

Final Project Proposal

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Introduction

In this final project, we will utilize four datasets—GNH (2008-2023), GDP per capita (1960-2023), life expectancy (1950-2022), and population by country—to visualize global trends and country-specific insights through bar chart races and choropleth maps. Bar chart races will help us dynamically track changes in these metrics over time, revealing how countries rank and progress relative to each other. Meanwhile, choropleth maps will provide a spatial representation of these datasets, highlighting geographic patterns and variations across regions. Together, these visualizations will enhance our understanding of global well-being, economic development, life expectancy, and demographic shifts.

Dataset Overview

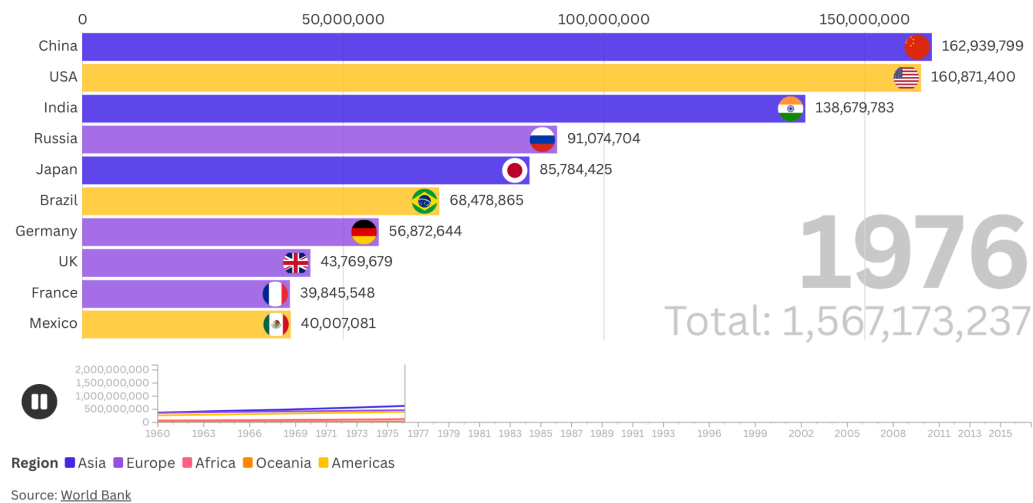
- **GNH 2008-2023:**
This dataset records Bhutan's Gross National Happiness (GNH) from 2008 to 2023 across nine domains, including health, education, and living standards, capturing Bhutan's unique approach to measuring holistic well-being and social progress.
- **GDP per capita 1960-2023:**
Covering global GDP per capita from 1960 to 2023, this dataset reflects economic growth and average income per person. It allows comparisons across countries and highlights the economic impacts of major events over the decades.
- **Life Expectancy 1950-2022**
Tracking average lifespan globally from 1950 to 2022, this dataset shows trends in public health, effects of medical advances, and impacts of historical events on life expectancy across nations.
- **Population by Country**
This dataset provides population data by country over time, revealing demographic trends, growth rates, and migration patterns, essential for understanding global population dynamics and planning resources.

Visualization

1. Bar char race (GDP)

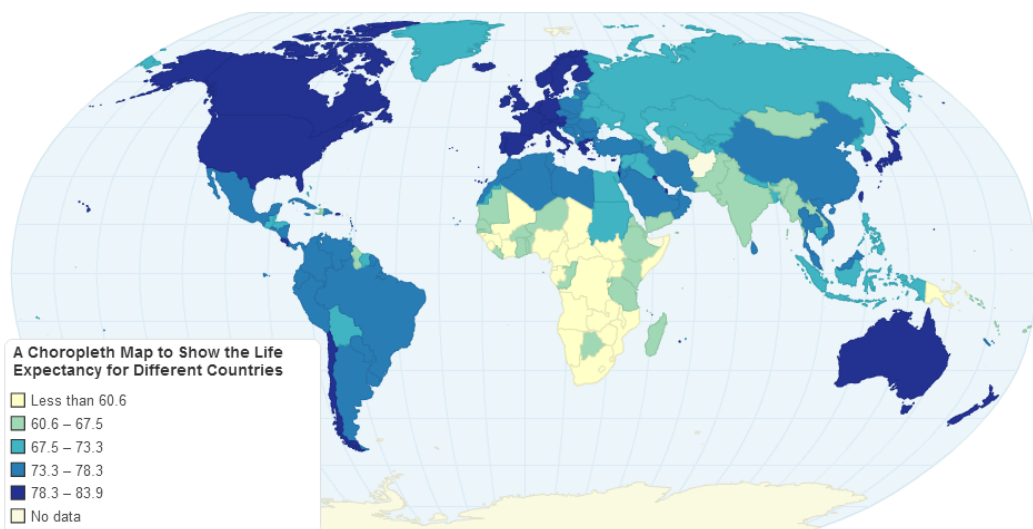
Urban population by country

Coloured by continent. Click the legend to filter.



