HIC – High Income Countries ; UMC – Upper Medium Income Countries

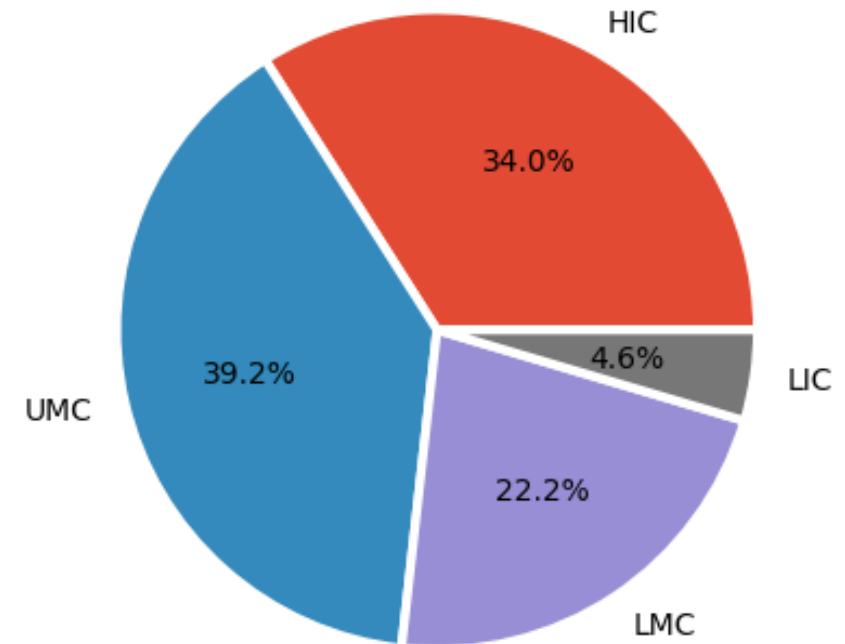LMC – Lower Medium Income Countries ; LIC – Low Income Countries
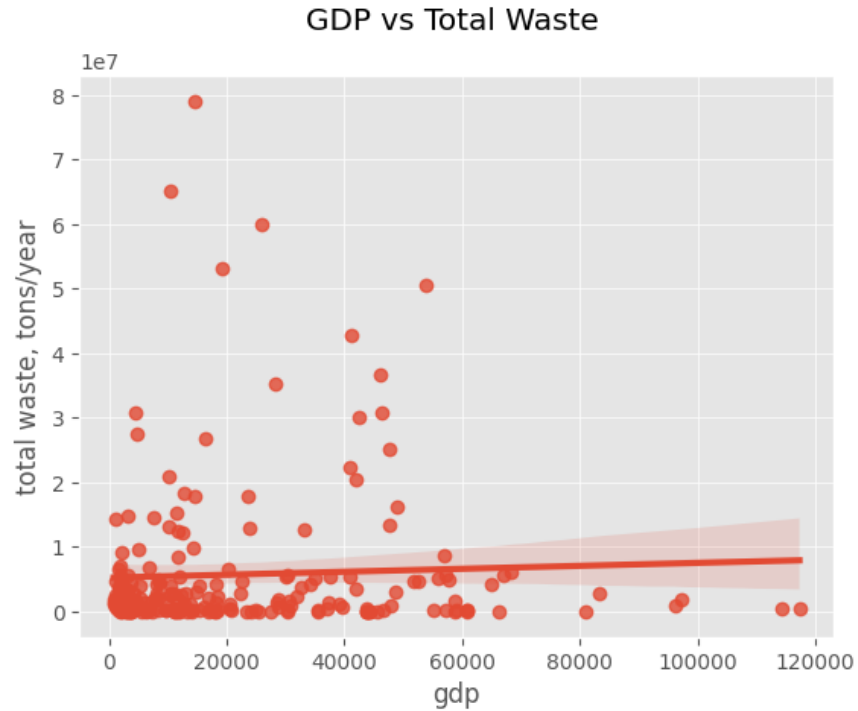
Countries' contribution to total waste

HIC contribute the most to total number of waste, whereas UMC produce the least waste (comparing to population)

