Project Proposal

Sofia Fero and Megan Gaskin

EIND 468

Nick Hagerty

10 October 2024

Topic: The Impact of Renewable Energy Adoption on GDP Growth in European Countries

Research Question: How does the amount of renewable energy generated influence GDP growth in European countries from 2015 to 2022?

Type of Analysis: Causal

We will conduct a causal analysis to investigate the relationship between renewable energy adoption and GDP growth in European countries. This analysis will allow us to explore whether increases in renewable energy adoption contribute to economic growth, providing insights relevant to policymakers focused on sustainable development and energy transition strategies.

Challenge: Deeper Spatial Analysis

To enhance our analytical capabilities, we will explore spatial analysis using techniques such as spatial regression, and spatial panel data models. This process will provide insights on the relationship between renewable energy and GDP growth in European countries. This will be performed using r packages such as “splm” and “spdep”. We aim to visualize the distribution of renewable energy adoption and GDP growth across European countries, which will allow us to understand geographic trends and disparities.

Datasets

Our two selected datasets are related to each other through the analysis of the impact of renewable energy adoption on economic performance. They both provide insights on data in different countries, and we will pull data ranging from 2000 to 2022 for both.

Dataset 1: Renewable energy statistics

The variables in this dataset include those related to renewable energy such as total renewable energy generation, installed capacity, and energy consumption from renewable sources. It covers multiple years from 2000 to 2022 and provides annual data for a wide range of countries worldwide.

Source URL: https://www.irena.org/Publications/2024/Jul/Renewable-energy-statistics-2024

Dataset 2: GPD growth (annual %):

The variables in the dataset on GDP growth in countries are, countries as a categorical variable and GDP growth for each country as a percentage increase or decrease from the previous year. It contains data about the GDP in an array of global countries from 1961 to 2023.

Source URL https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG