

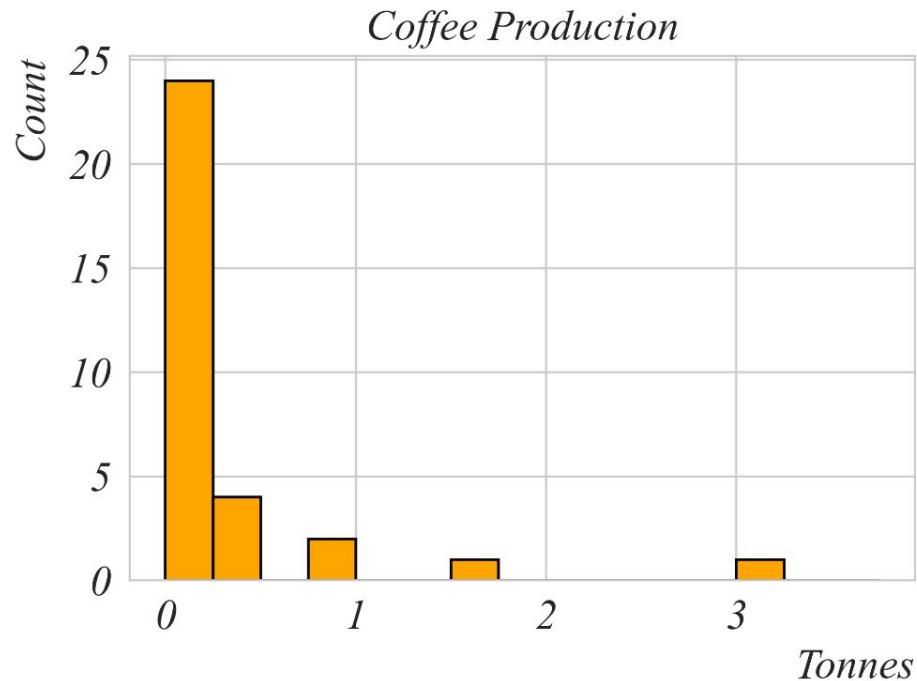
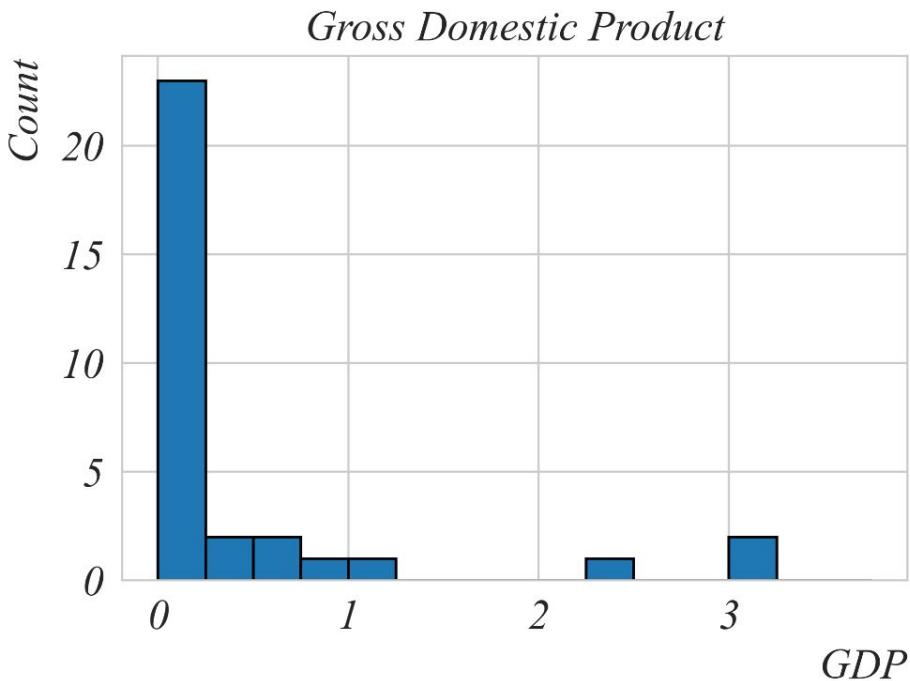
# Making Decisions with Visual Data

