World in Statistics

Erin De Pree, Ph.D.

Problem Statement

Identify over- and under-performers using changes in life expectancy and GNI per capita

Classify countries with disputed regional affiliations

Data: Gapminder

Dataset	Years covered	# countries
Population	1800 – 2100	196
Life Expectancy	1800 – 2100	186
GNI per Capita	1800 – 2050	190

DISCLAIMER!

I will be using the term "country" to refer to the entities in this report with the understanding that not everyone agrees on this classification. No official recognition or non-recognition is implied by an entity's inclusion or exclusion in this report.
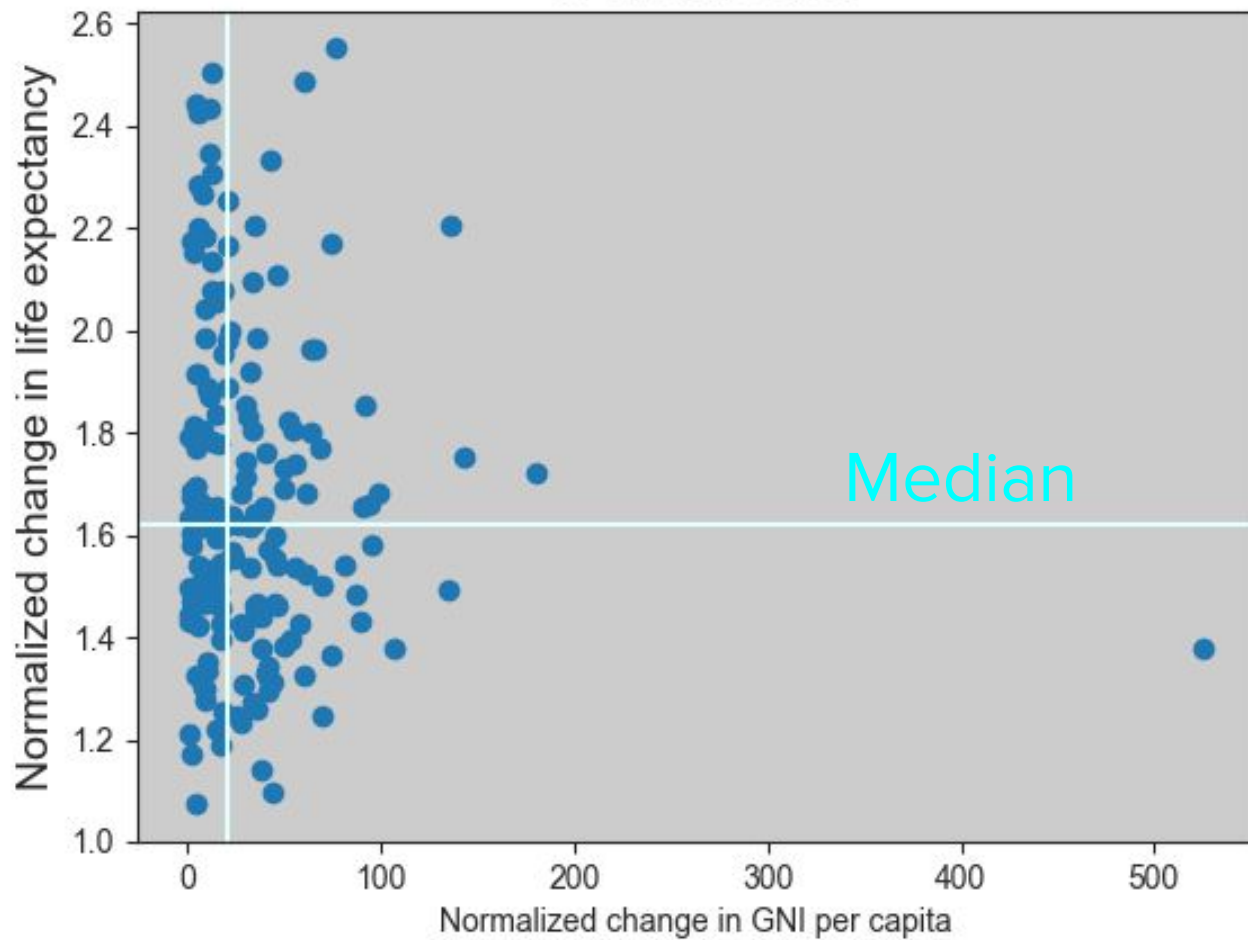
Normalized Change

$$\text{Normalized Change} = \frac{\text{change in value}}{\text{initial value}}$$
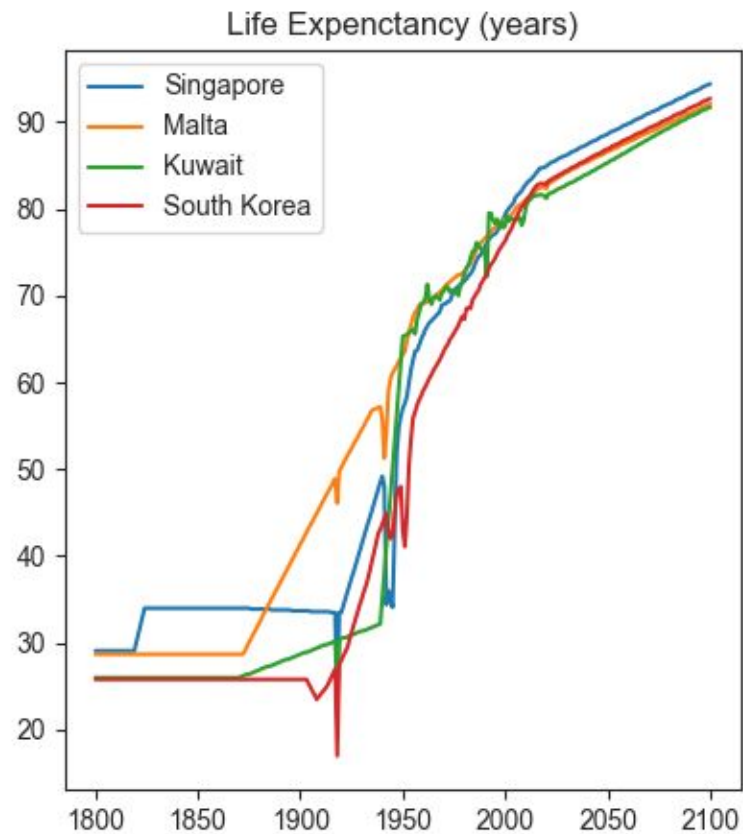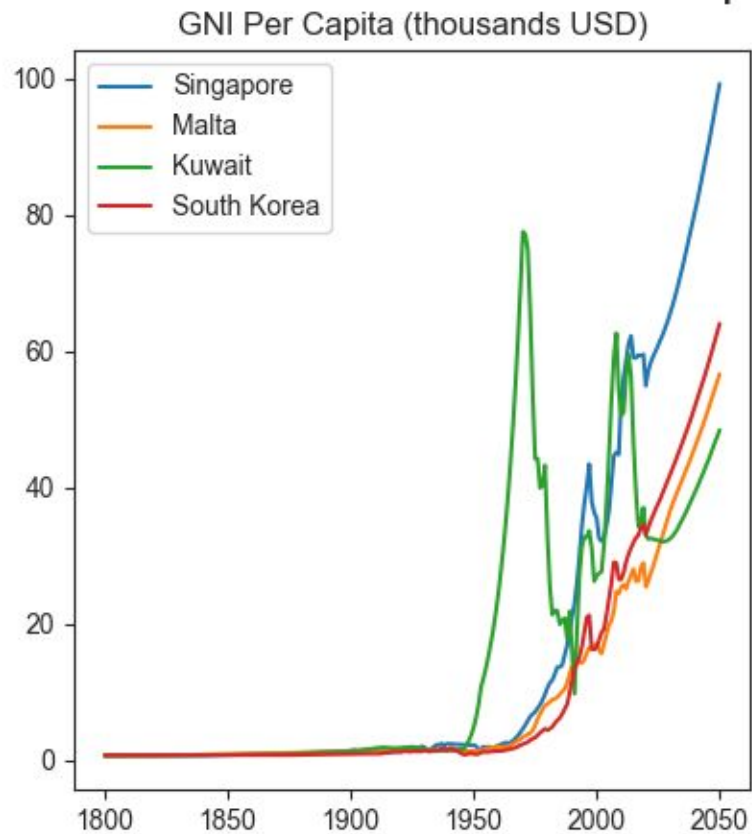
Example Calculation