Population of different income type countries

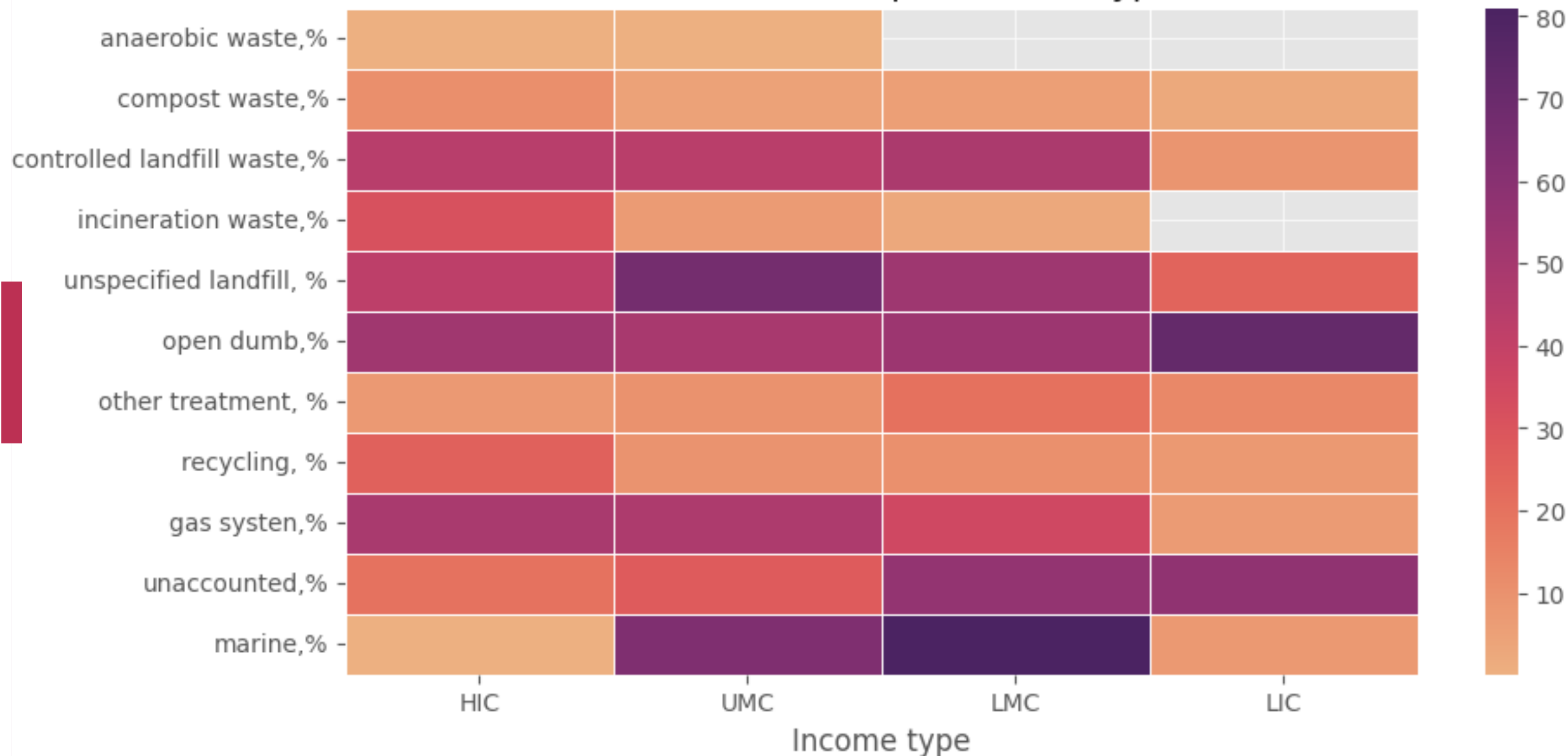Total waste of different income type countries