*Part 1.6 Exploring Relationships*

*Taylor Weidman*

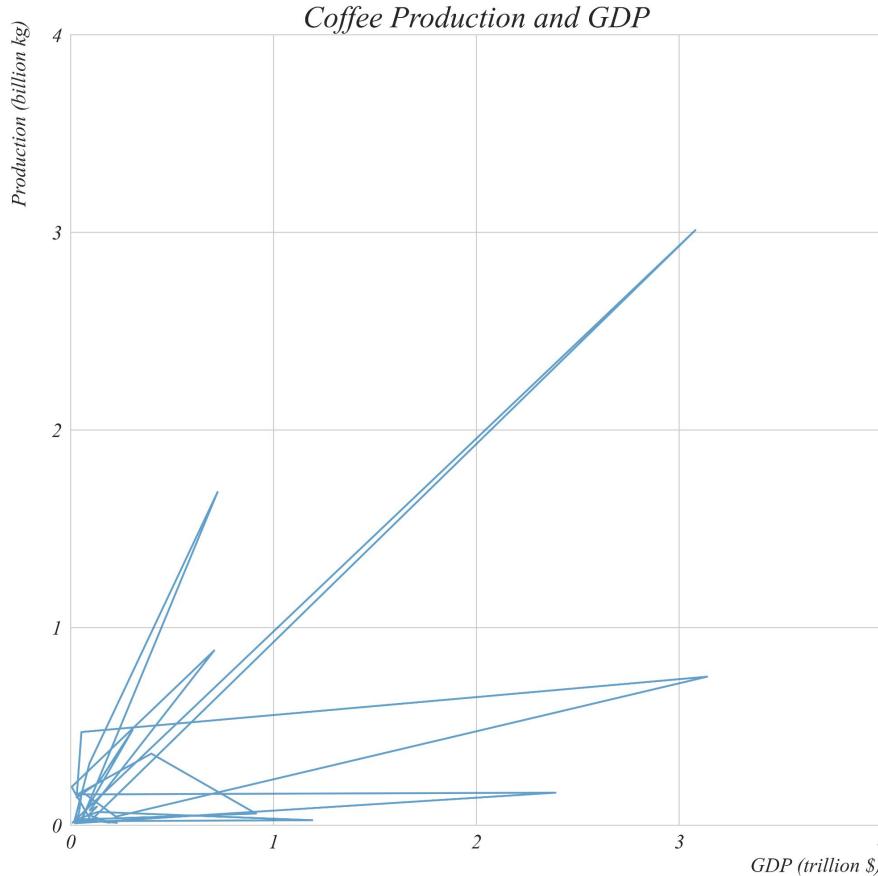
# Exploring Relationships

Q. Is there a relationship between GDP and coffee production?



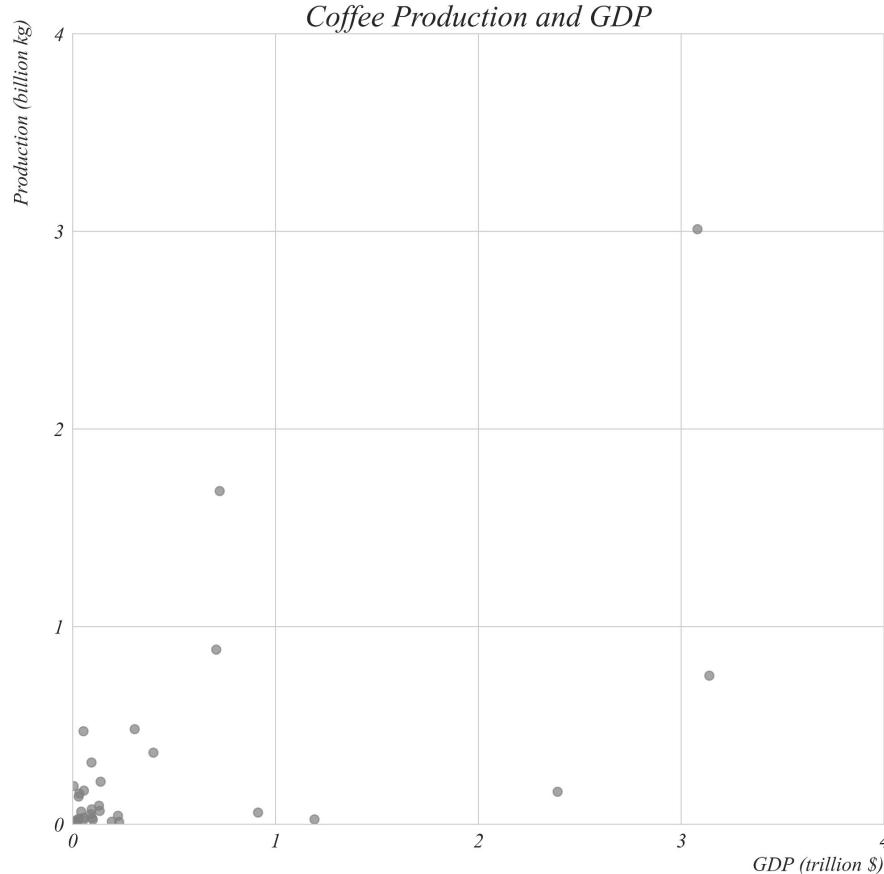
# Exploring Relationships

Q. Is there a relationship between GDP and coffee production?



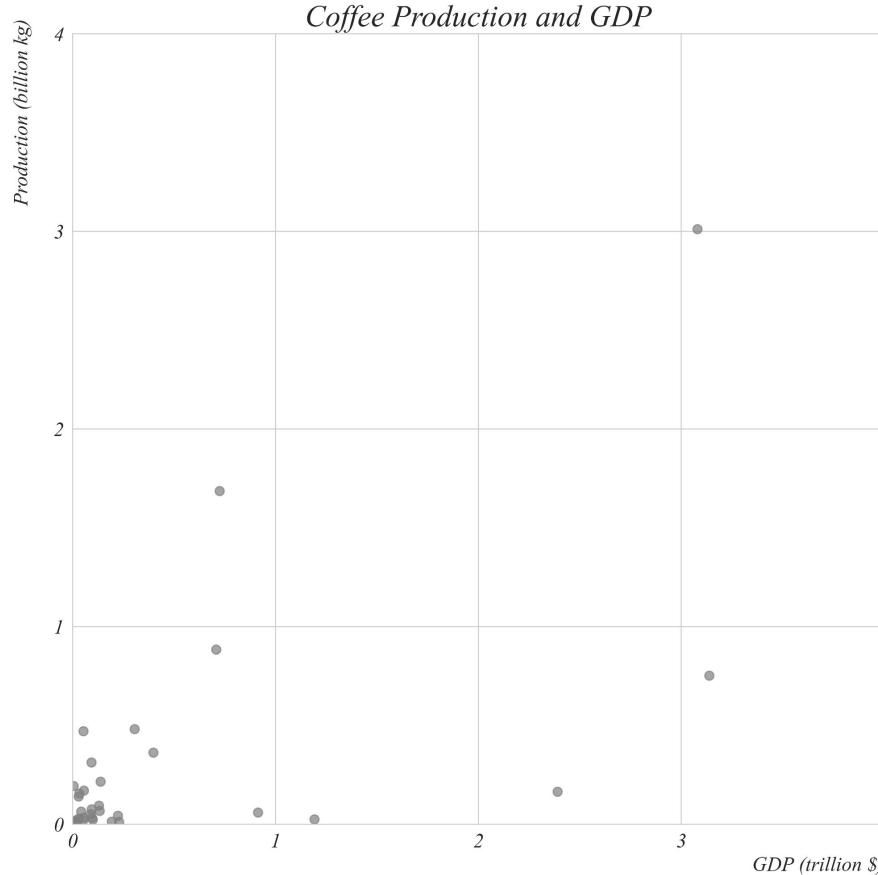
# Exploring Relationships

Q. Is there a relationship between GDP and coffee production?



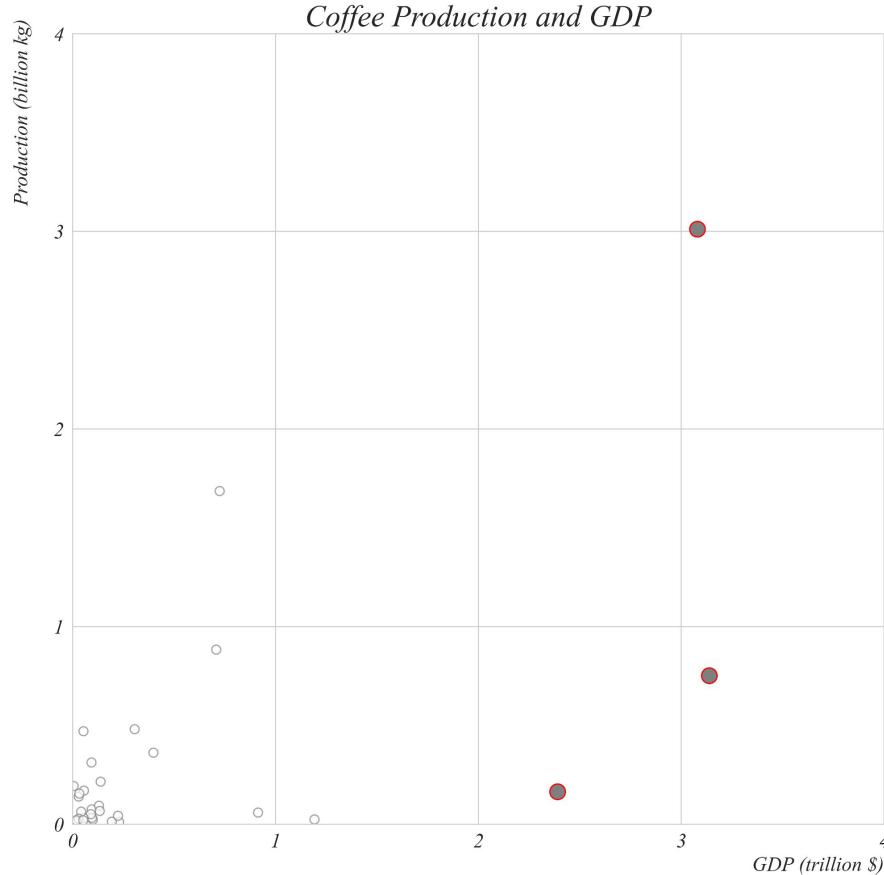
# Exploring Relationships

Q. Which countries have a GDP above 2 trillion \$?



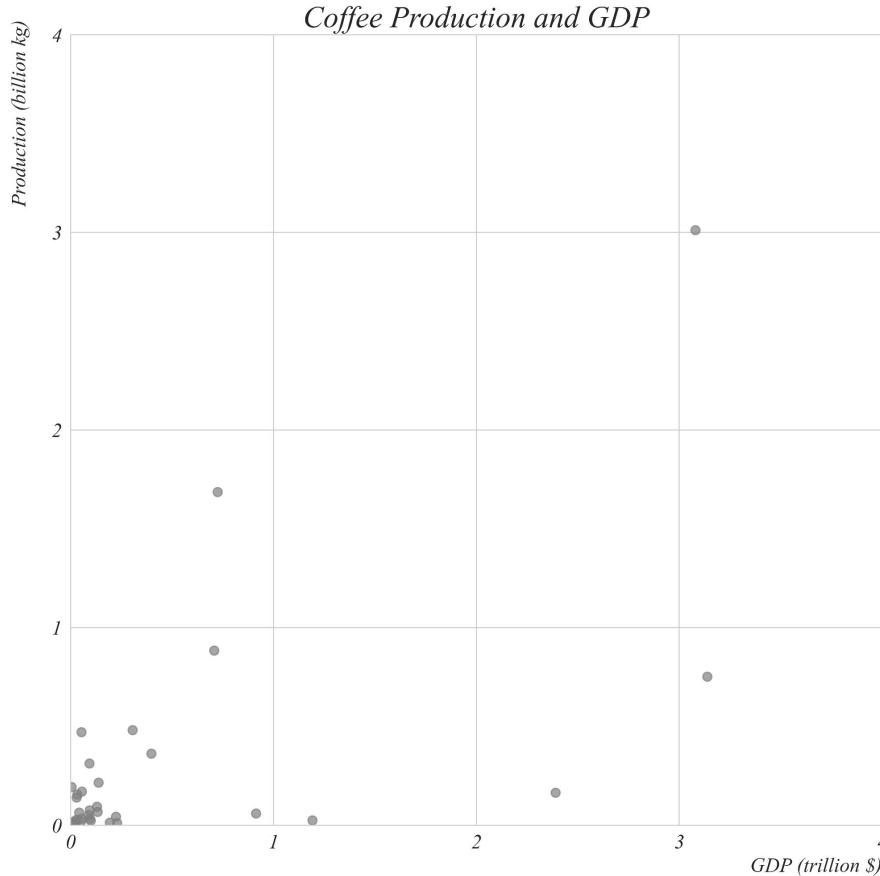
# Exploring Relationships

Q. Which countries have a GDP above 2 trillion \$?



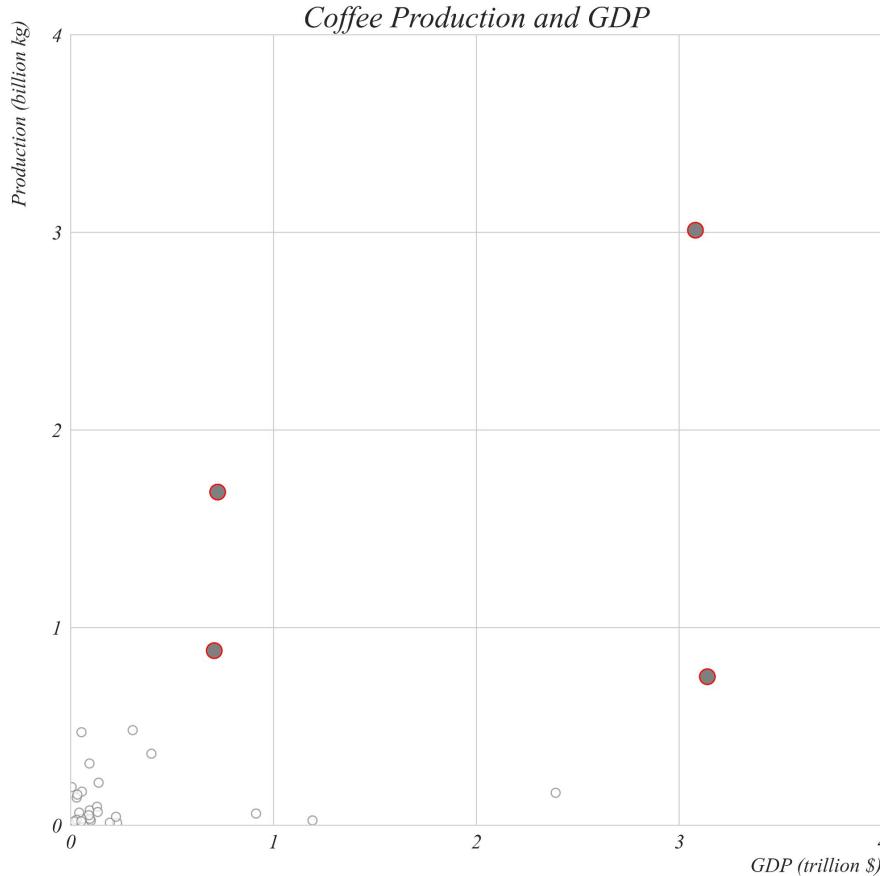
# Exploring Relationships

Q. Which countries have a production above  $\frac{1}{2}$  billion kg?



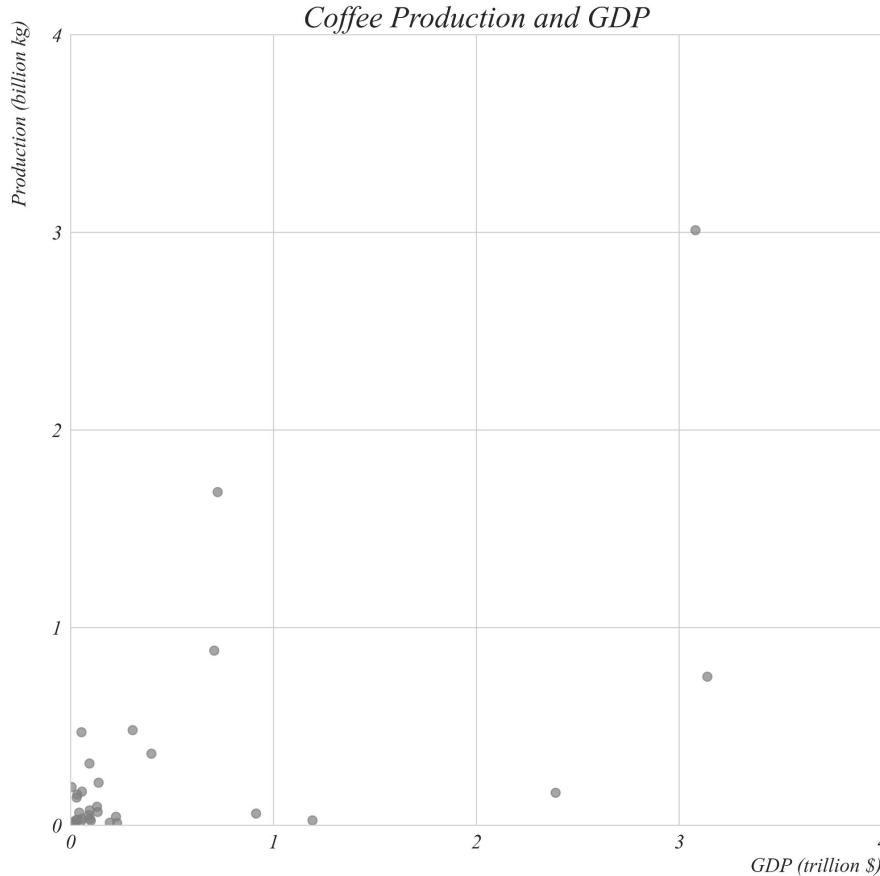
# Exploring Relationships

Q. Which countries have a production above  $\frac{1}{2}$  billion kg?



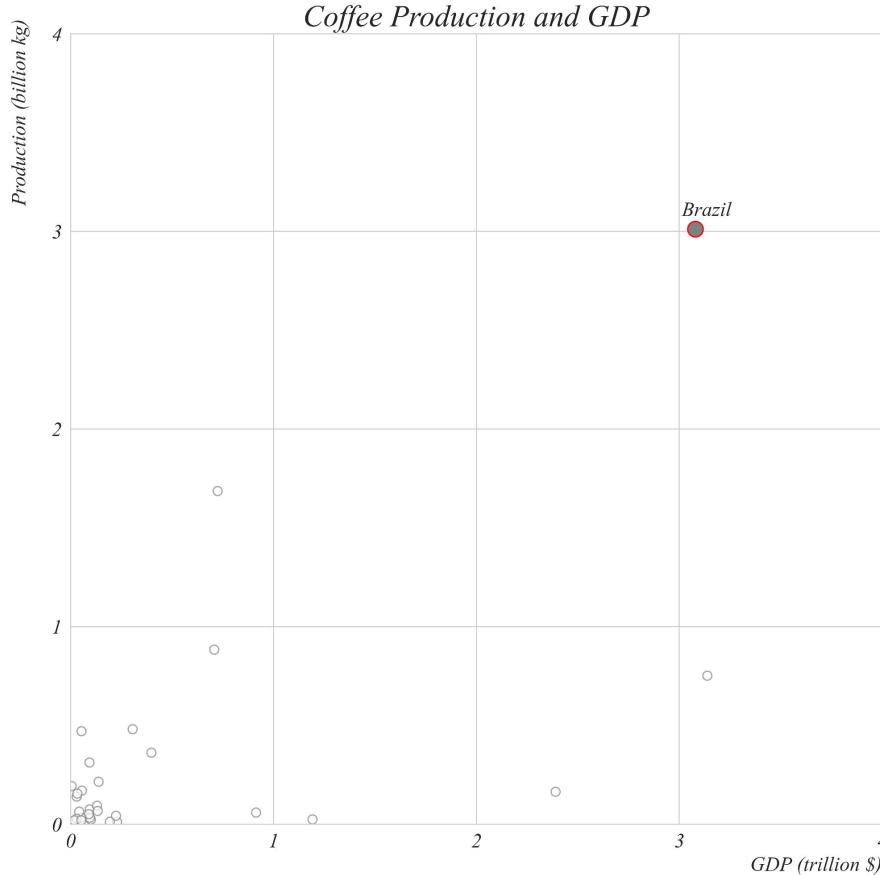
# Exploring Relationships

Q. Is there a relationship between GDP and coffee production?