$$\frac{(90 \text{ yrs}) - (40 \text{ yrs})}{(40 \text{ yrs})} = \frac{50 \text{ yrs}}{40 \text{ yrs}} = 1.25$$
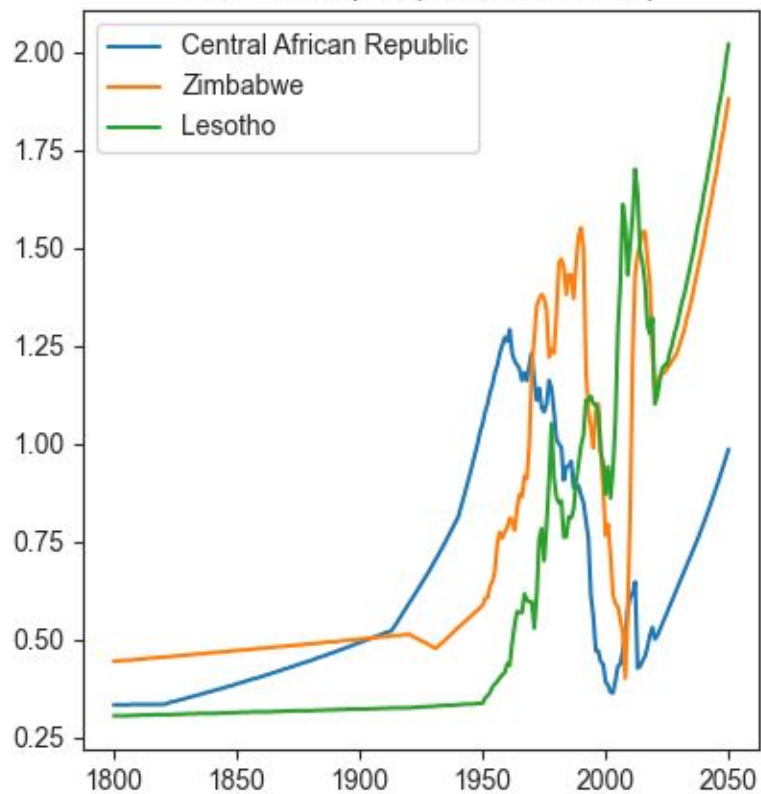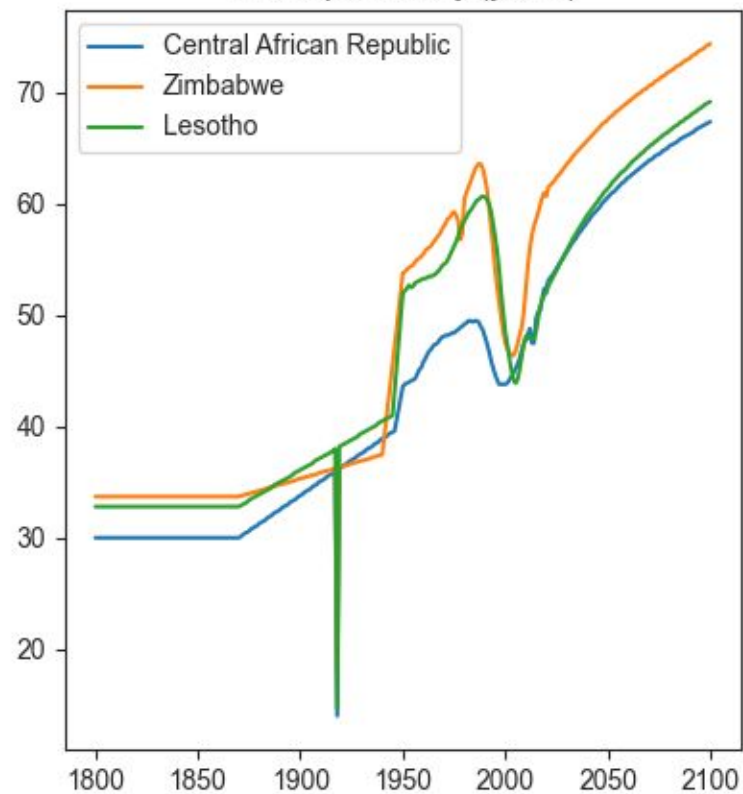
Now living 125% longer!

World Data

Normalized change in life expectancy (y-axis, ranging from 1.0 to 2.6) versus Normalized change in GNI per capita (x-axis, ranging from 0 to 500). Median lines shown in white.

Overperformers

GNI Per Capita (thousands USD)

Singapore
Malta
Kuwait
South Korea

Life Expenctancy (years)

Singapore
Malta
Kuwait
South Korea

Underperformers

GNI Per Capita (thousands USD)

- Central African Republic
- Zimbabwe
- Lesotho

Life Expenctancy (years)

- Central African Republic
- Zimbabwe
- Lesotho

What's this country's regional affiliation?