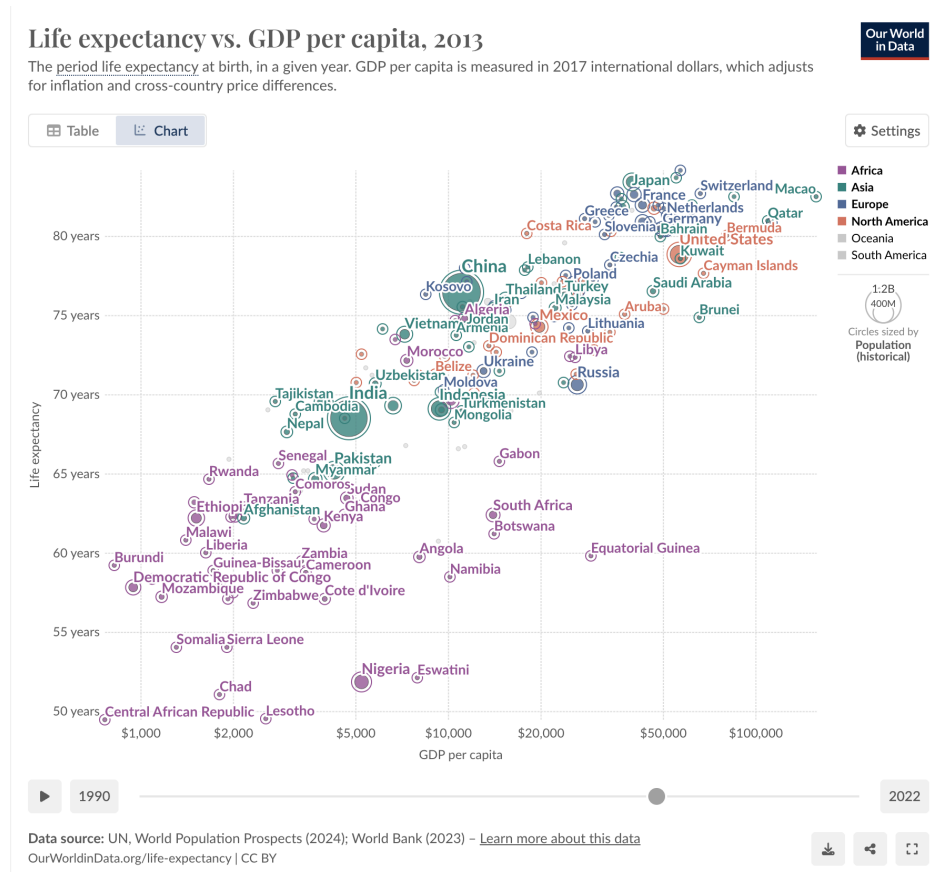
A bar chart race is an animated visualization that vividly shows changes in GDP rankings among countries over time, helping viewers observe economic growth or decline trends dynamically. It provides an engaging way to reveal shifts in global economic power and highlights countries that have experienced rapid growth, making historical GDP trends easy to follow.

2. Choropleth maps (GDP or GNH)



Choropleth maps color-code regions based on value ranges, making it easy to visualize geographic distributions of GDP or GNH. For GDP, it reveals economic disparities across regions, while for GNH, it shows global variations in well-being, offering a clear view of how wealth or happiness is distributed geographically.

3. Scatter Plot (GNH vs GDP or Life Expectancy vs GDP)



A scatter plot is ideal for examining relationships between two variables, such as GNH and GDP or life expectancy and GDP, enabling viewers to quickly see correlations or trends. This visualization helps identify if higher GDP aligns with greater happiness or longevity across countries, making it effective for exploring how economic prosperity relates to well-being or health.