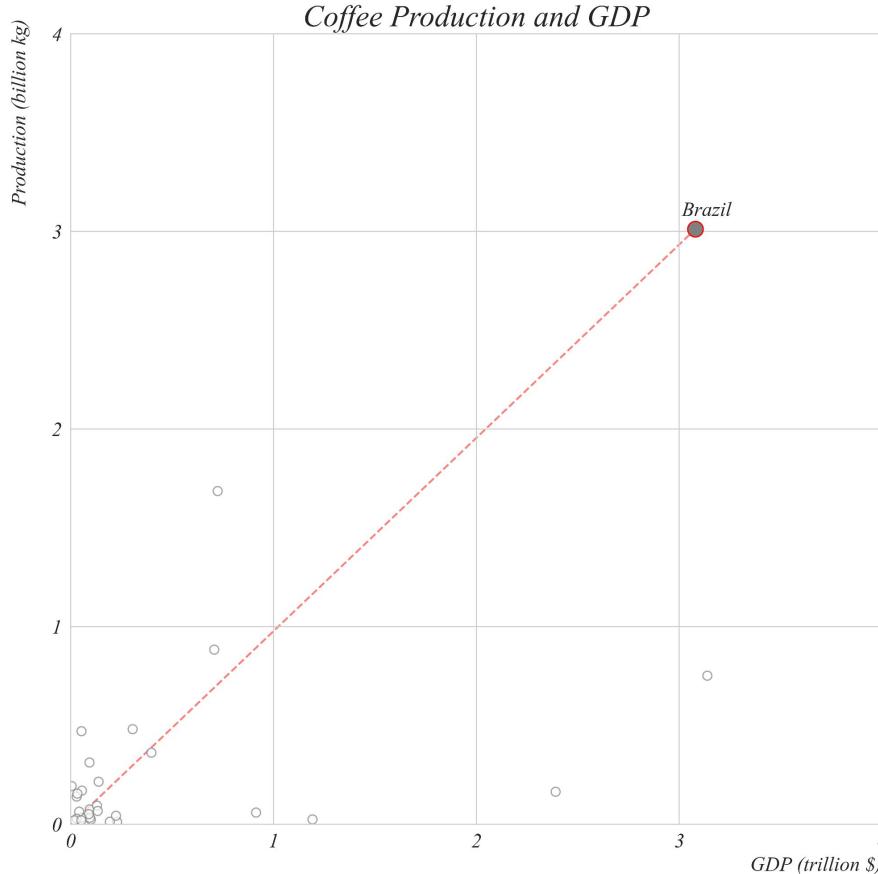
# Exploring Relationships

Q. Which countries produce less coffee per dollar than Brazil?



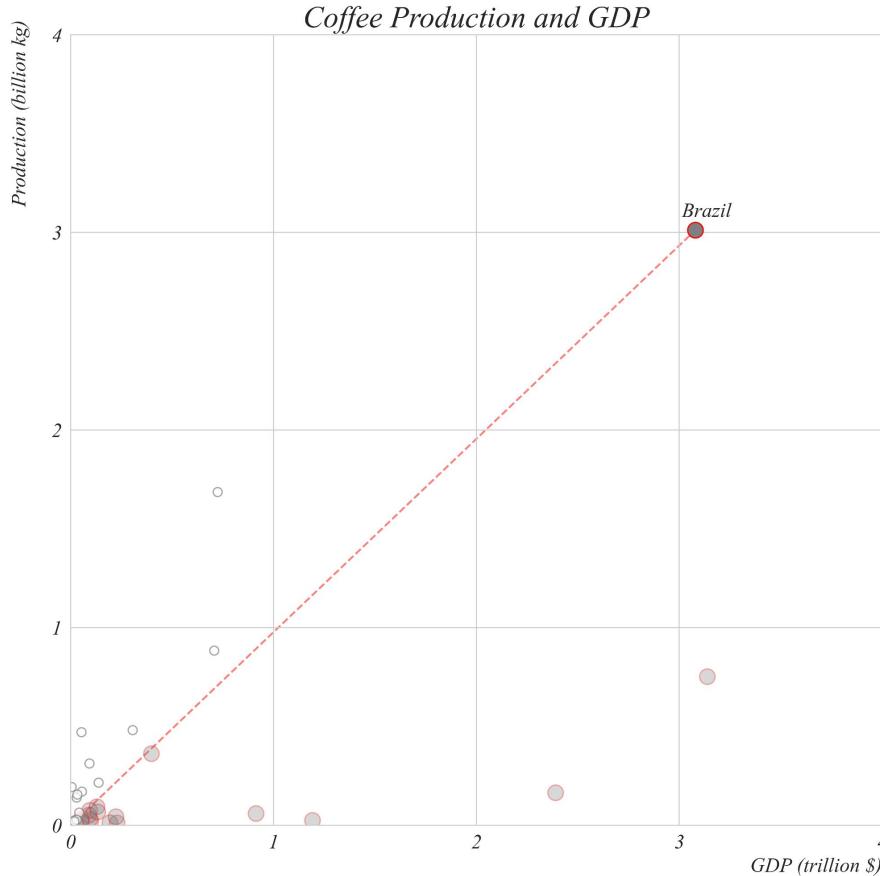
# Exploring Relationships

Q. Which countries produce less coffee per dollar than Brazil?



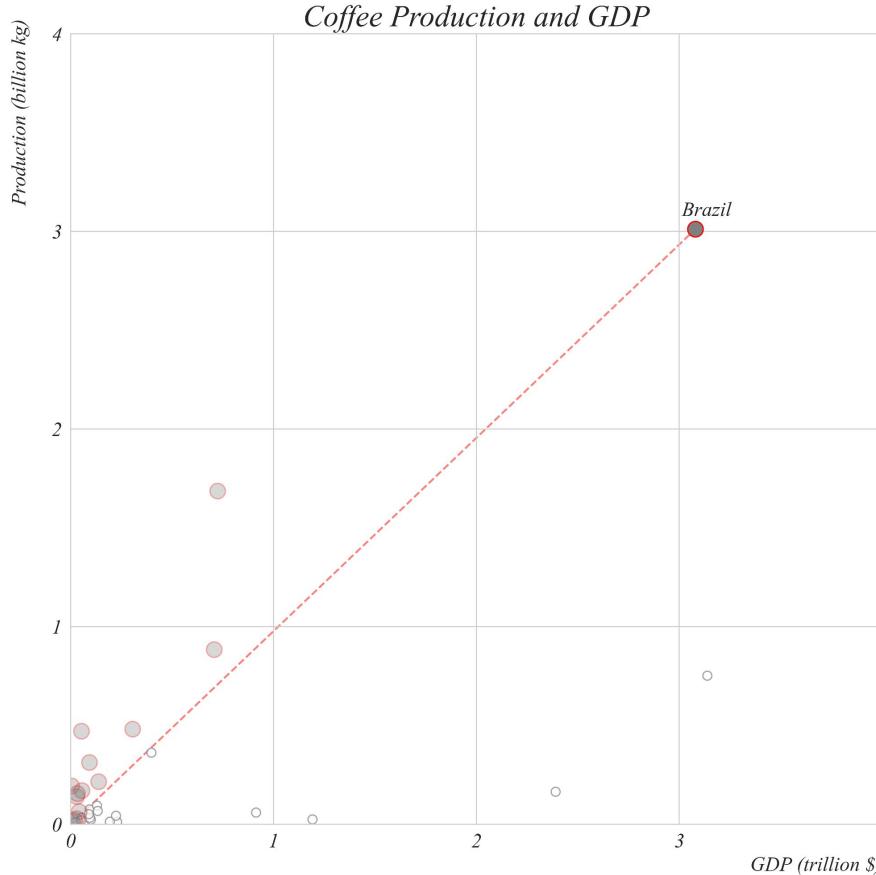
# Exploring Relationships

Q. Which countries produce less coffee per dollar than Brazil?



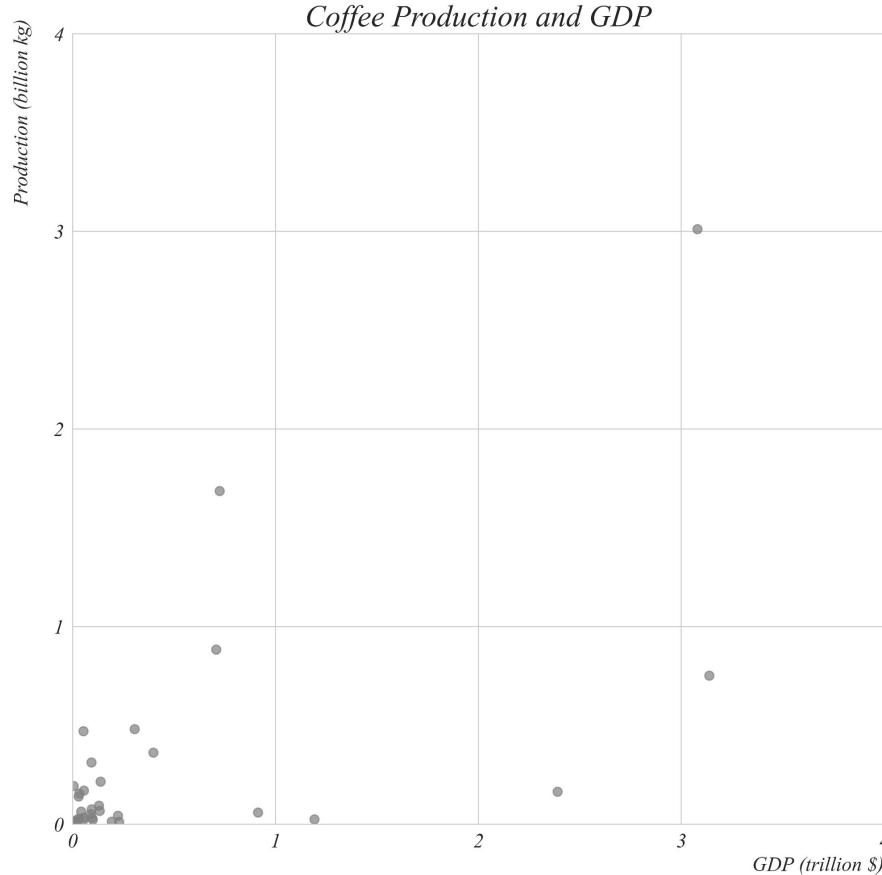
# Exploring Relationships

Q. Which countries produce more coffee per dollar than Brazil?



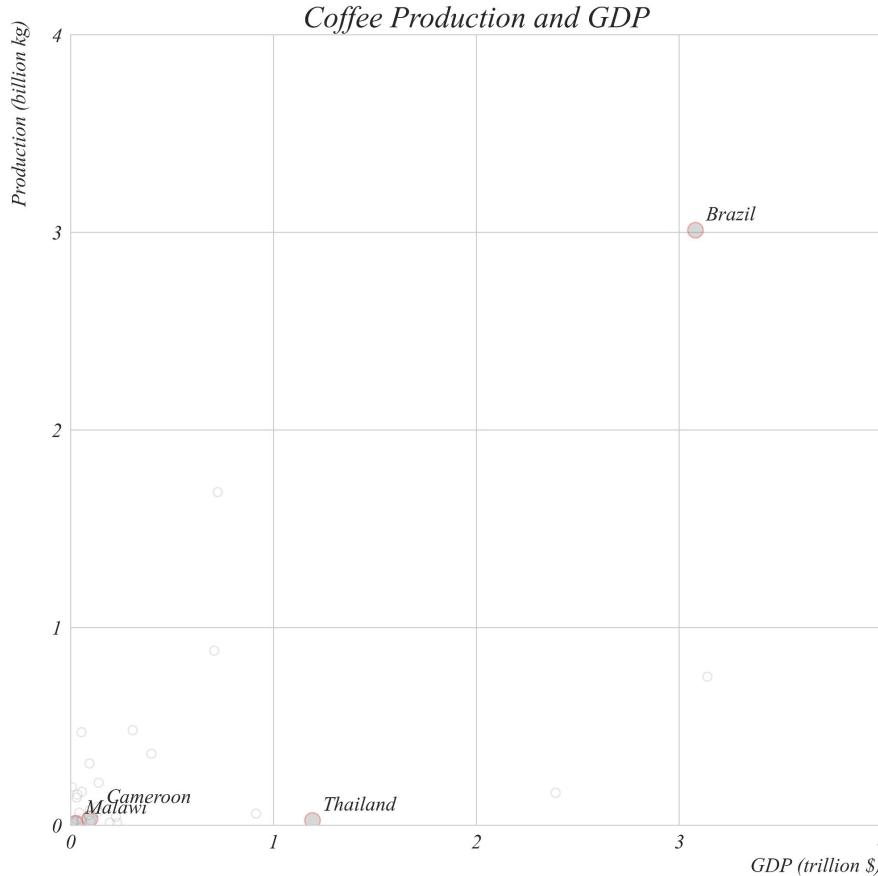
# Exploring Relationships

Q. Is there a relationship between GDP and coffee production?



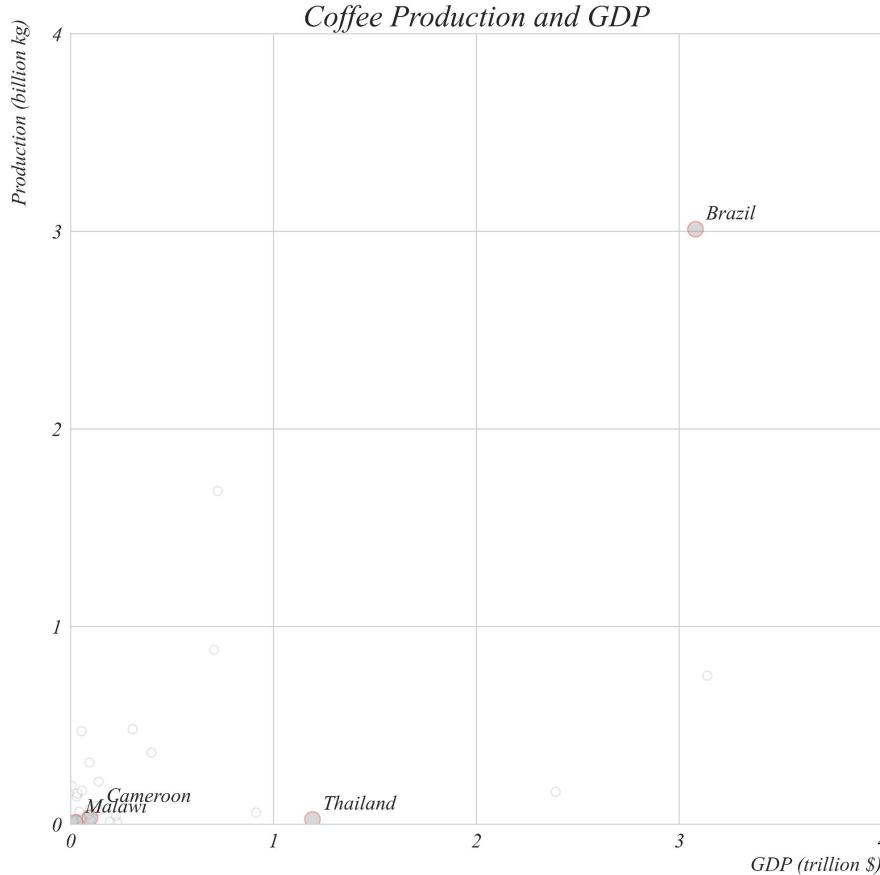
# Exploring Relationships

Q. Do the GDPs of the upper or lower pair differ by a larger amount?



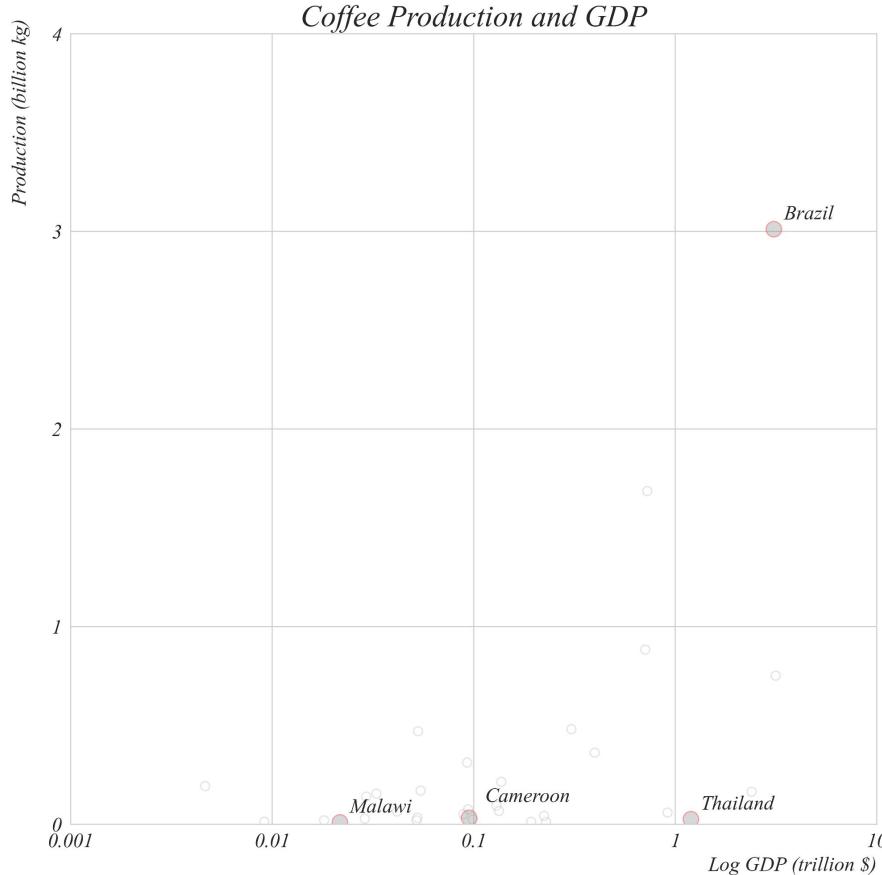
# Exploring Relationships

Q. Is the ratio GDPs of the upper or lower larger?



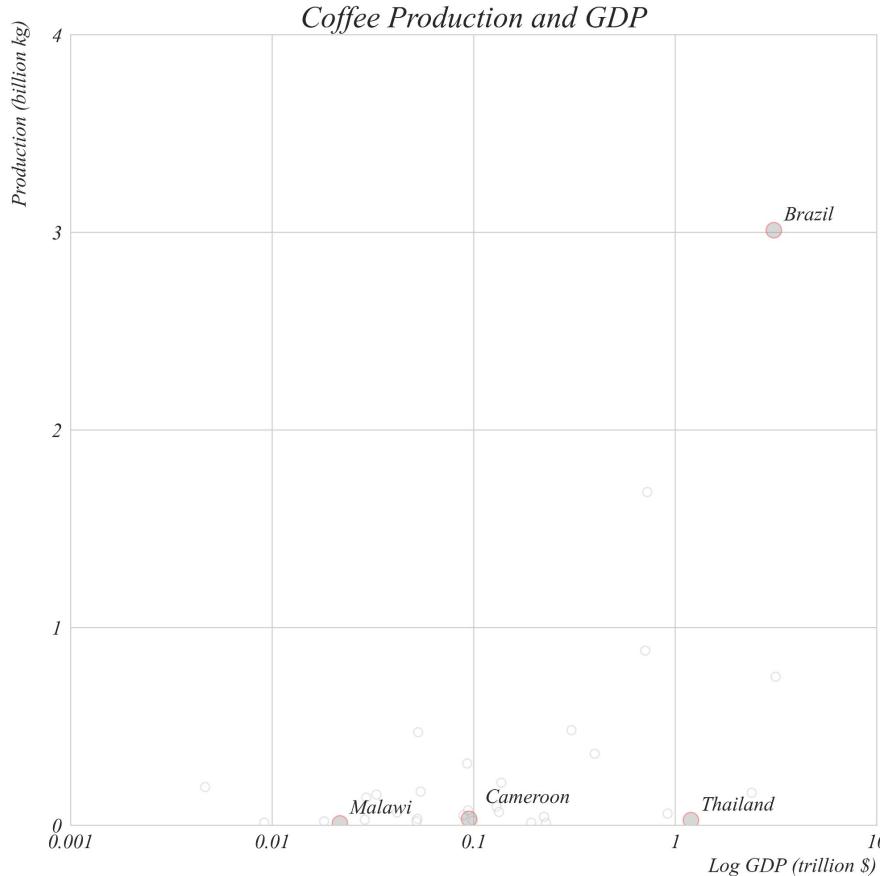
# Exploring Relationships

Q. Is the ratio GDPs of the upper or lower larger?



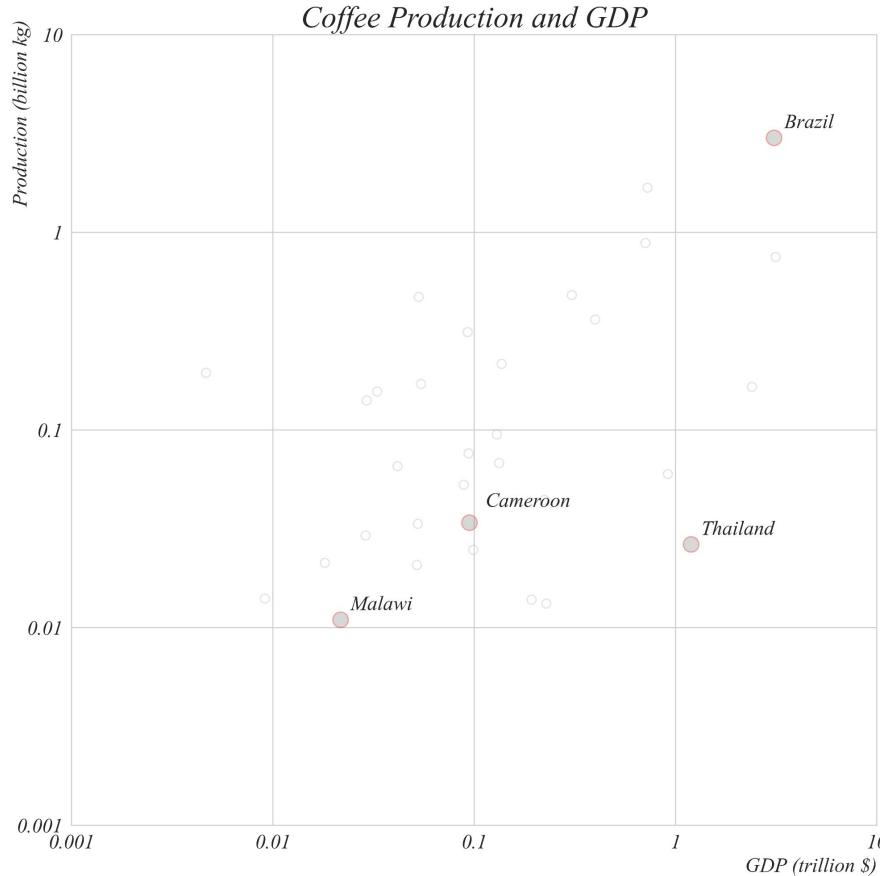