Cyprus

Normalized change in life expectancy vs. Normalized change in GNI per capita

Legend:
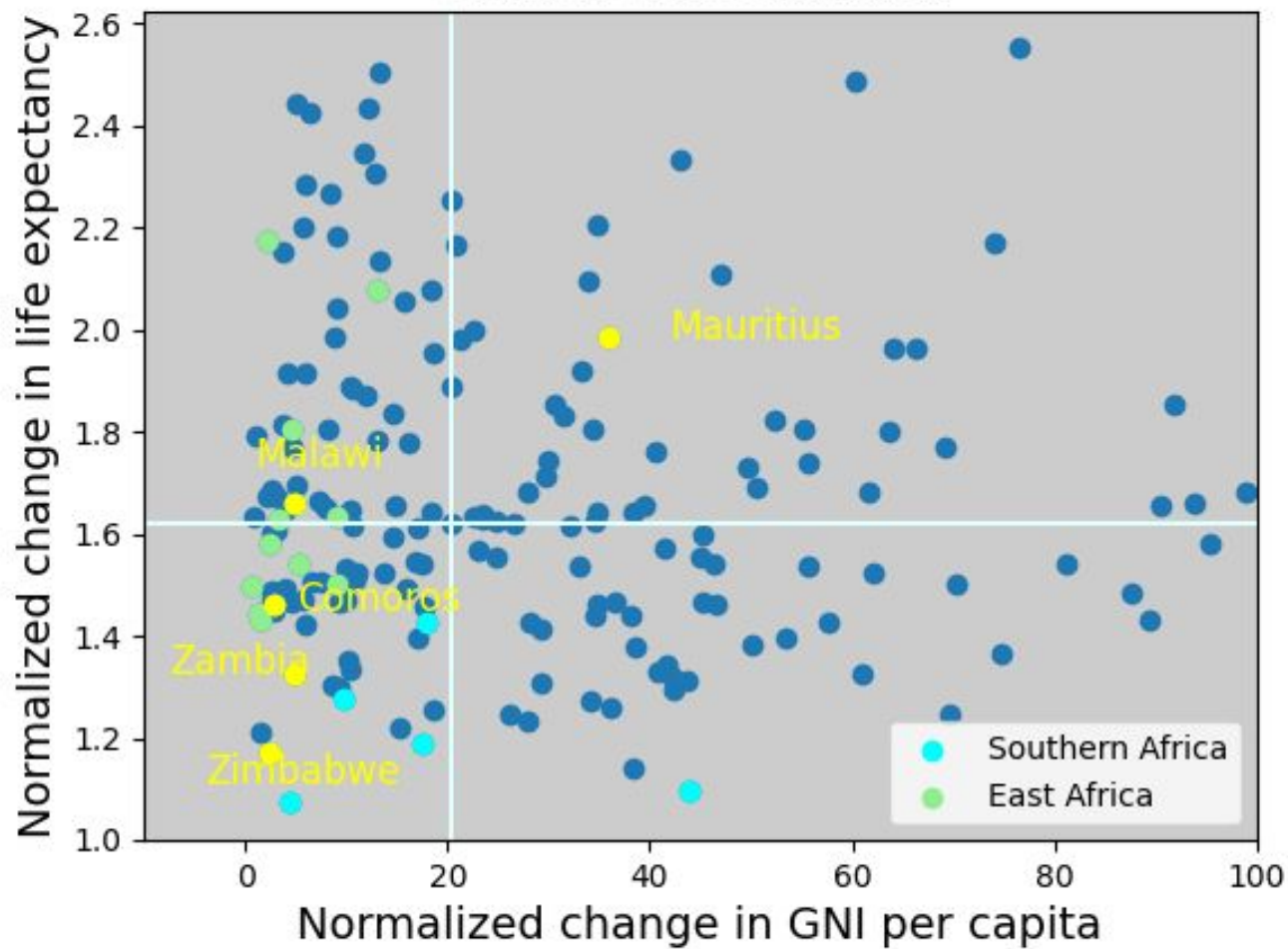- Europe
- Middle East