GDP vs Total Waste

GDP vs Total Waste per person

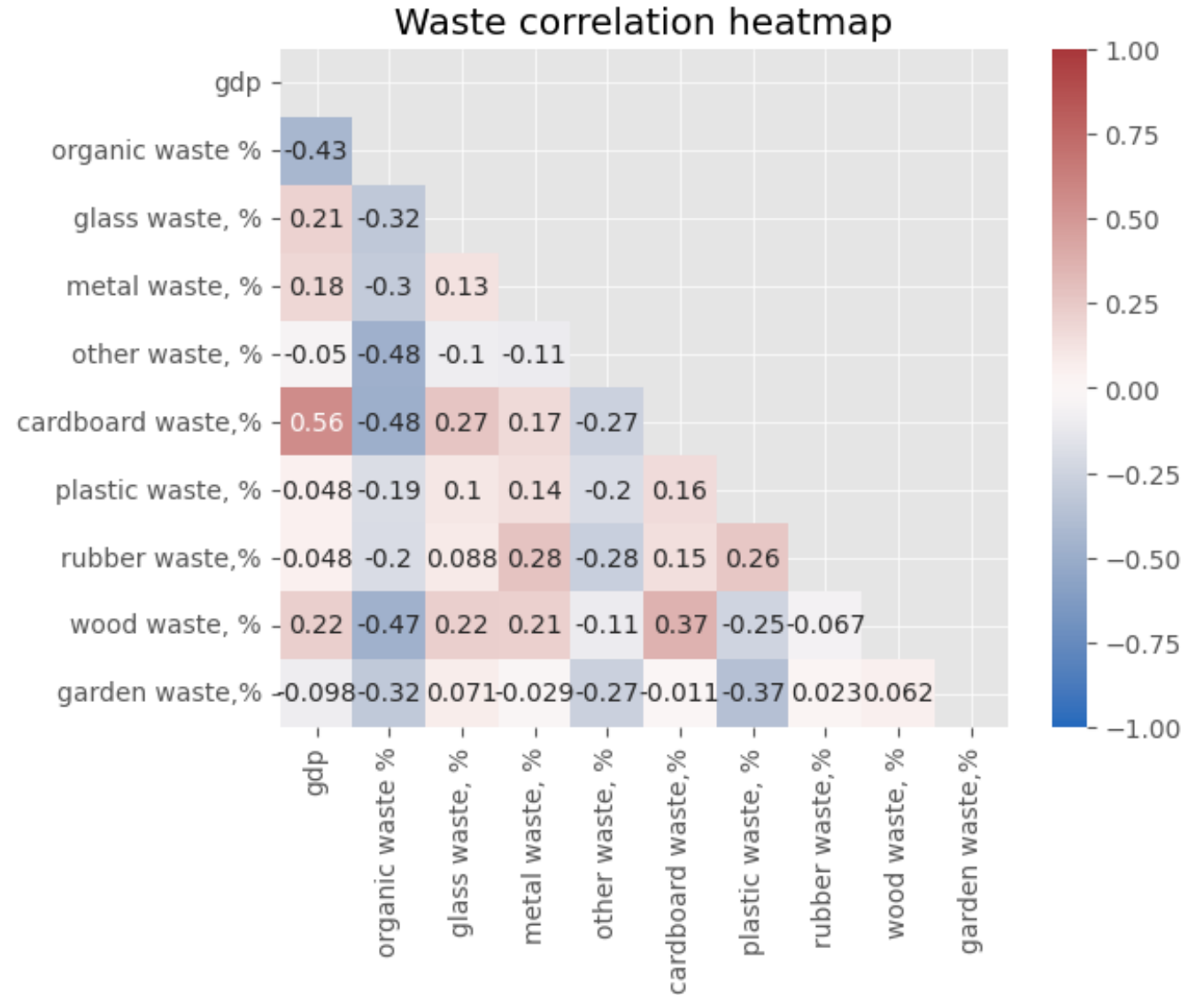# Higher GDP = Higher Total Waste?