# Exploring Relationships

Q. Which produces the second highest output of coffee?



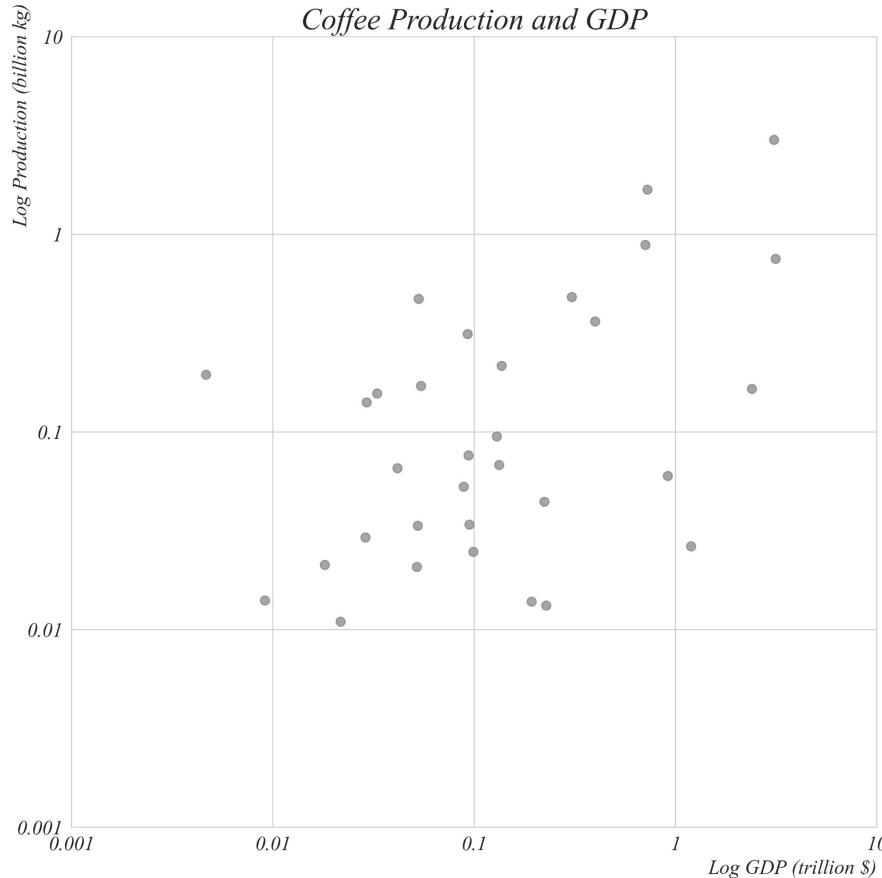
# Exploring Relationships

Q. Which produces the second highest output of coffee?



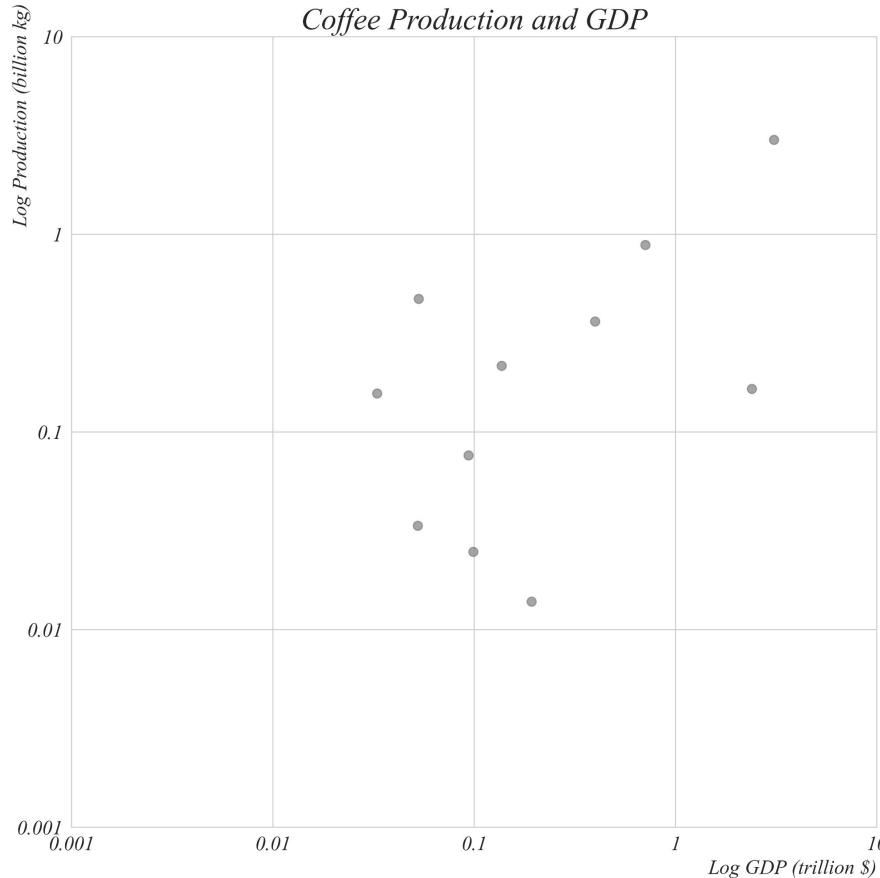
# Exploring Relationships

Q. What is the relationship between GDP and coffee production in the Americas?



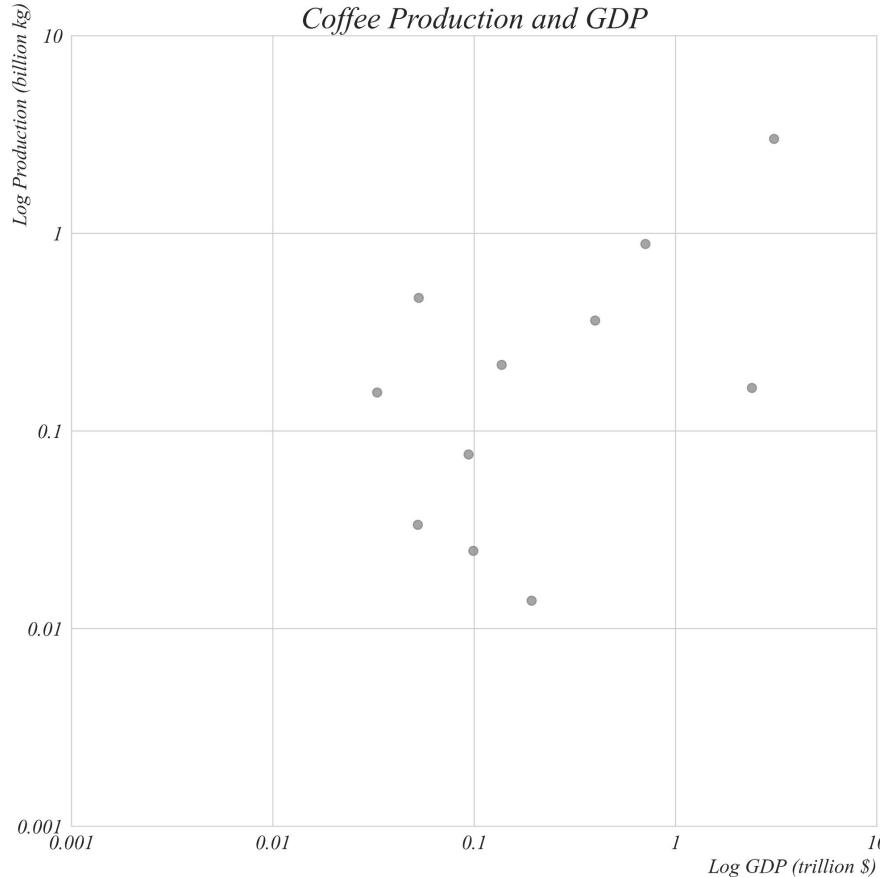
# Exploring Relationships

Q. What is the relationship between GDP and coffee production in the Americas?



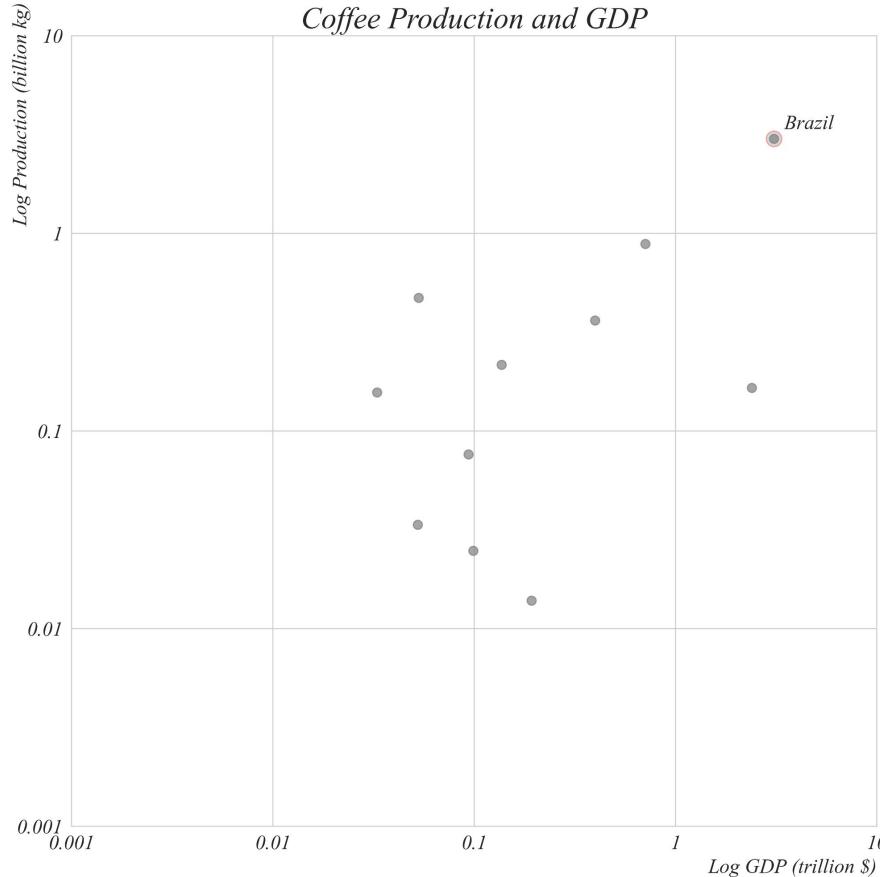
# Exploring Relationships

Q. Which country in the Americas produces the most coffee?



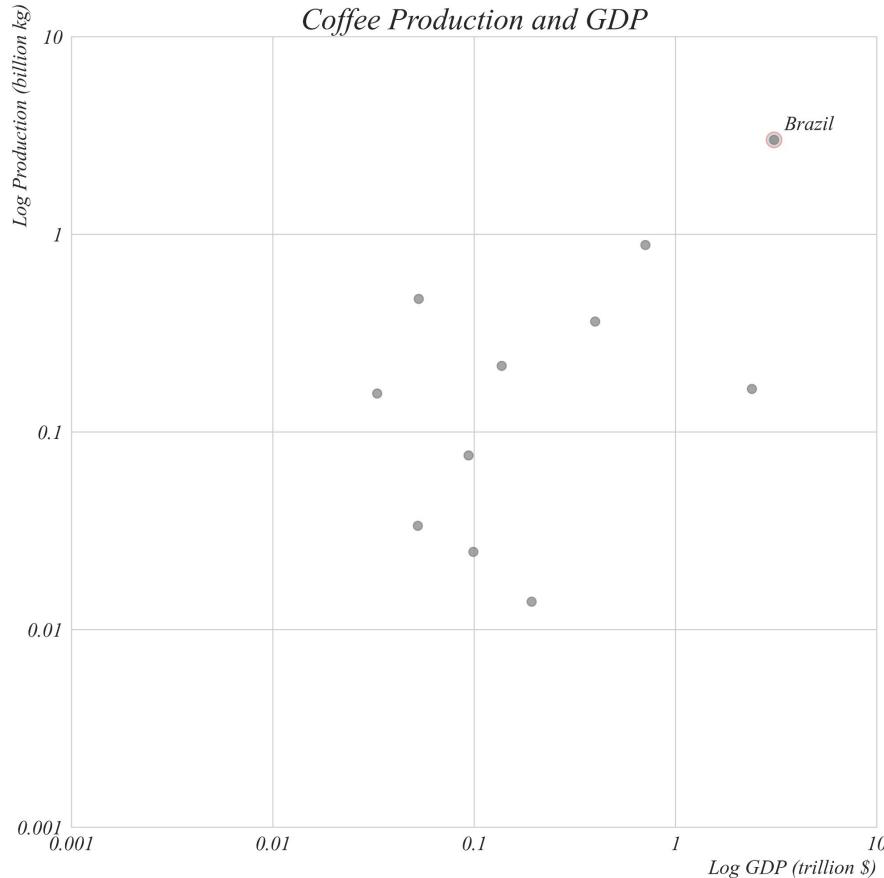
# Exploring Relationships

Q. Which country in the Americas produces the most coffee?



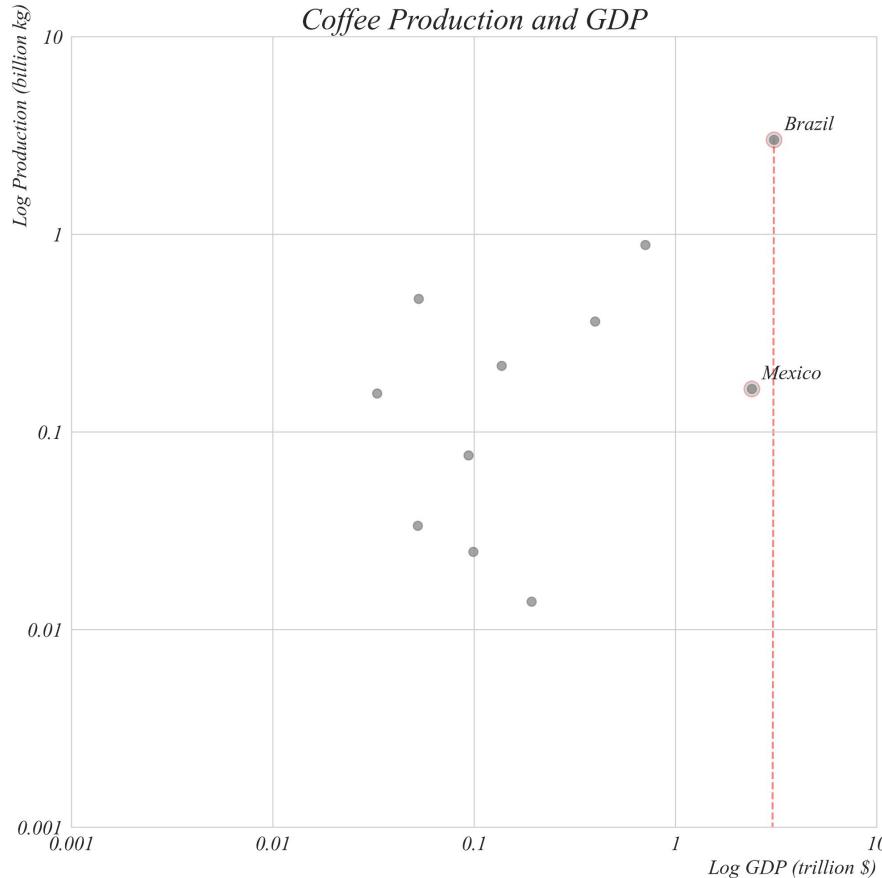
# Exploring Relationships

Q. Which country's GDP is closest to Brazil's GDP?



# Exploring Relationships

Q. Which country's GDP is closest to Brazil's GDP?



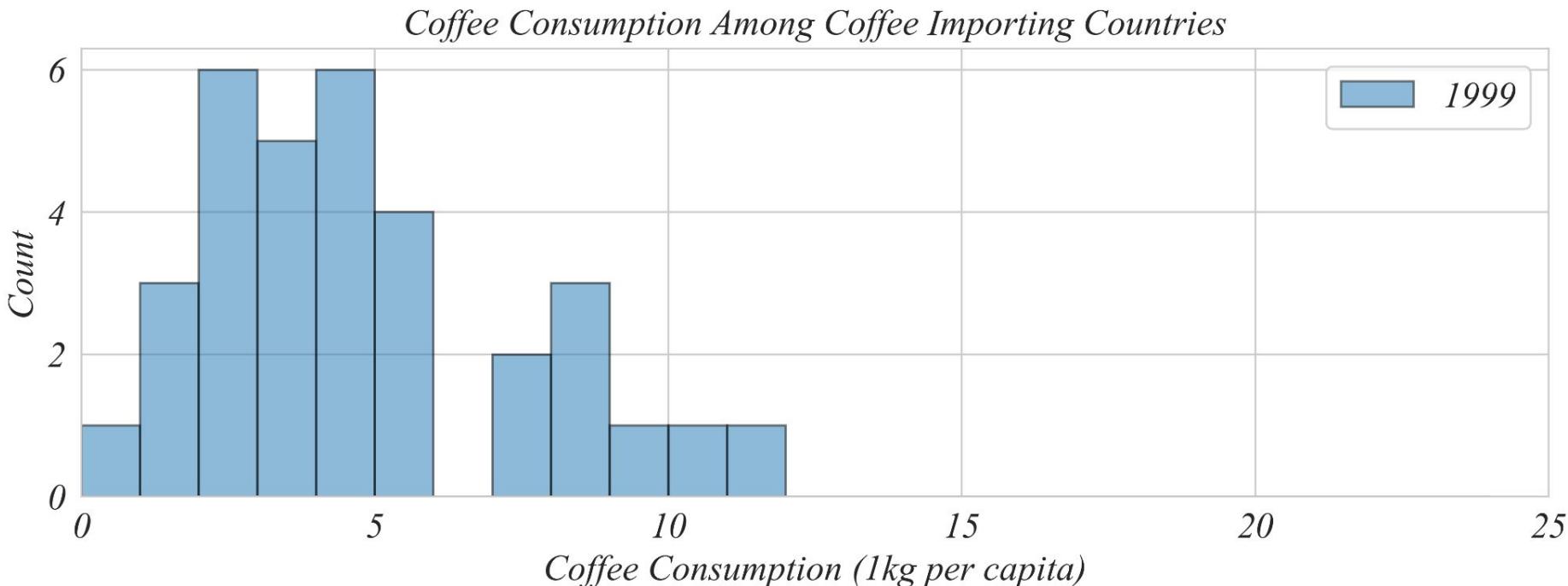
# Excel Exercise: Scatterplots

We're going to use a scatterplot to visually examine the relationship between coffee production and GDP.