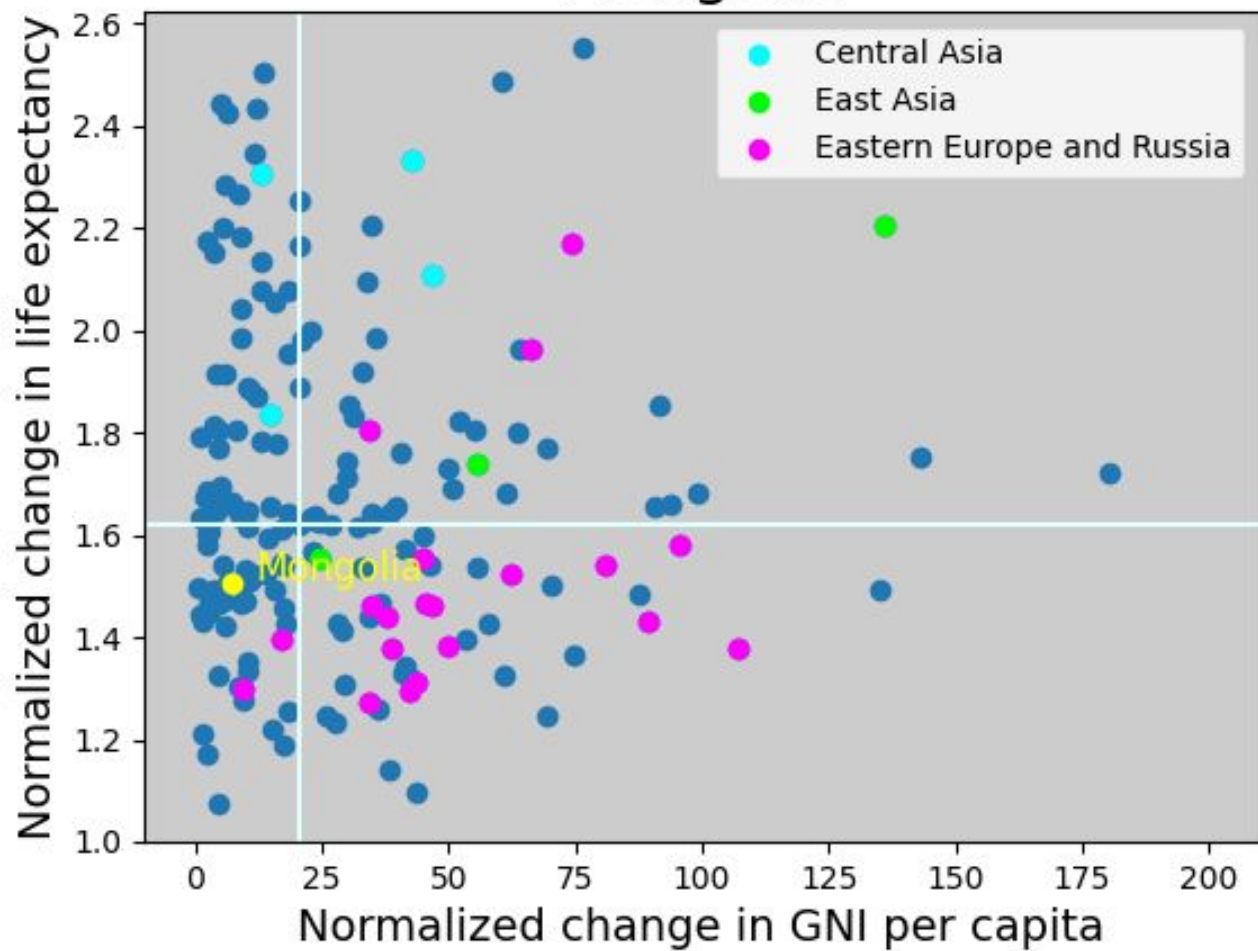- Countries of Uncertain Region
- Cyprus
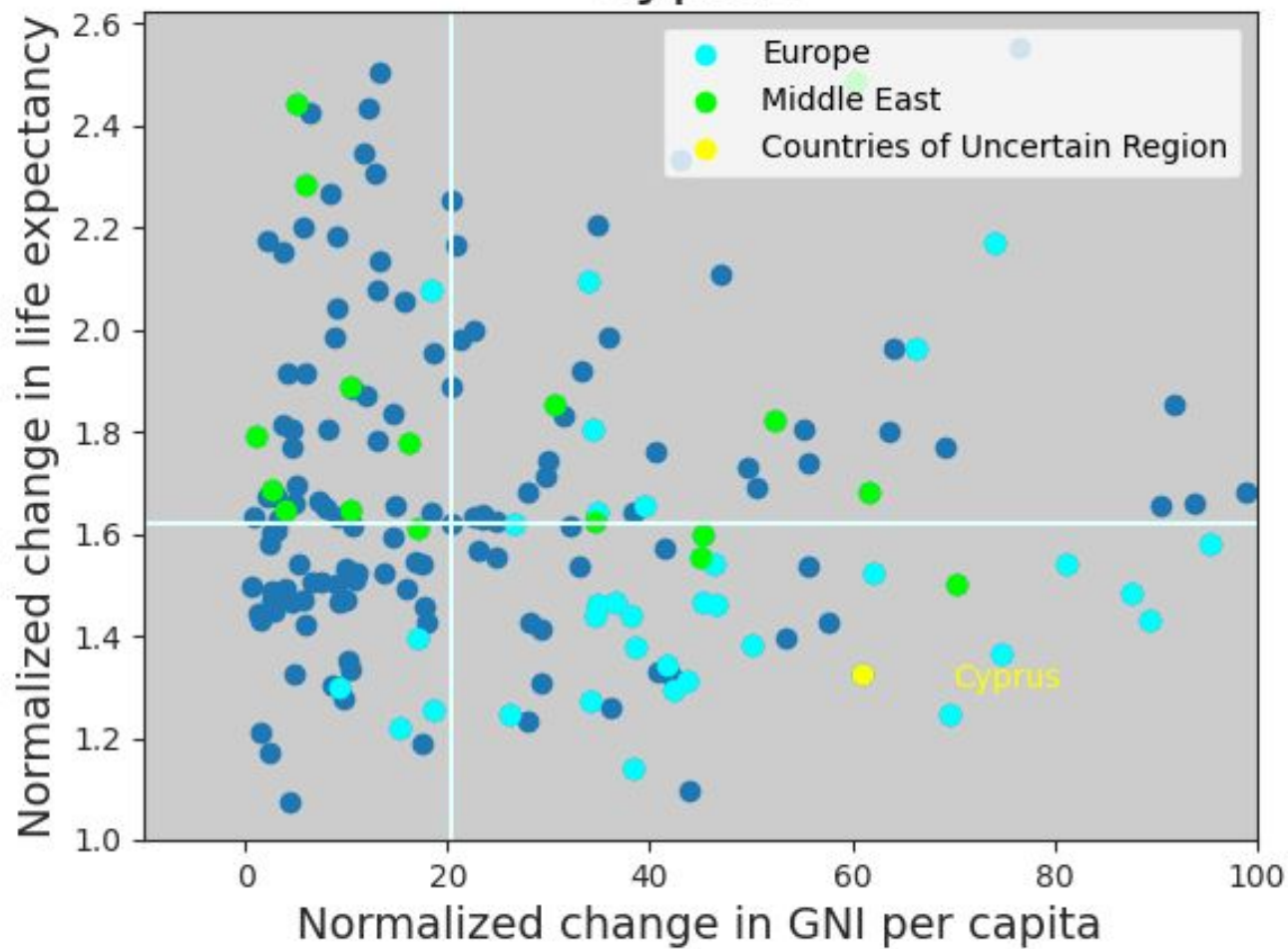
Turkey
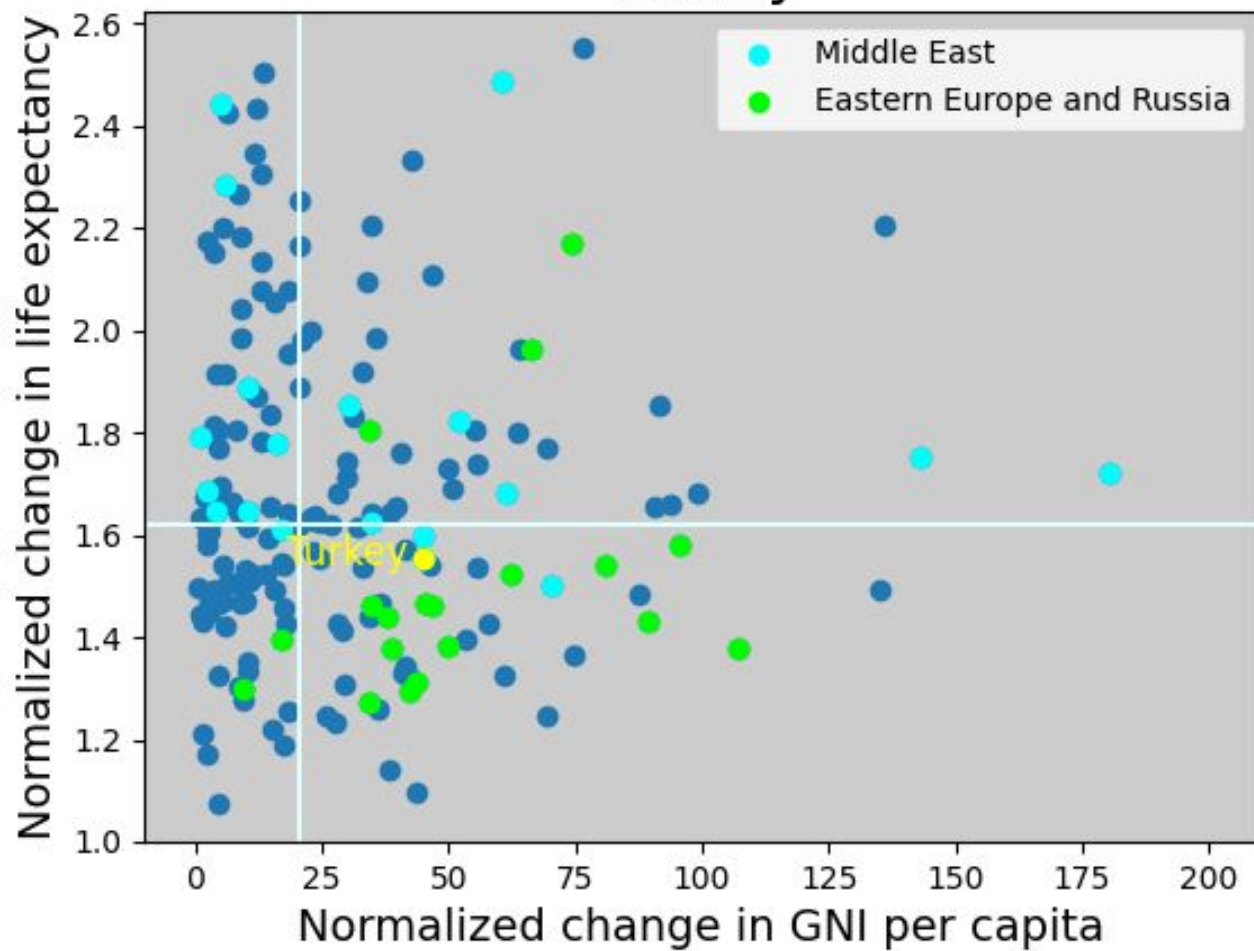
