**Project Requirement 3: Data Links and Data Dictionary**

**Links to publicly available data:**

1. ESG Ranking and Scores of countries: <https://risk-indexes.com/esg-index/>
2. 10 ESG Variables and GDP across years: [https://databank.worldbank.org/source/environment-social-and-governance-(esg)-data/Type/TABLE/preview/on#](https://databank.worldbank.org/source/environment-social-and-governance-(esg)-data/Type/TABLE/preview/on)

Raw data has been attached into the folder labelled *raw data.*

**Consolidated data:**

2 Sets of CSV included: One for Machine learning and One for Non-Machine Learning/SVM

* To use CSV for Machine Learning, **substitute ‘Dataset for CART’ csv** into Line 65 of codes into **variable y2**
* To use CSV for NML, **substitute ‘Dataset for NML and SVM’ csv** into Line 81 of codes into **variable ESGdata**

**Data dictionary for ESG variables**

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| --- | --- | --- |
| **Factor** | **Data dictionary** | **Type of factor** |
| Voice and Accountability | Reflects perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. | Governance |
| Political Stability and Absence of Violence/Terrorism | Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. | Governance |
| Government Effectiveness | Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. | Governance |
| Regulatory Quality | Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. | Governance |
| Rule of Law | Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. | Governance |
| Control of Corruption | Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. | Social |
| Life expectancy at birth, total(years) | Life expectancy at birth indicates the number of years a new-born infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. | Social |
| Fertility rate, total (births per woman) | Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year. | Social |
| CO2 emissions (metric tons per capita) | Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring | Environment |
| Nitrous oxide emissions (Thousand metric tons of CO2 equivalent per capita | Nitrous oxide emissions are emissions from agricultural biomass burning, industrial activities, and livestock management. | Environment |
| CountryCode | short alphabetic or numeric geographical codes (geocodes) developed to represent countries and dependent areas | - |
| Year | Current year of the record | - |
| CountryName | Country in which the records belong to | - |
| Region | An area in which the country belongs to | - |
| ESGScore | A numerical measure of how it is perceived to be performing on a wide range of environmental, social and governance | - |
| ESGRank | Ranking of ESG performance by country based on their ESG scores  [176 Countries used, hence ranking based from 1(Best) to 176 (Worst)] | - |
| RiskEval | Risk evaluation of each country’s based on their ESG performance | - |

**Renamed variables**

|  |  |
| --- | --- |
| **Original name** | **Renamed** |
| Voice and Accountability | Voice |
| Political Stability and Absence of Violence/Terrorism | Political |
| Government Effectiveness | GovtEff |
| Regulatory Quality | RegQual |
| Rule of Law | Law |
| Control of Corruption | Corruption |
| Life expectancy at birth, total(years) | LifeExp |
| Fertility rate, total (births per woman) | FertRate |
| CO2 emissions (metric tons per capita) | Carbon |
| Nitrous oxide emissions (Thousand metric tons of CO2 equivalent per capita) | Nitrous |