- Data: Part\_1\_6\_Beans\_GDP.csv

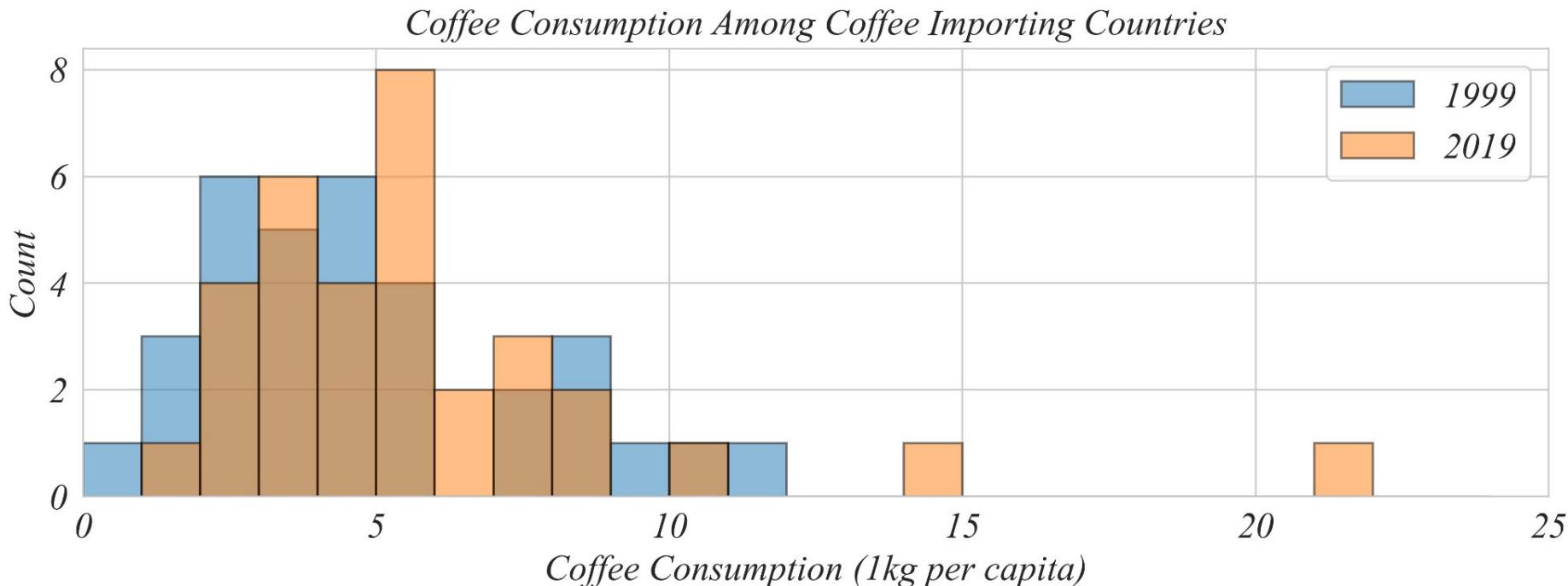
# Exploring Relationships

Q. Does the data confirm that the world is drinking more coffee?



# Exploring Relationships

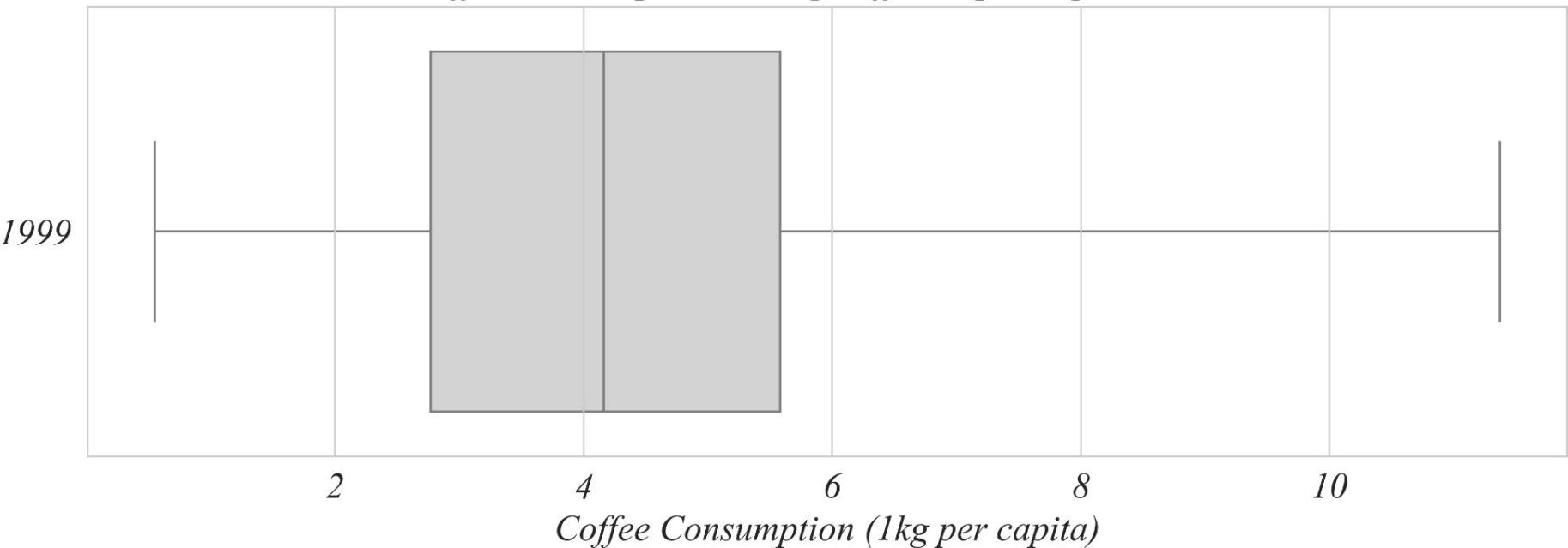
Q. Does the data confirm that the world is drinking more coffee?



# Exploring Relationships

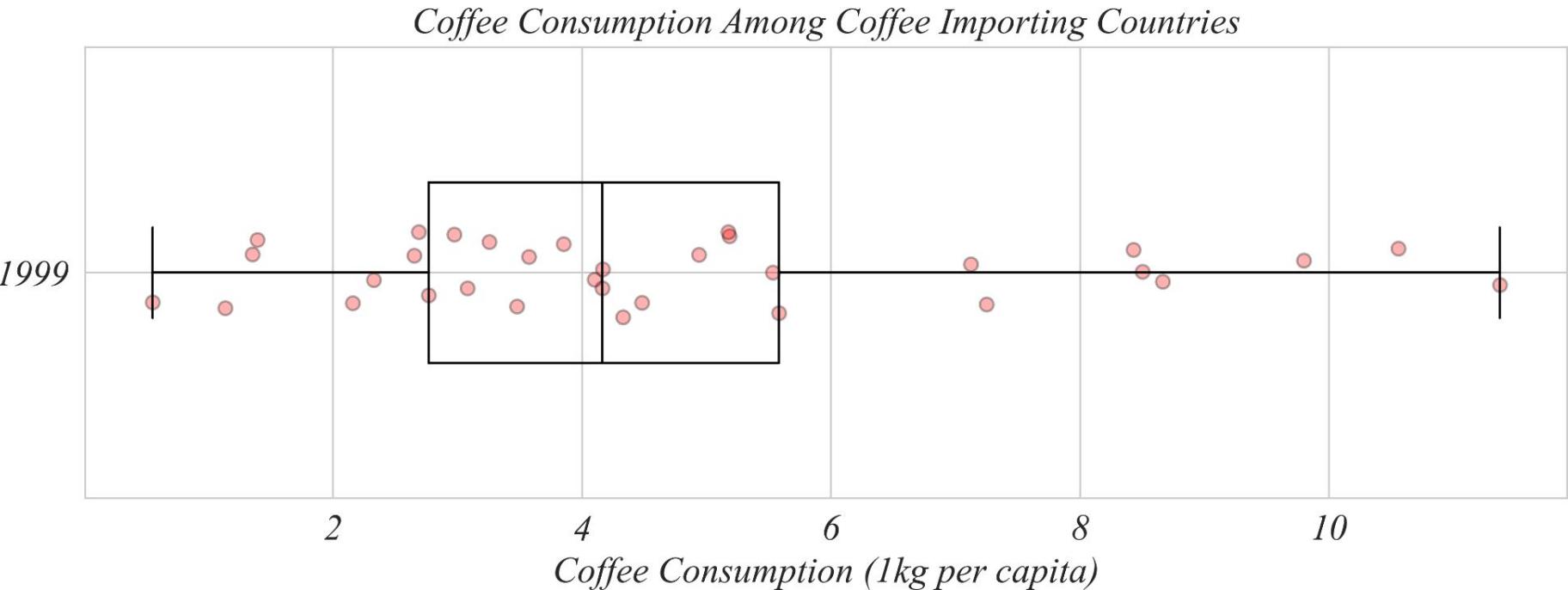
Q. Does the data confirm that the world is drinking more coffee?

*Coffee Consumption Among Coffee Importing Countries*



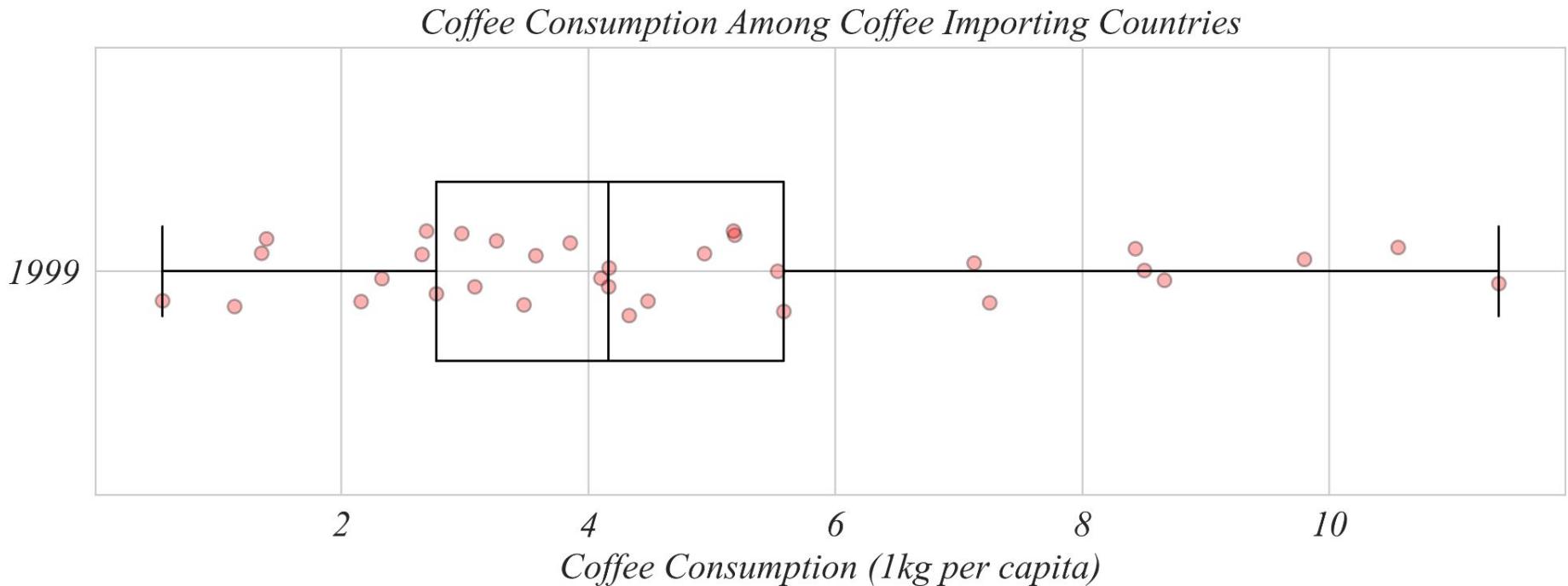
# Exploring Relationships

Q. Does the data confirm that the world is drinking more coffee?



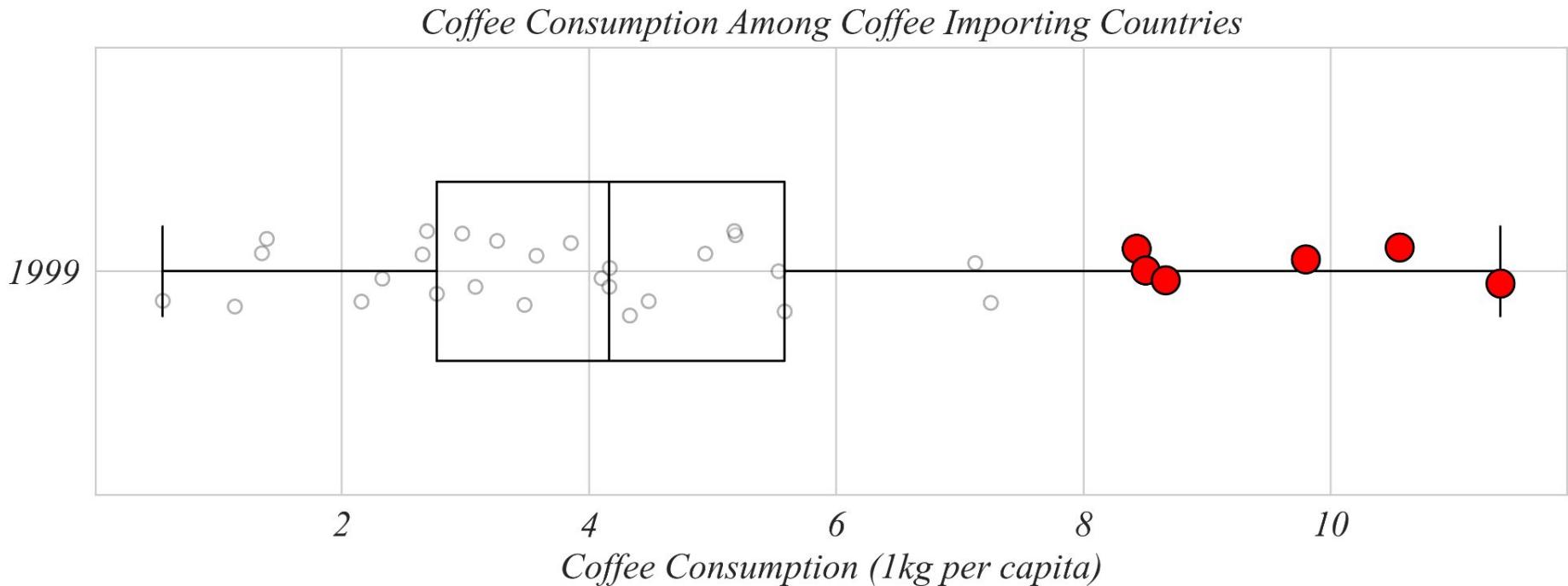
# Exploring Relationships

Q. Which countries consume more than 8 kg per capita?



# Exploring Relationships

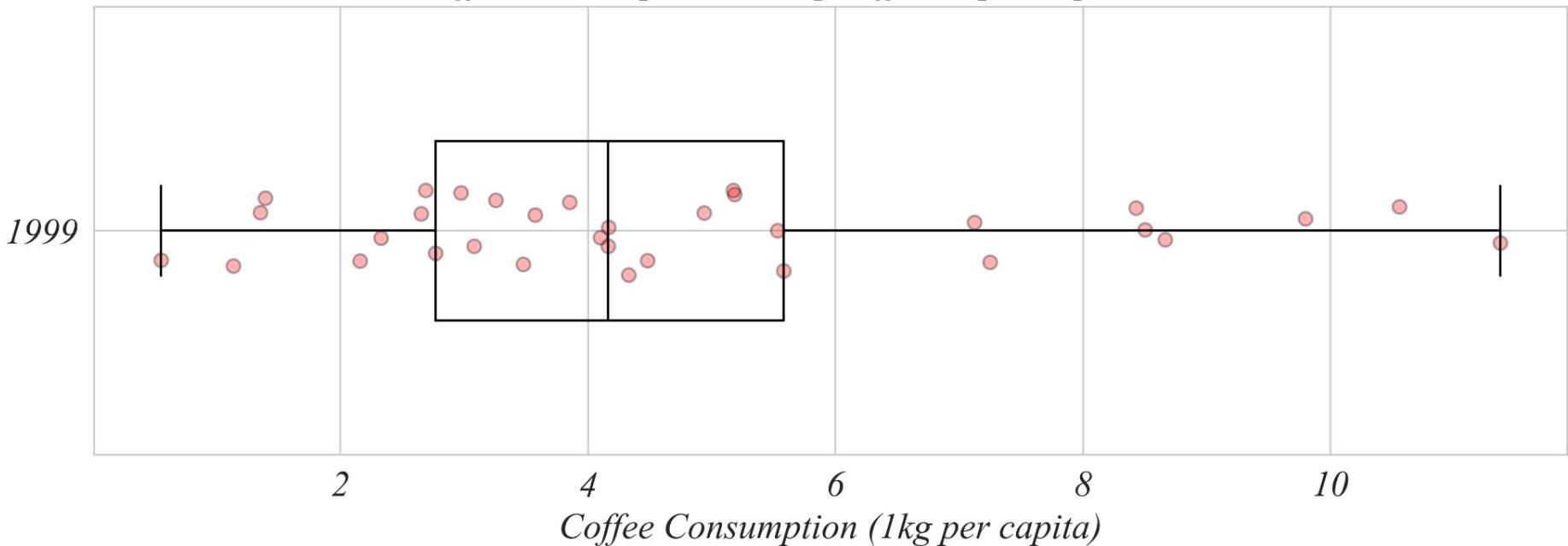
Q. Which countries consume more than 8 kg per capita?