Timor-Leste
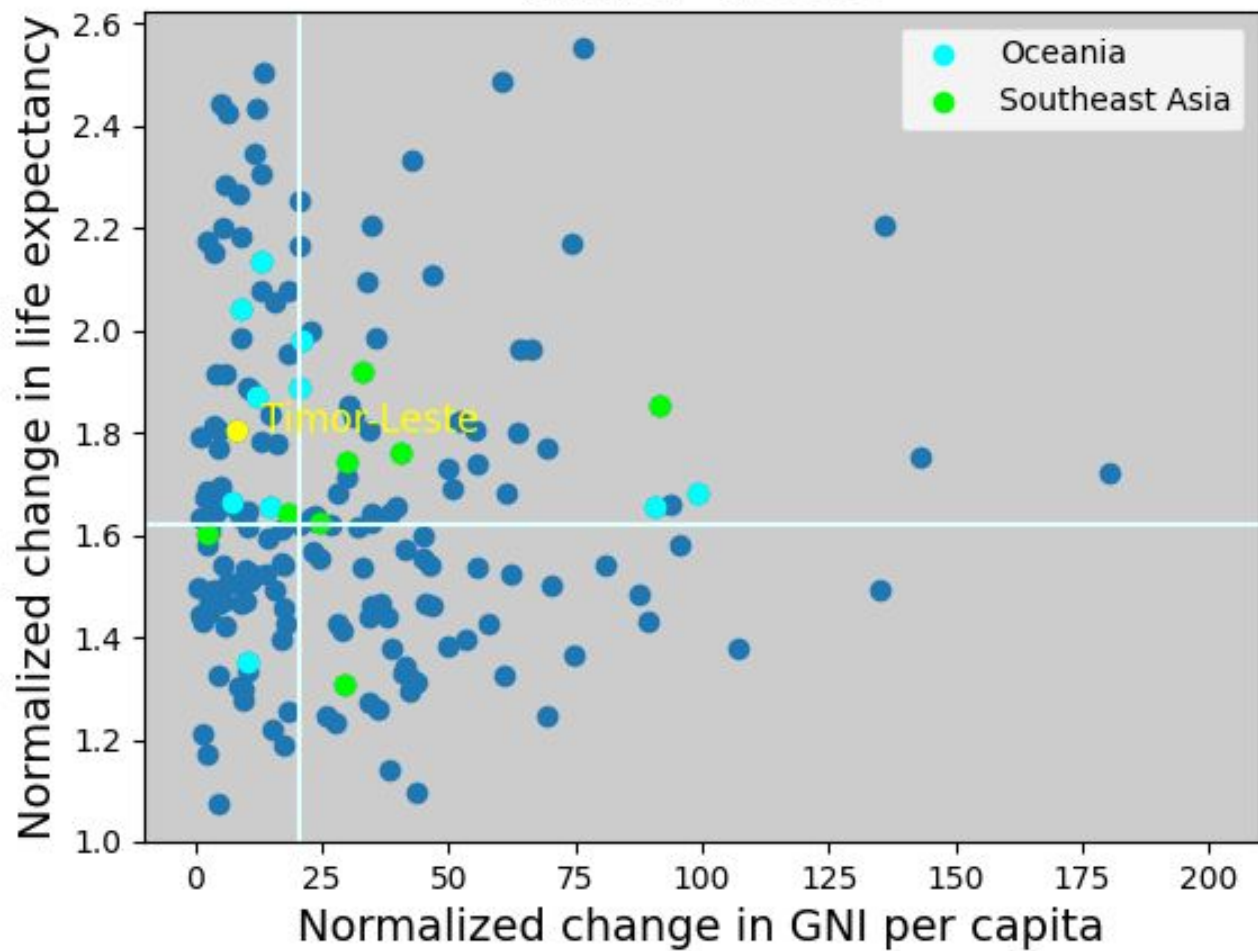
South Sudan
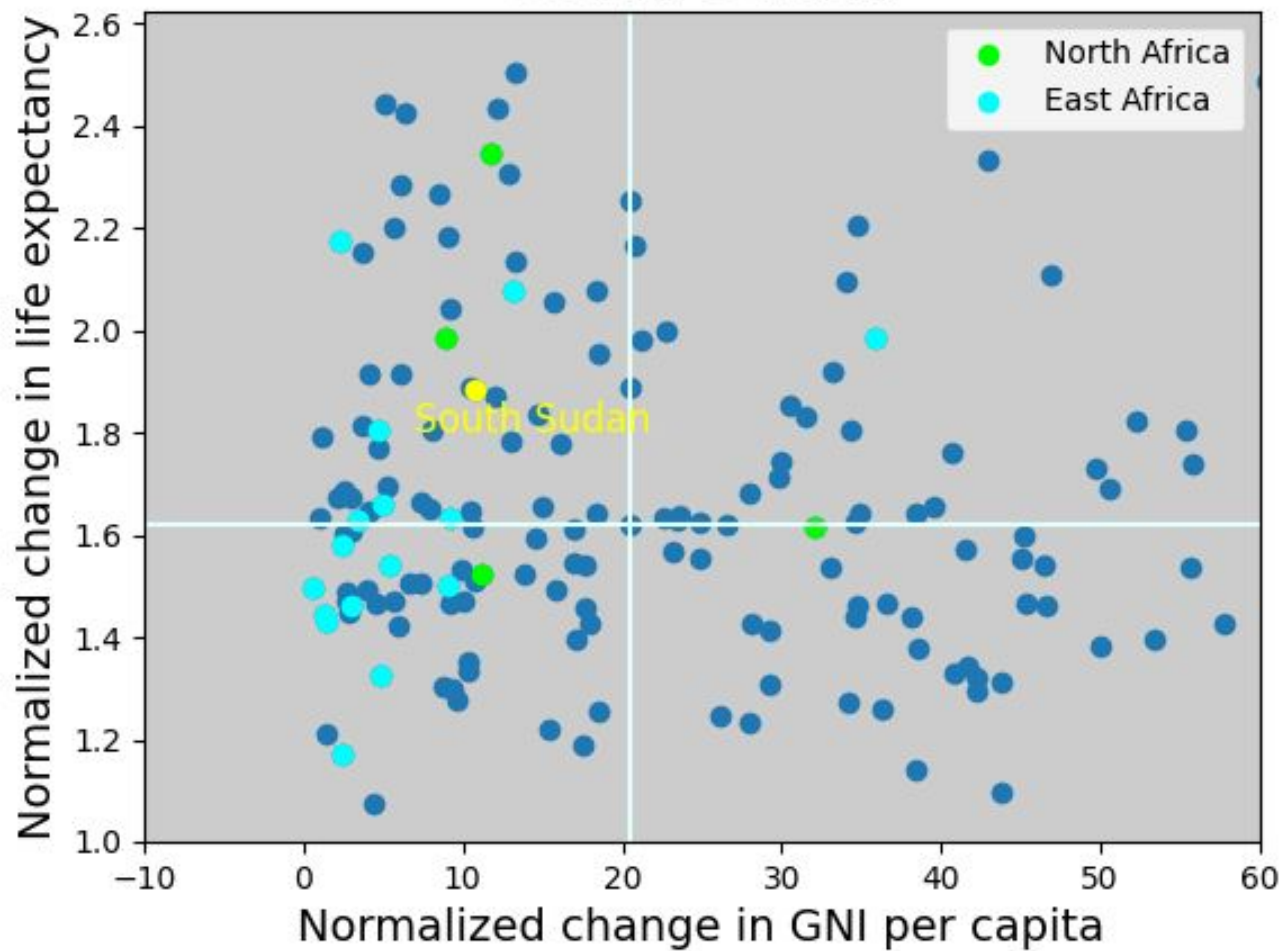
Southern or Eastern Africa?