- We cannot expect the total waste to rise once country gets richer

- However, waste per person might have positive correlation with GDP (since most of HIC countries tend to have smaller population)
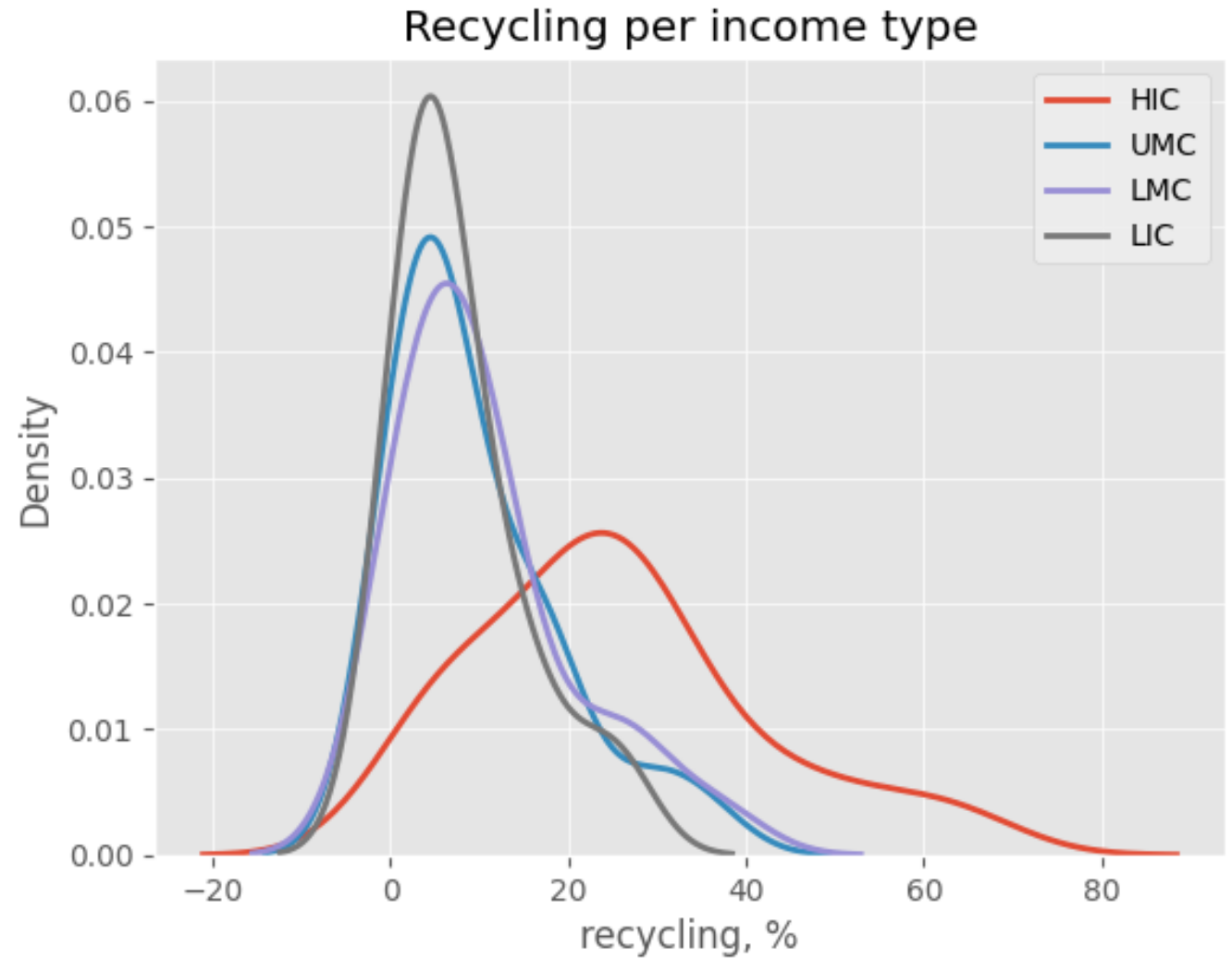
Waste treatment per income type

Waste types

- No definitive correlation

- The higher the GDP – the bigger percent of cardboard waste is; and the less organic waste

- The bigger the percentage of organic waste – the less the percentage of other waste types

Waste correlation heatmap

Recycling percentage

- Highest recycling rates belong to Faeroe Islands (67%), Liechtenstein (64.6%), Singapore (61%), South Korea(58%) and Iceland (55.81%).

Recycling per income type

Conclusion

- Higher GDP leads to better waste collection coverage

- Countries with higher GDP tend to produce more waste, but at the same time they also have a more diverse treatment possibilities

- Bigger GDP doesn't mean that more waste will be properly recycled.

Questions for future analysis

- To what extend does GDP and population can determine total waste (linear regression analysis)

- Why Lesotho, Lao and Timor-Leste have such little waste per person

- Why Moldova and Mongolia produce so much waste per person

- Compare the US and China in terms of waste composition and treatment