# Exploring Relationships

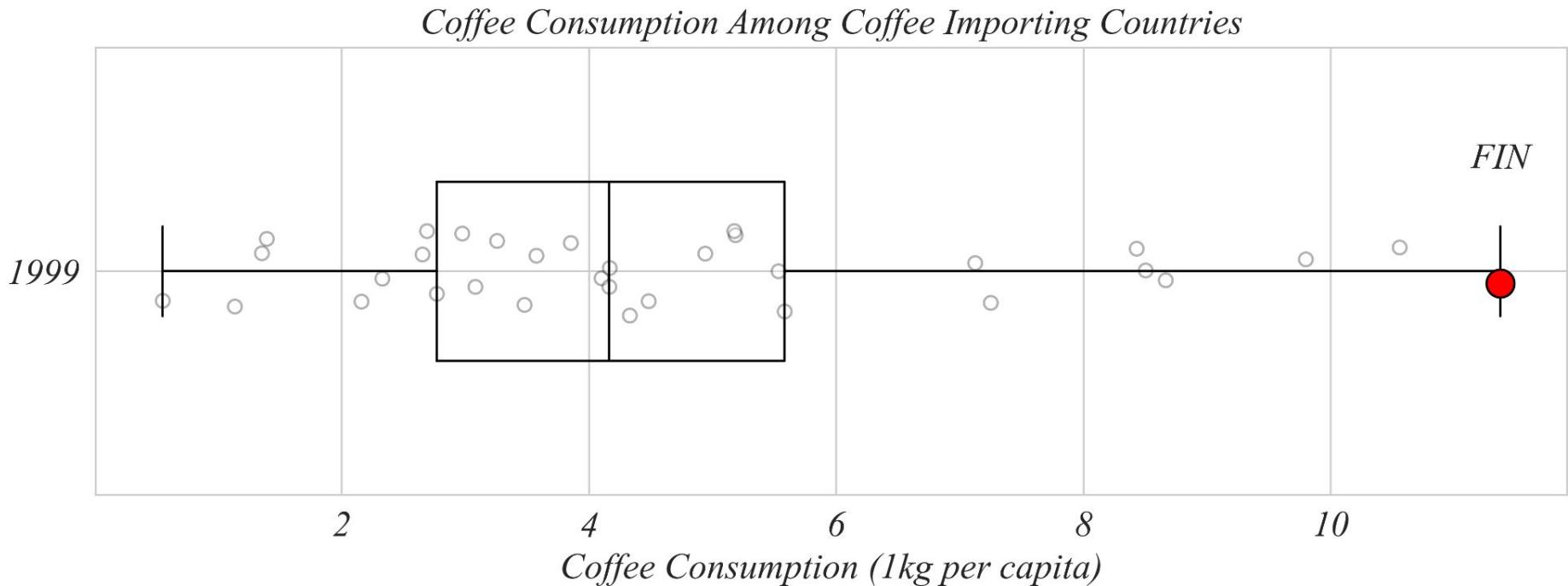
Q. Which country consumes the most coffee per capita?

*Coffee Consumption Among Coffee Importing Countries*



# Exploring Relationships

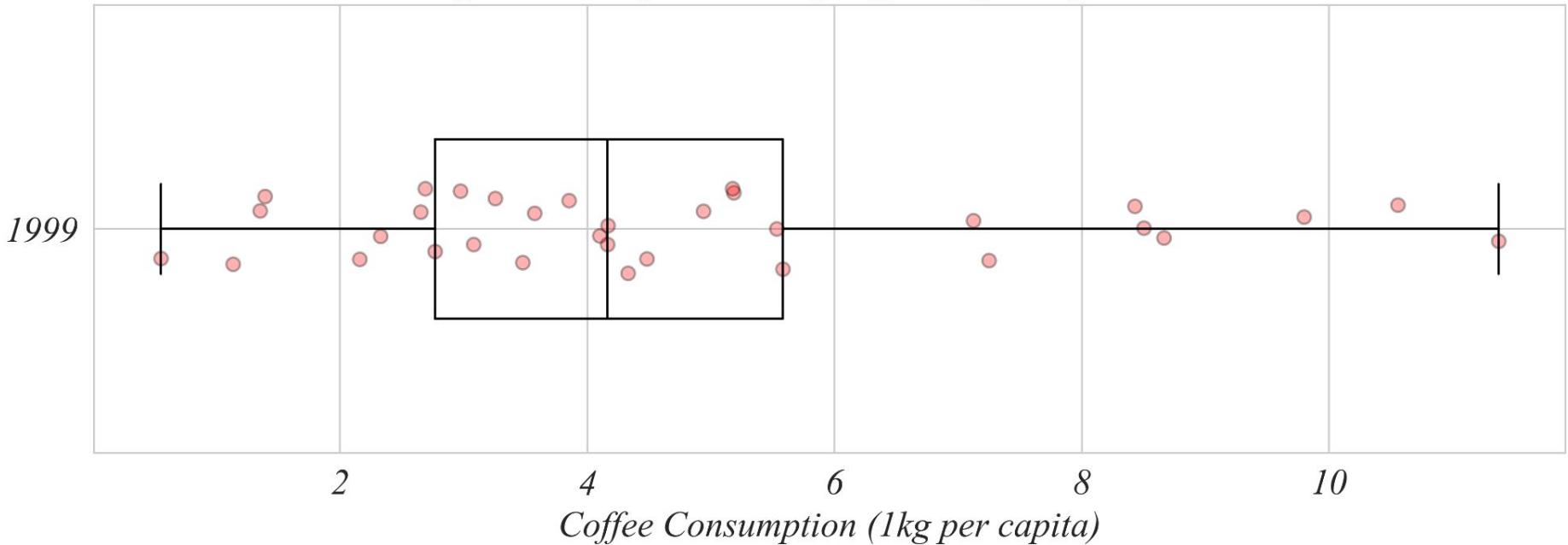
Q. Which country consumes the most coffee per capita?



# Exploring Relationships

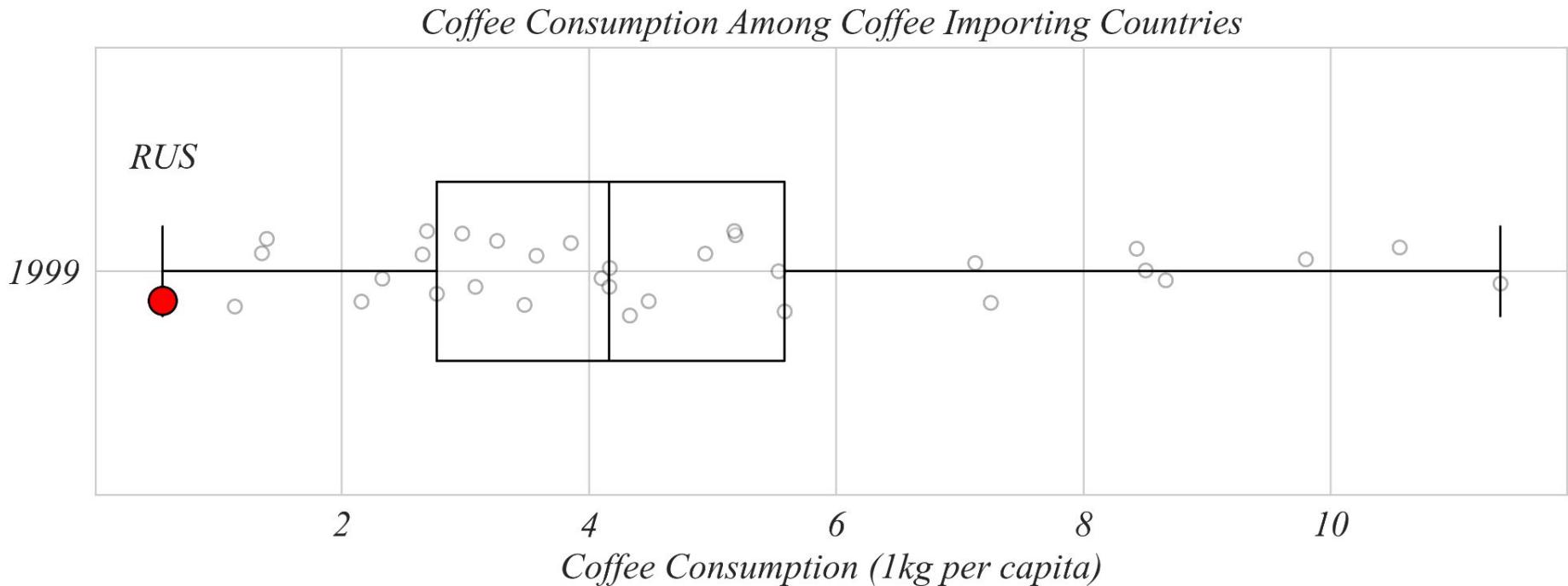
Q. How about the least?

*Coffee Consumption Among Coffee Importing Countries*



# Exploring Relationships

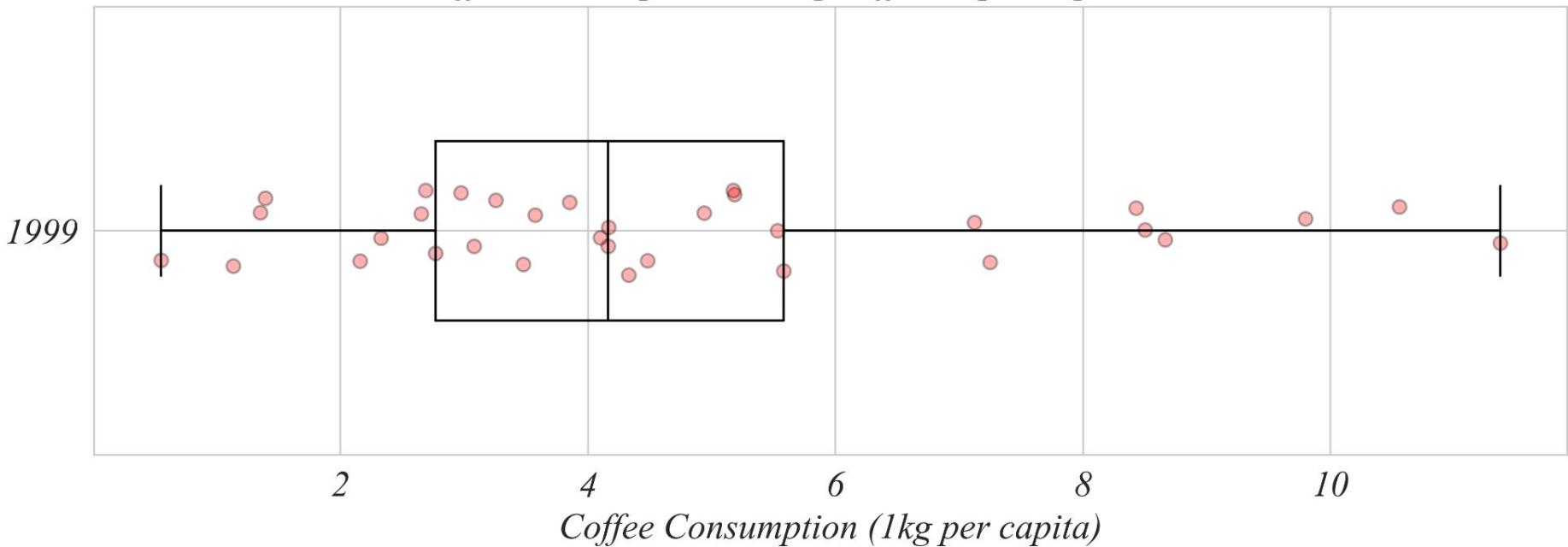
Q. How about the least?



# Exploring Relationships

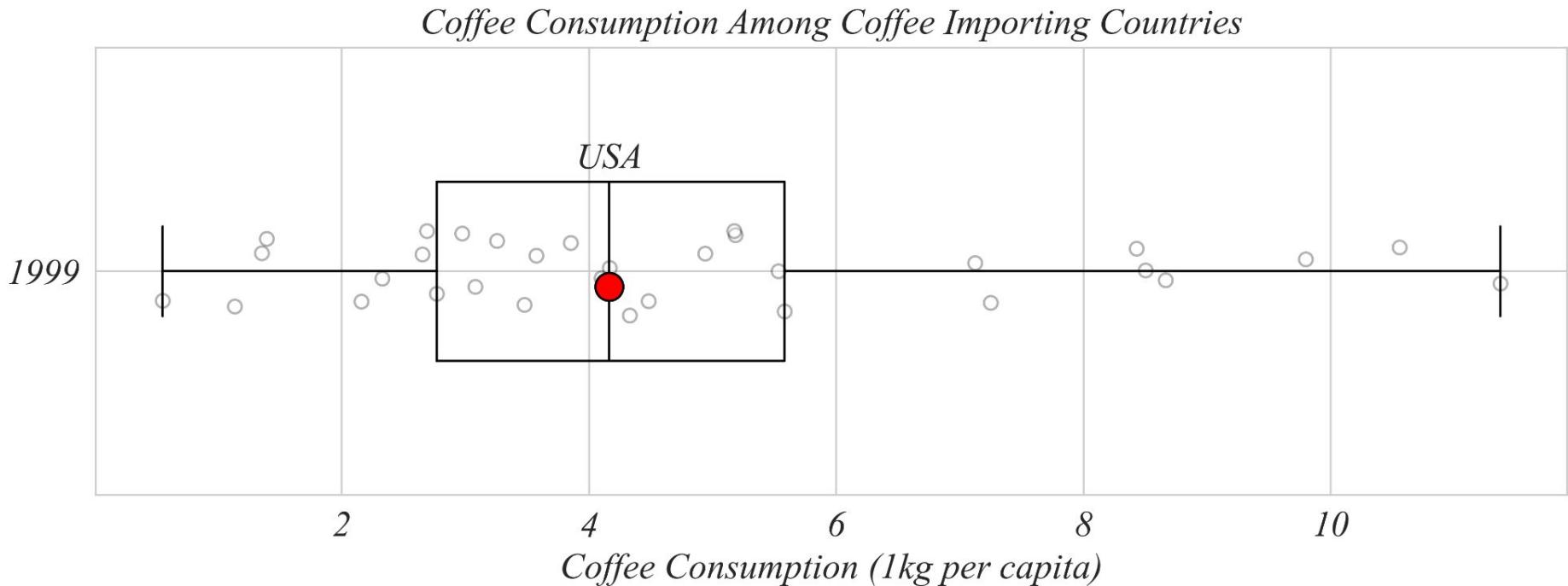
Q. Which country consumes the median?