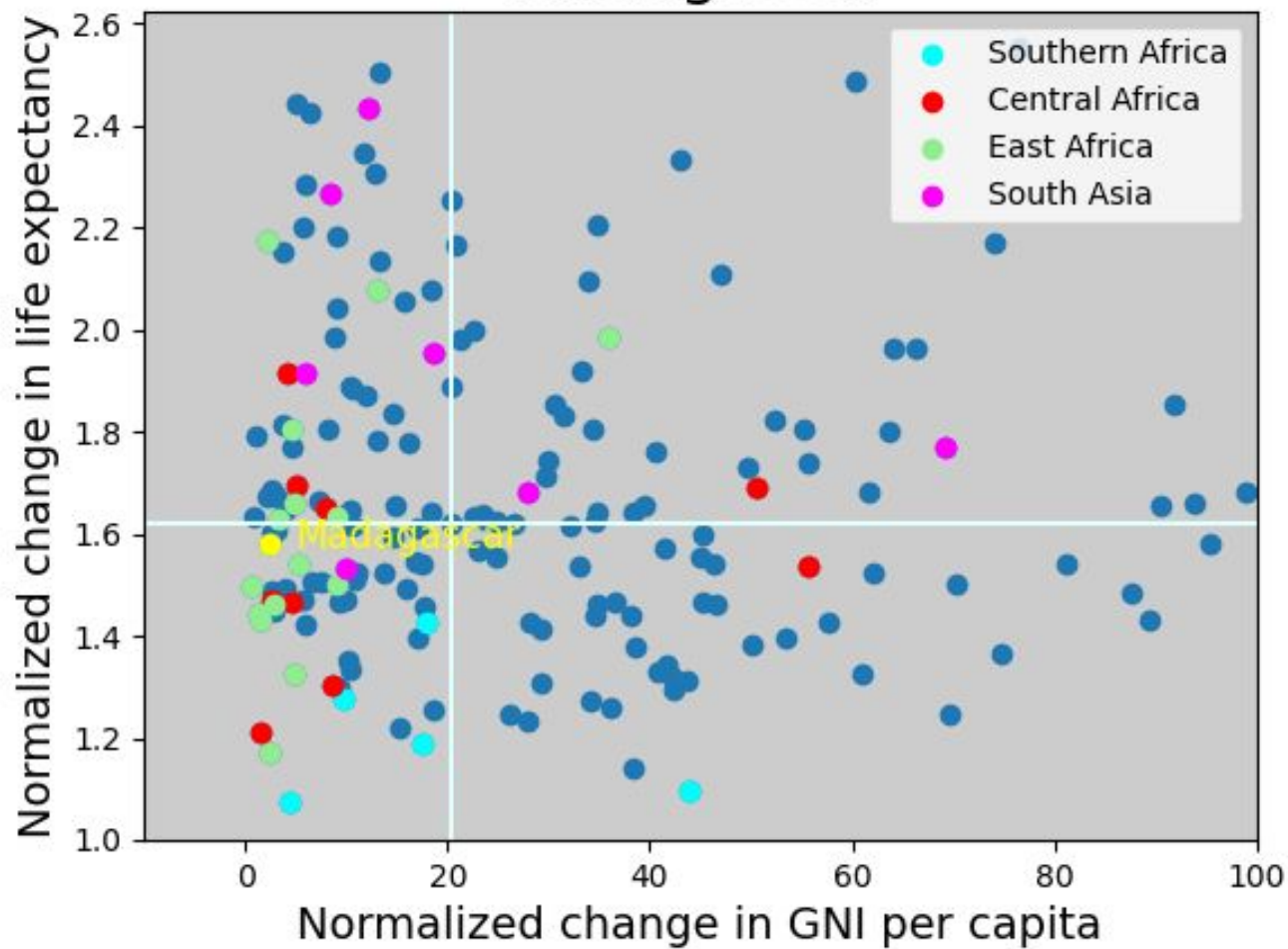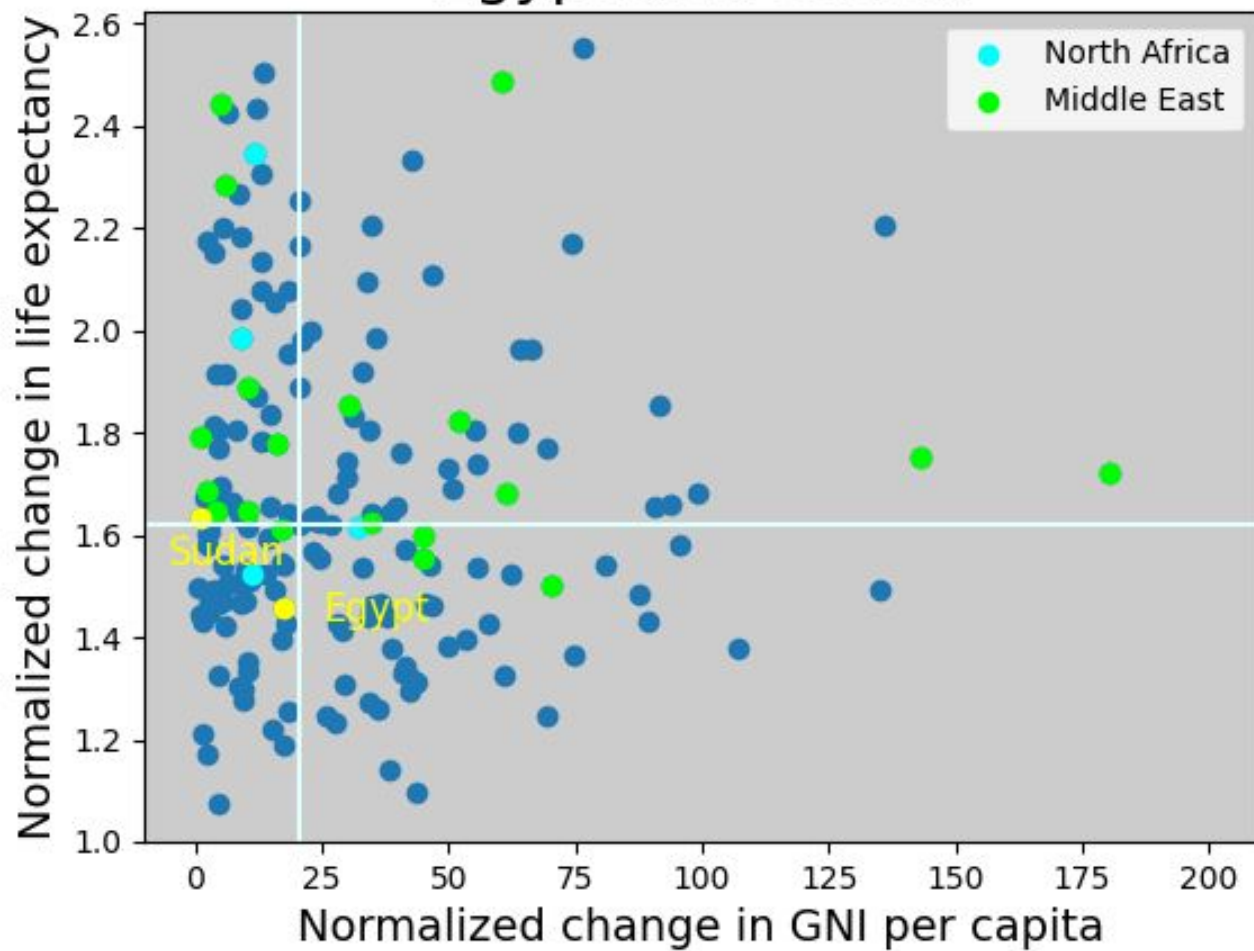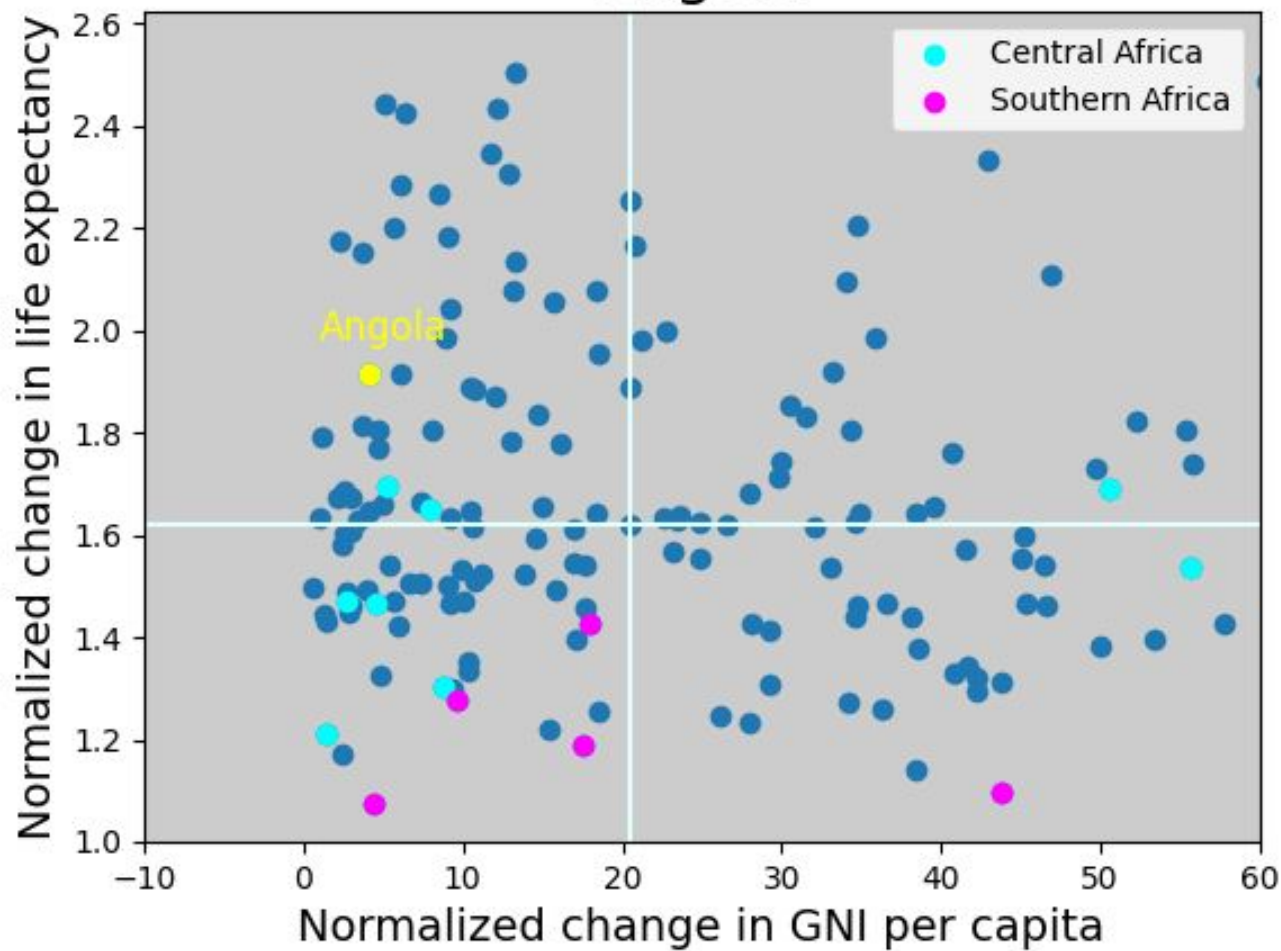**Mongolia**

