

# Global Regional Inequalities

In this activity, students are given World Bank data to determine if global regional inequalities exist. This assignment should be done with Excel. An Excel spreadsheet is included with this problem.

**Length** 📖 1-2 hours (Medium Problem)

**Prerequisites** Measures of dispersion, Standard deviation, Measures of central tendency, Average, Excel

**Concepts** Descriptive statistics, Measures of dispersion, Standard deviation, Measures of central tendency, Average

**Theme** Inequality

**Disciplines** Geography, Sociology



## Scenario

After completing one year of College you decide to travel during your 3-month summer break. You and a friend go backpacking and start in South America where you visit the following countries: Argentina, Chile, Bolivia, and Brazil. You then visit the following countries in Africa: South Africa, Tanzania, and Kenya, and you finish your trip in India before returning home. It is an amazing trip!

You are now back at College for your second year and are enrolled in a Sociology class. For your class project, your teacher wants you to focus on the concept of inequality. She has left the project parameters open-ended. Since you have recently returned from visiting many countries with a lot of beauty and resilience but also poverty and inequality (and even differences in levels of poverty / inequality within countries and even geographical regions), you decide to focus your project on if global regional inequalities exist.

## What you need to produce and evaluation grid

- Global Regional Inequalities (10%)

<b>Grouping countries</b>	
<ul style="list-style-type: none"> <li>• Explain your grouping decision (1 paragraph)</li> </ul>	/2
<b>Selecting variables</b>	
<ul style="list-style-type: none"> <li>• Select 4 variables to analyze (no marks)</li> </ul>	
<b>Computation in Excel</b>	
<ul style="list-style-type: none"> <li>• Compute mean, standard deviation and skew for each of the 4 variables for all regional groups</li> <li>• Explain why the standard deviation would be used to explain inequality, and the way skew impact the interpretation of the standard deviation</li> </ul>	/3
<b>Interpretation</b>	
<ul style="list-style-type: none"> <li>• Report (~250 words)</li> </ul>	/5
<b>Total</b>	<b>/10</b>



## Breakdown of the problem

1. The first challenge is deciding how countries will be grouped. You can use the links below to help you.

### Guiding question 1

How do you group countries together? Explain your decision.

Google Maps view by countries

[https://www.google.com/maps/d/viewer?mid=1hjs3mloZBblBP\\_CvxiP4w38STiY&msa=0&dg=feature&ll=15.792914338408492%2C34.56916799999999&z=2](https://www.google.com/maps/d/viewer?mid=1hjs3mloZBblBP_CvxiP4w38STiY&msa=0&dg=feature&ll=15.792914338408492%2C34.56916799999999&z=2)

United Nations: countries by regional group

[https://en.wikipedia.org/wiki/United\\_Nations\\_Regional\\_Groups](https://en.wikipedia.org/wiki/United_Nations_Regional_Groups)

World Bank: regional classification

<https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

2. From the list below, select (4) variables you want to analyze.

- Life expectancy at birth, total (years)
- Mortality rate, under-5 (per 1,000 live births)
- Death rate, crude (per 1,000 people)
- GINI index (World Bank estimate)
- Population density (people per sq. km of land area)
- CO<sub>2</sub> emissions (metric tons per capita)
- Fertility rate, total (births per woman)
- Poverty headcount ratio at national poverty lines (% of population)
- Unemployment, total (% of total labor force) (modeled ILO estimate)
- Intentional homicides (per 100,000 people)
- Birth rate, crude (per 1,000 people)
- Urban population (% of total)
- Adolescent fertility rate (births per 1,000 women ages 15-19)



- Using the Excel data file with countries grouped by region, compute the mean, standard deviation and skew for each of the 4 variables selected. Think about whether you have population or sample information when computing the statistics.

### **Guiding question 2**

Why would we use the standard deviation to understand inequality?

How does the skew of a distribution impact the interpretation of the standard deviation?

- Interpret. Write a 1-page double-spaced report that you will submit to your Sociology teacher regarding your observations. Since you are submitting this report to a Social Scientist, use appropriate terminology.

### **Guiding question 3**

Focus on the bigger picture: what do the results suggest about regional variations?