*Coffee Consumption Among Coffee Importing Countries*



# Exploring Relationships

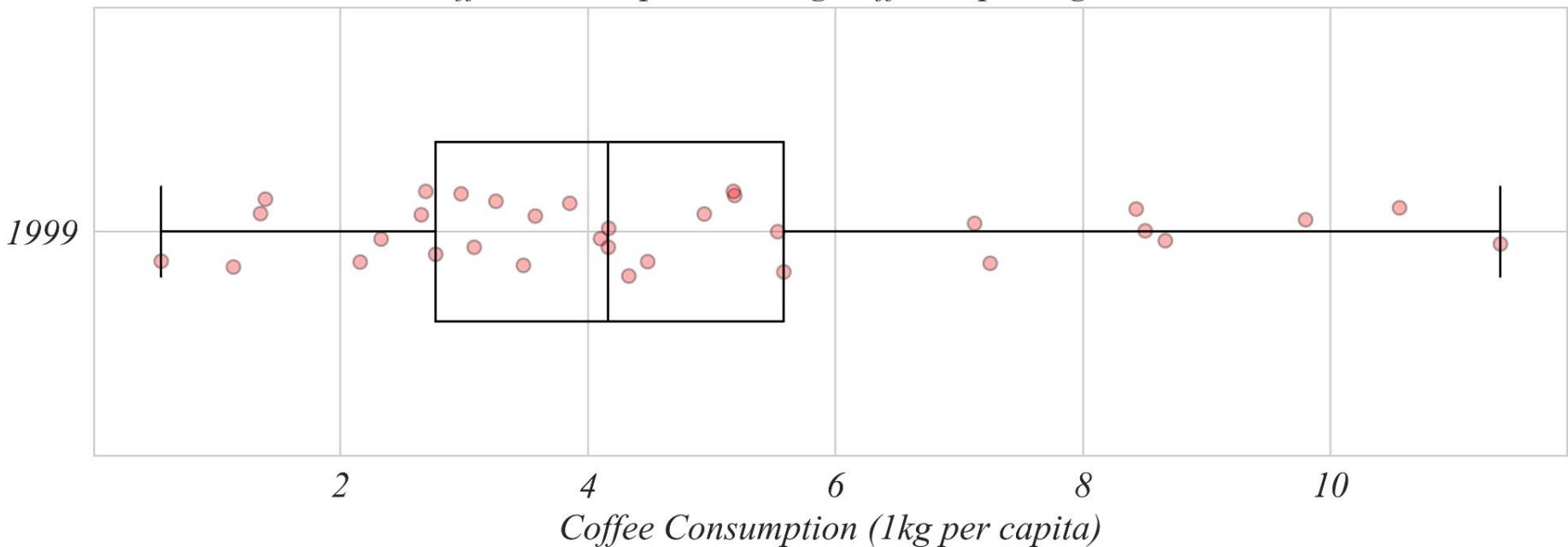
Q. Which country consumes the median?



# Exploring Relationships

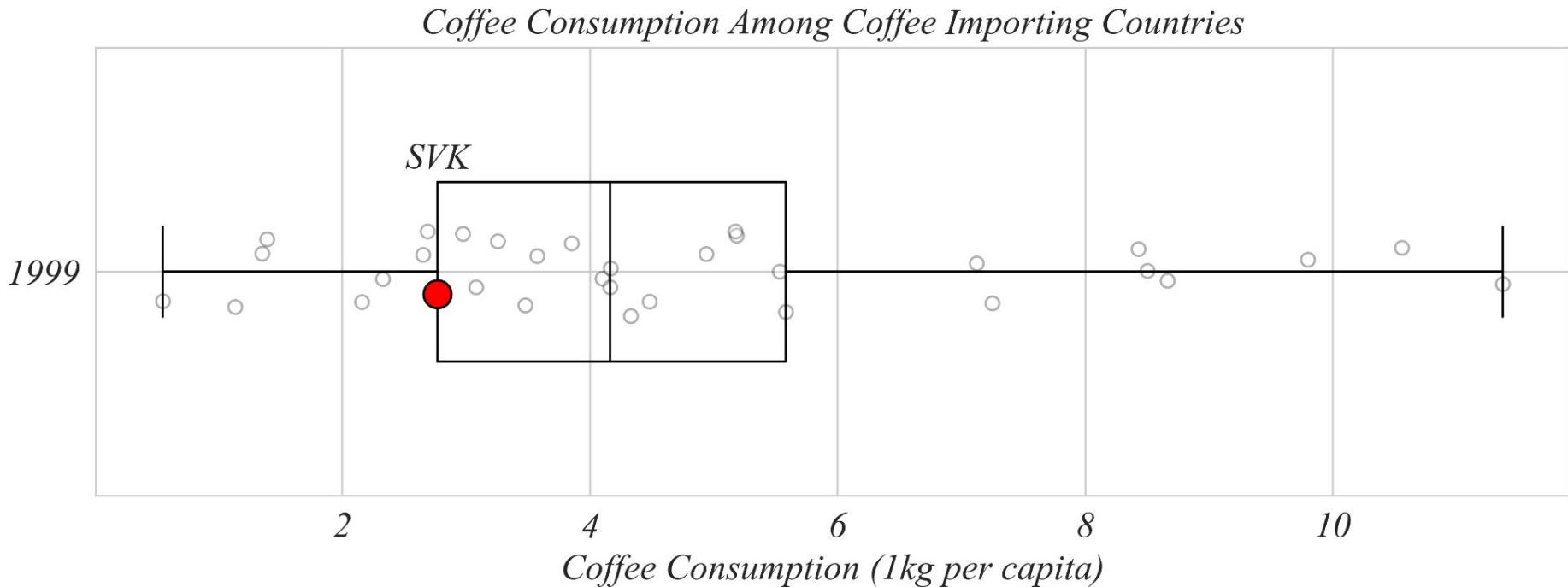
Q. Which country consumes more coffee than exactly 25% of countries?

*Coffee Consumption Among Coffee Importing Countries*



# Exploring Relationships

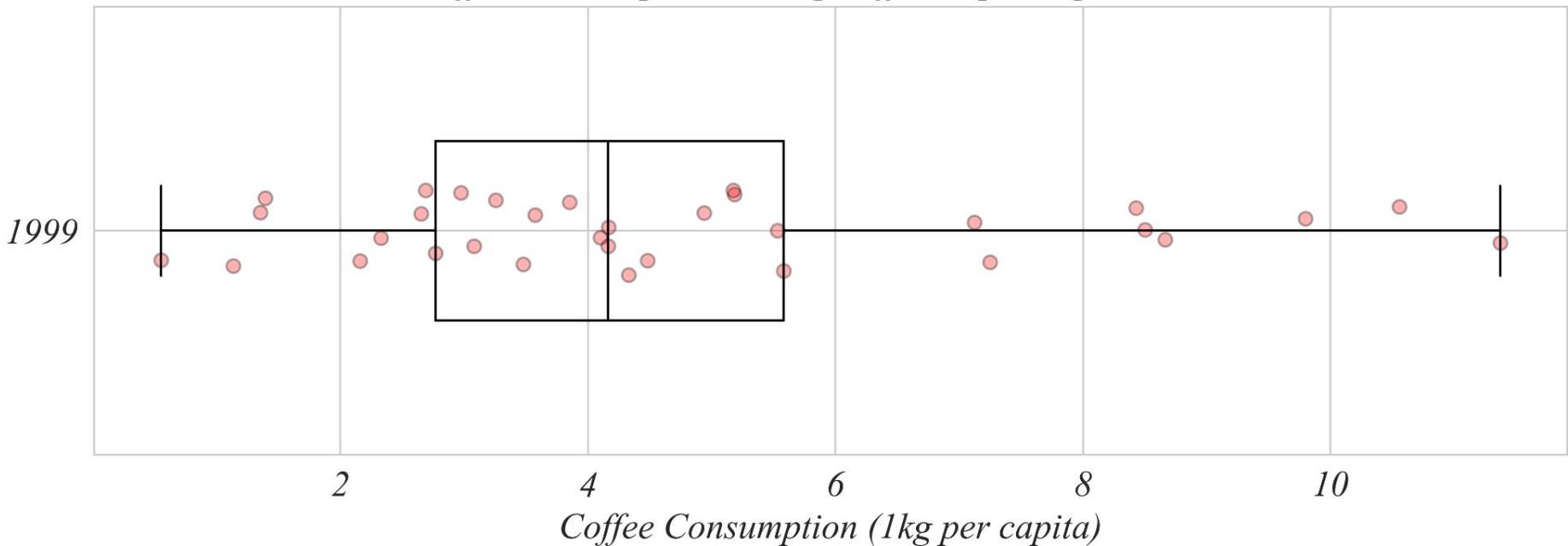
Q. Which country consumes more coffee than exactly 25% of countries?



# Exploring Relationships

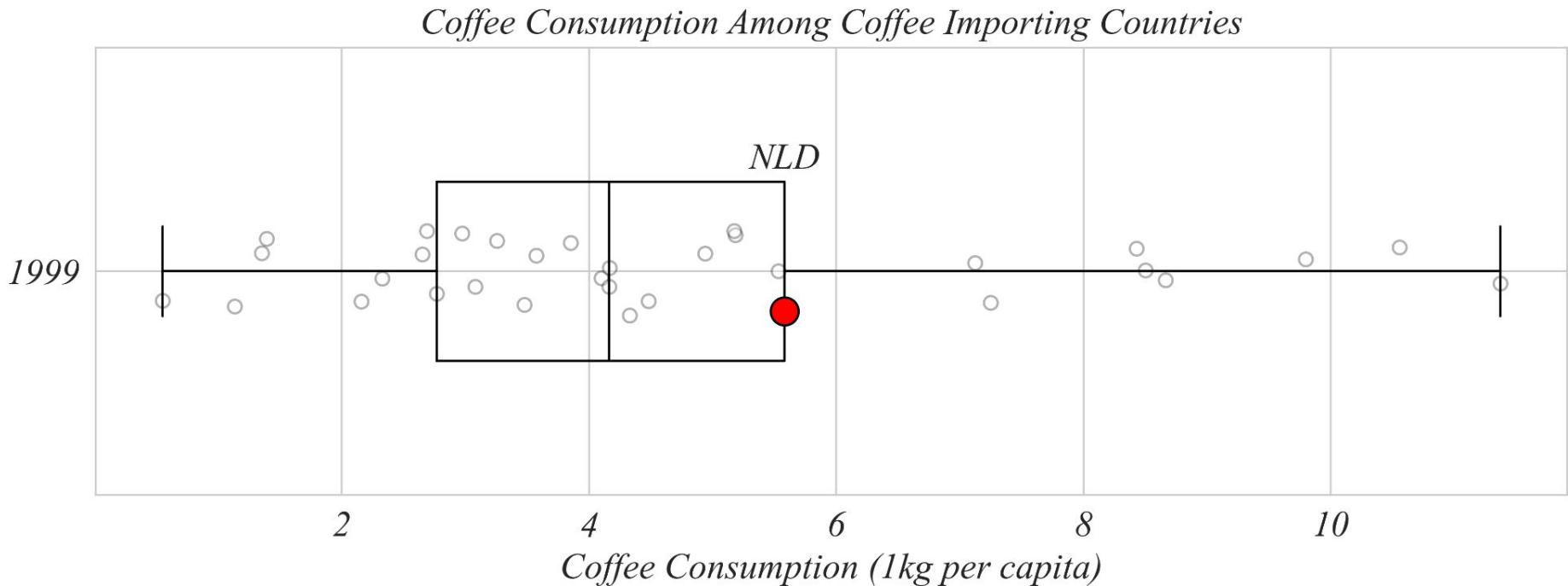
Q. Which country consumes more coffee than exactly 75% of countries?

*Coffee Consumption Among Coffee Importing Countries*



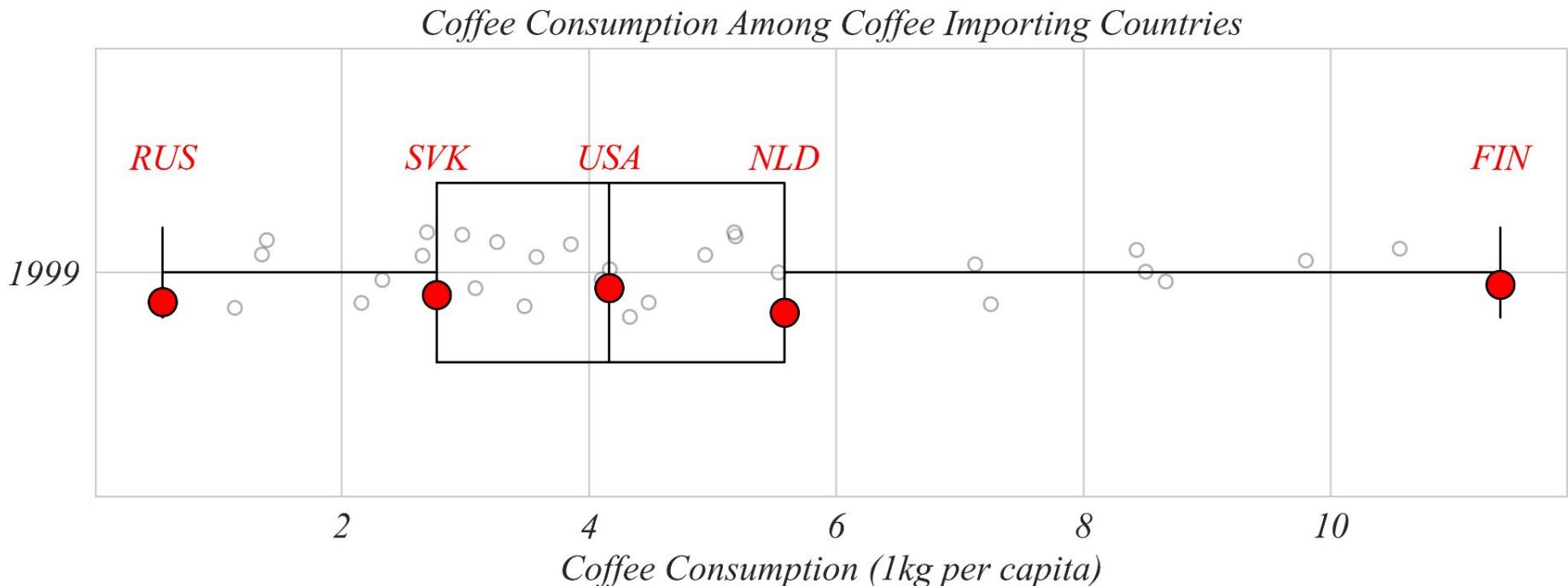
# Exploring Relationships

Q. Which country consumes more coffee than exactly 75% of countries?



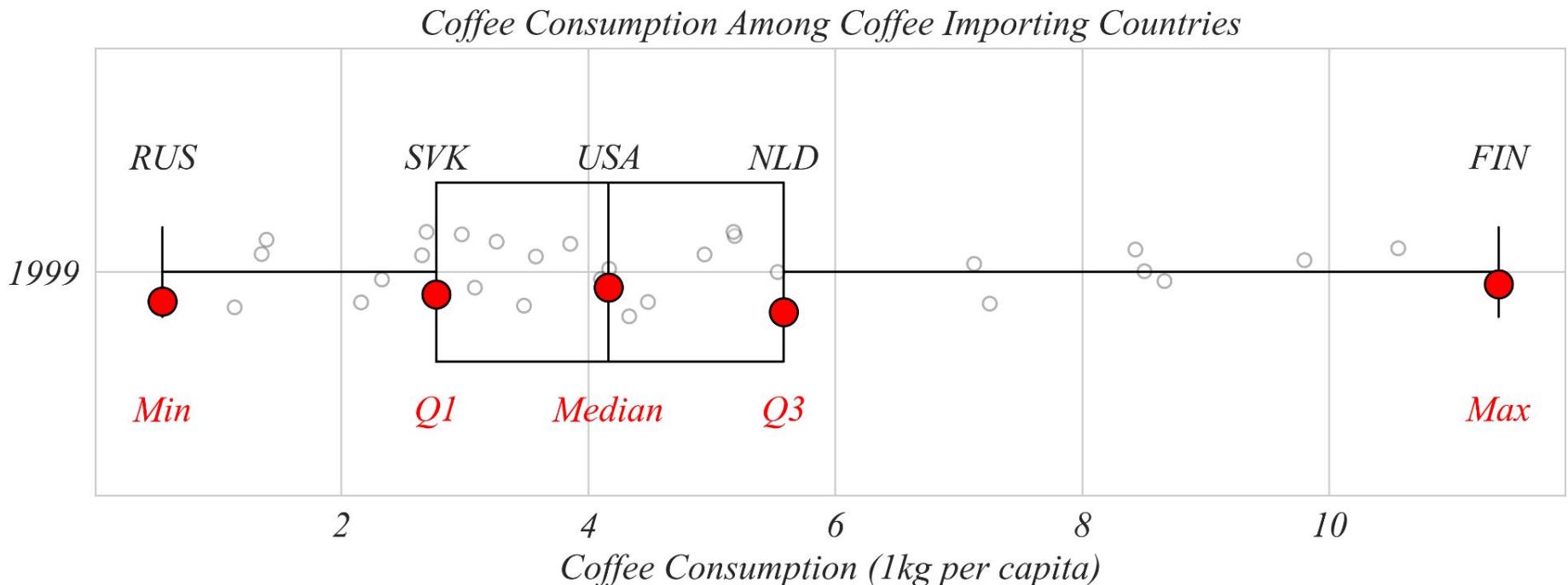
# Exploring Relationships

Q. Does the data confirm that the world is drinking more coffee?



# Exploring Relationships

Boxplots visualize the distribution of the data.