Madagascar

Egypt and Sudan
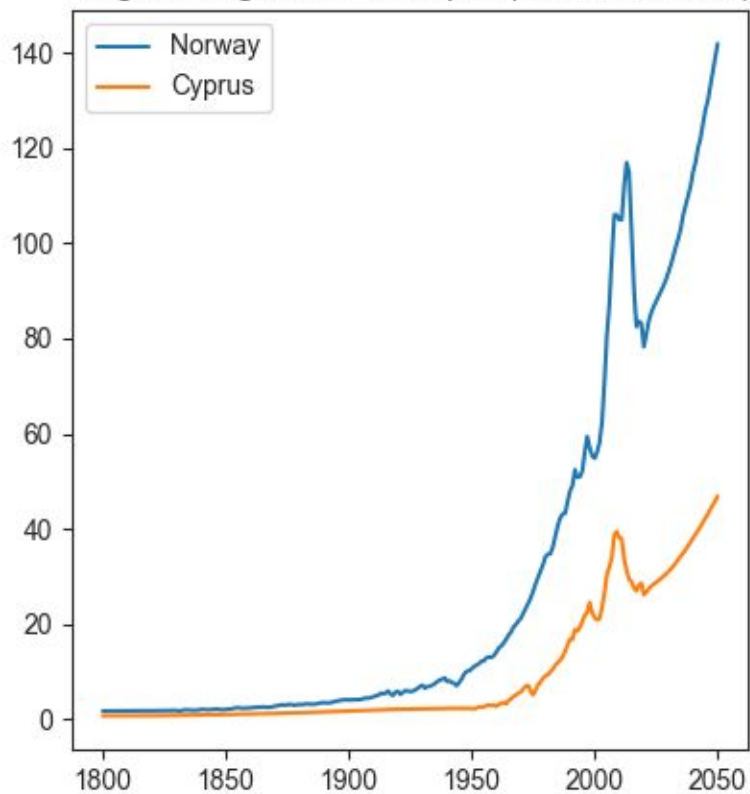
Angola

Conclusions

- Able to identify over- and under-performers
- Can classify *some* countries regional affiliations!
- Doubled life expectancy around the globe
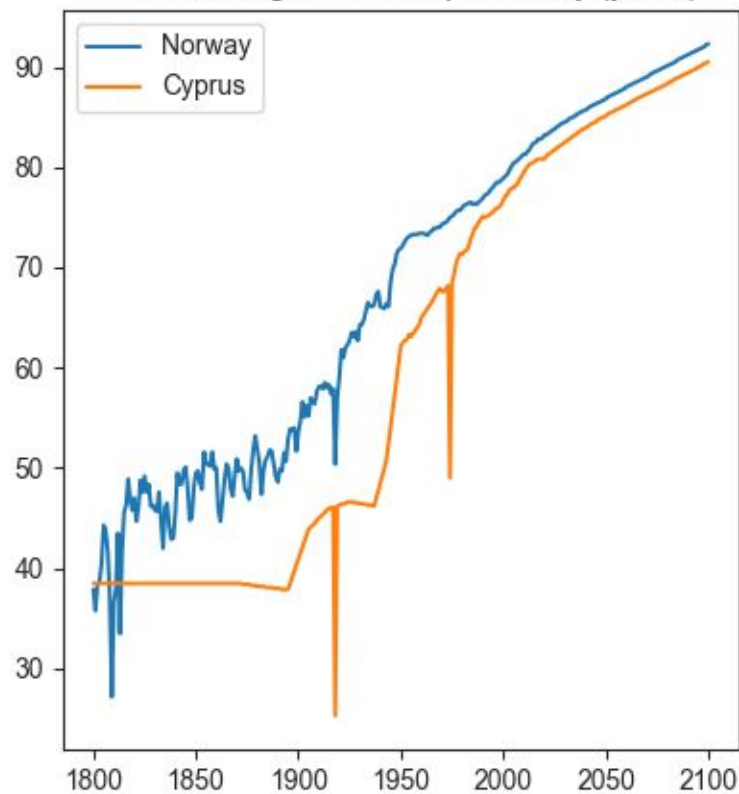
Bonus Slides

Interesting Combinations
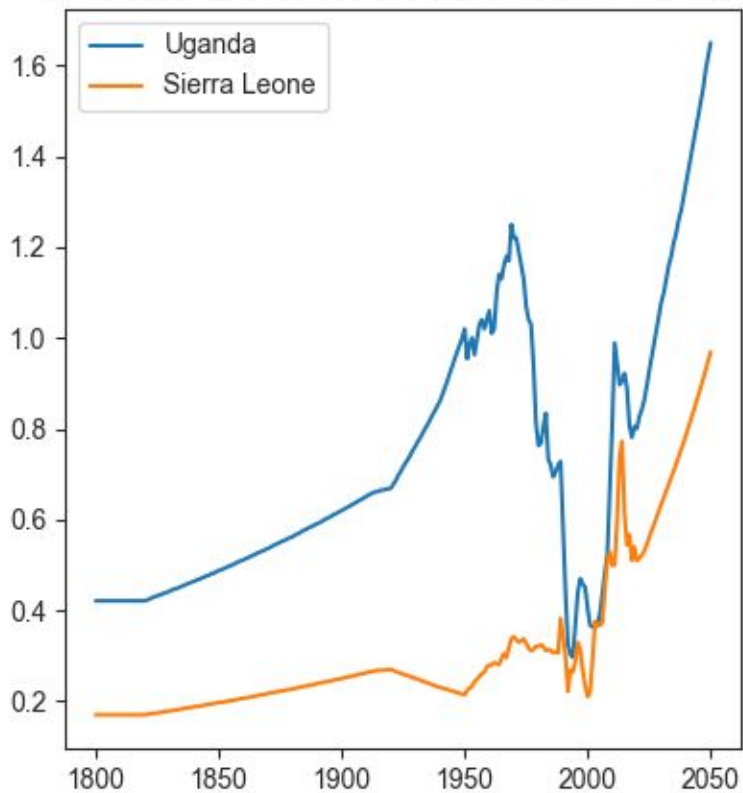
Large Change GNI Per Capita (thousands USD)

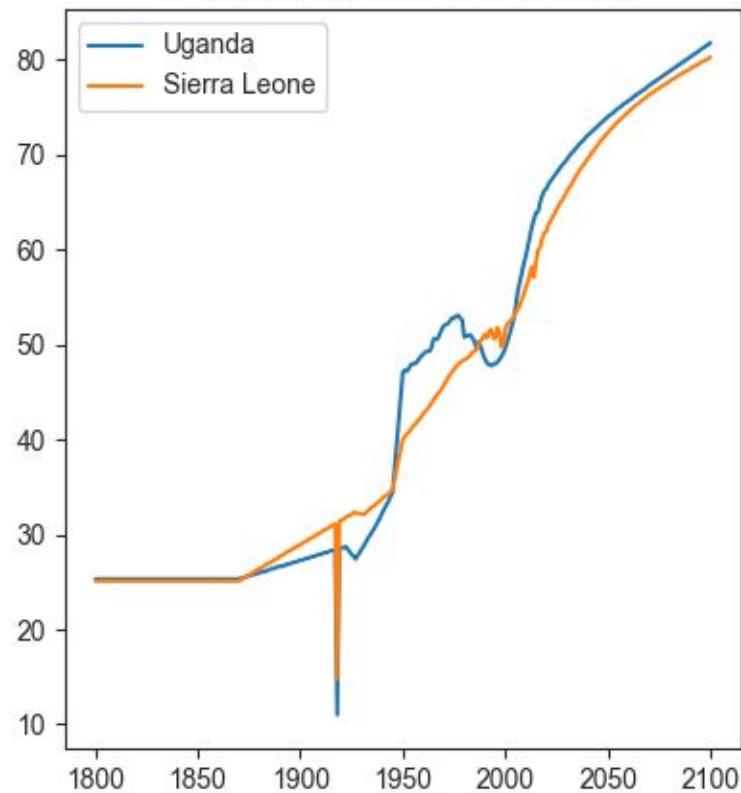### Small Change in Life Expenctancy (years)
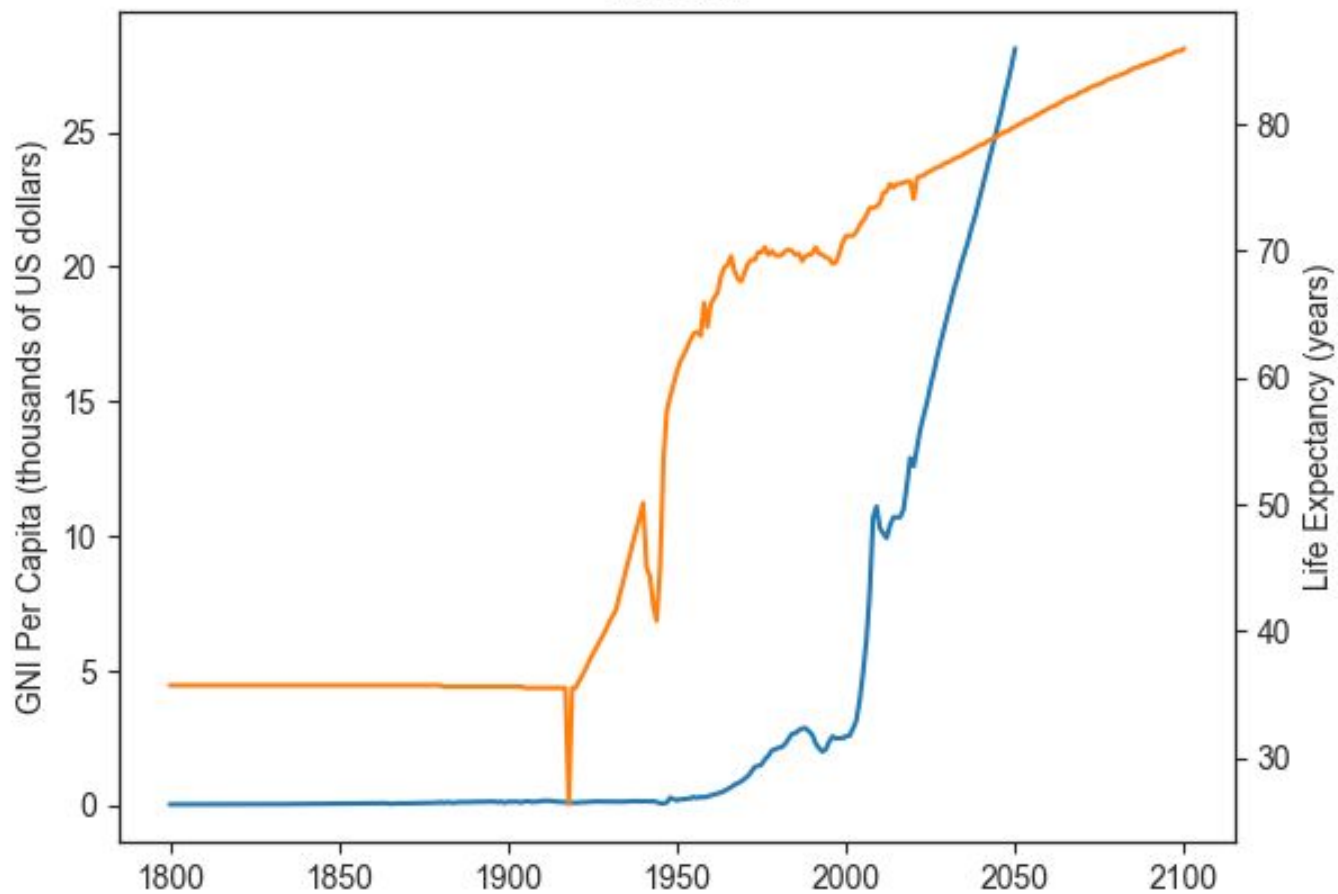
Interesting Combinations

Small Change in GNI Per Capita (thousands USD)

Large Change in Life Expenctancy

Romania

Burundi GNI per Capita (in USD)