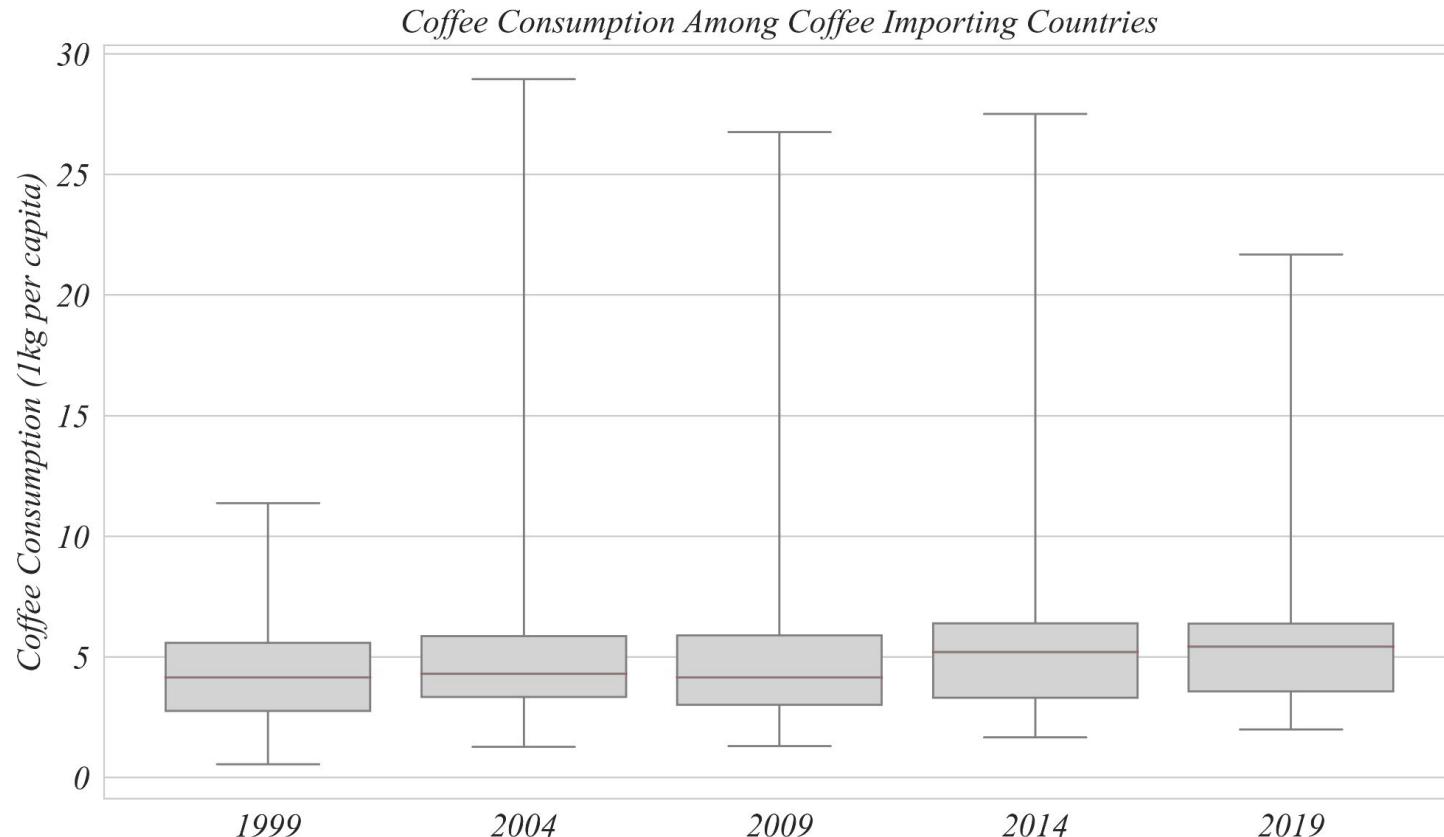
# Excel Exercise: Boxplot or Box and Whisker Plot

We're going to use a boxplot to visually examine the distribution of coffee consumption per capita among coffee importing countries.

- Data: Part\_1\_6\_Coffee\_Per\_Cap.csv

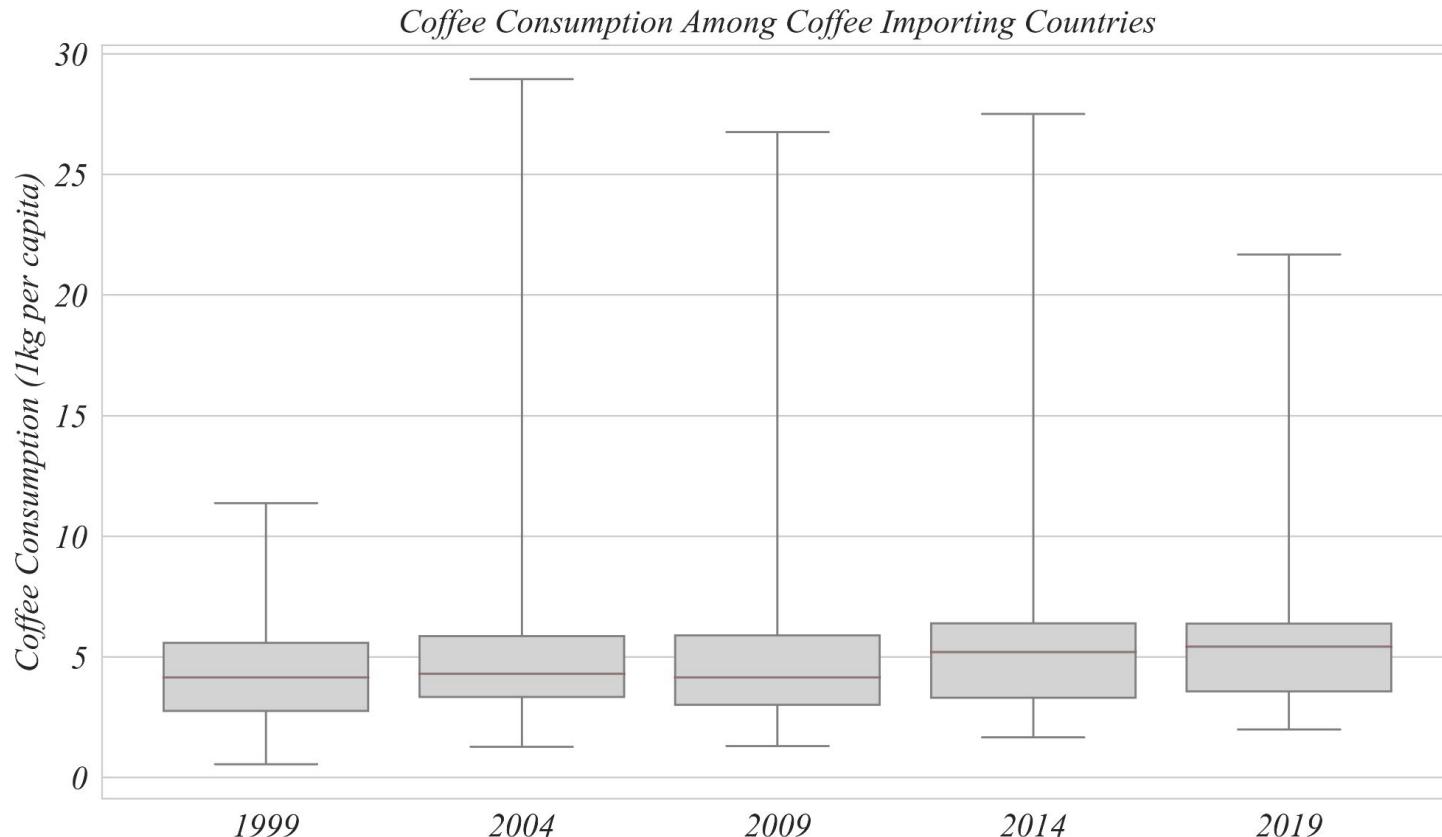
# Exploring Relationships

Q. Does the data confirm that the world is drinking more coffee?



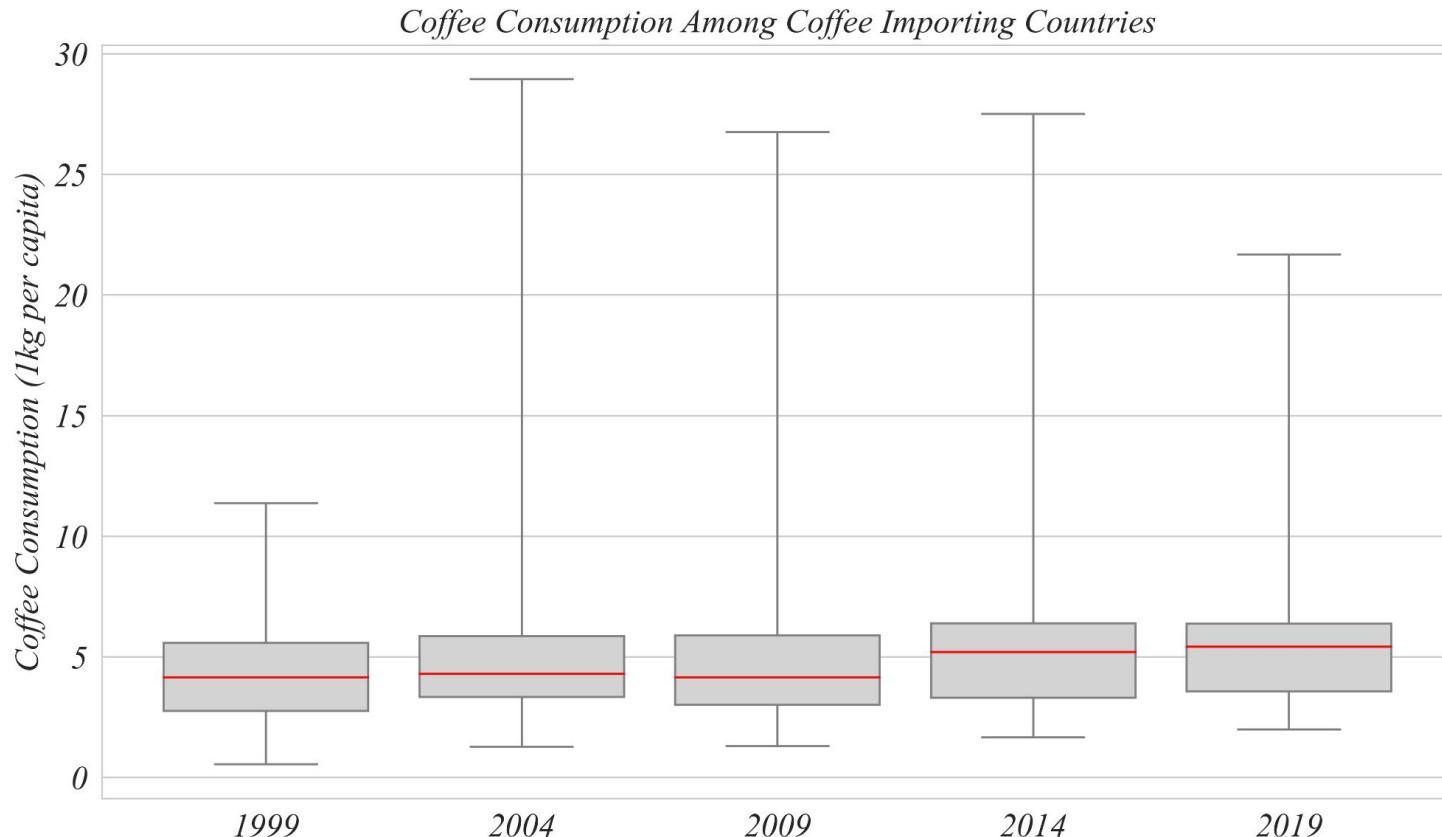
# Exploring Relationships

Q. Which years show at least half consuming less than 5 kg per capita?



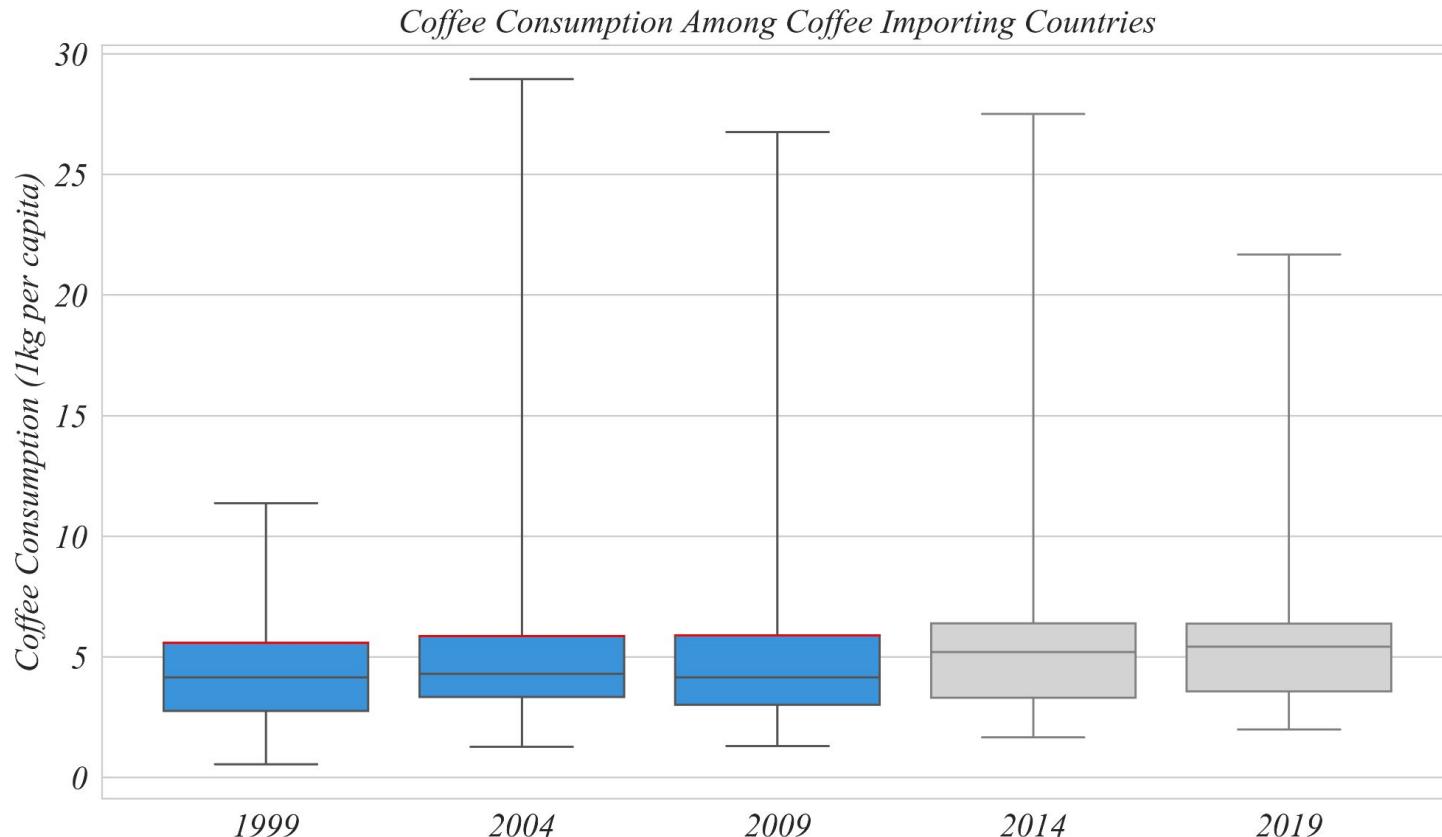
# Exploring Relationships

Q. Which years show at least half consuming less than 5 kg per capita?



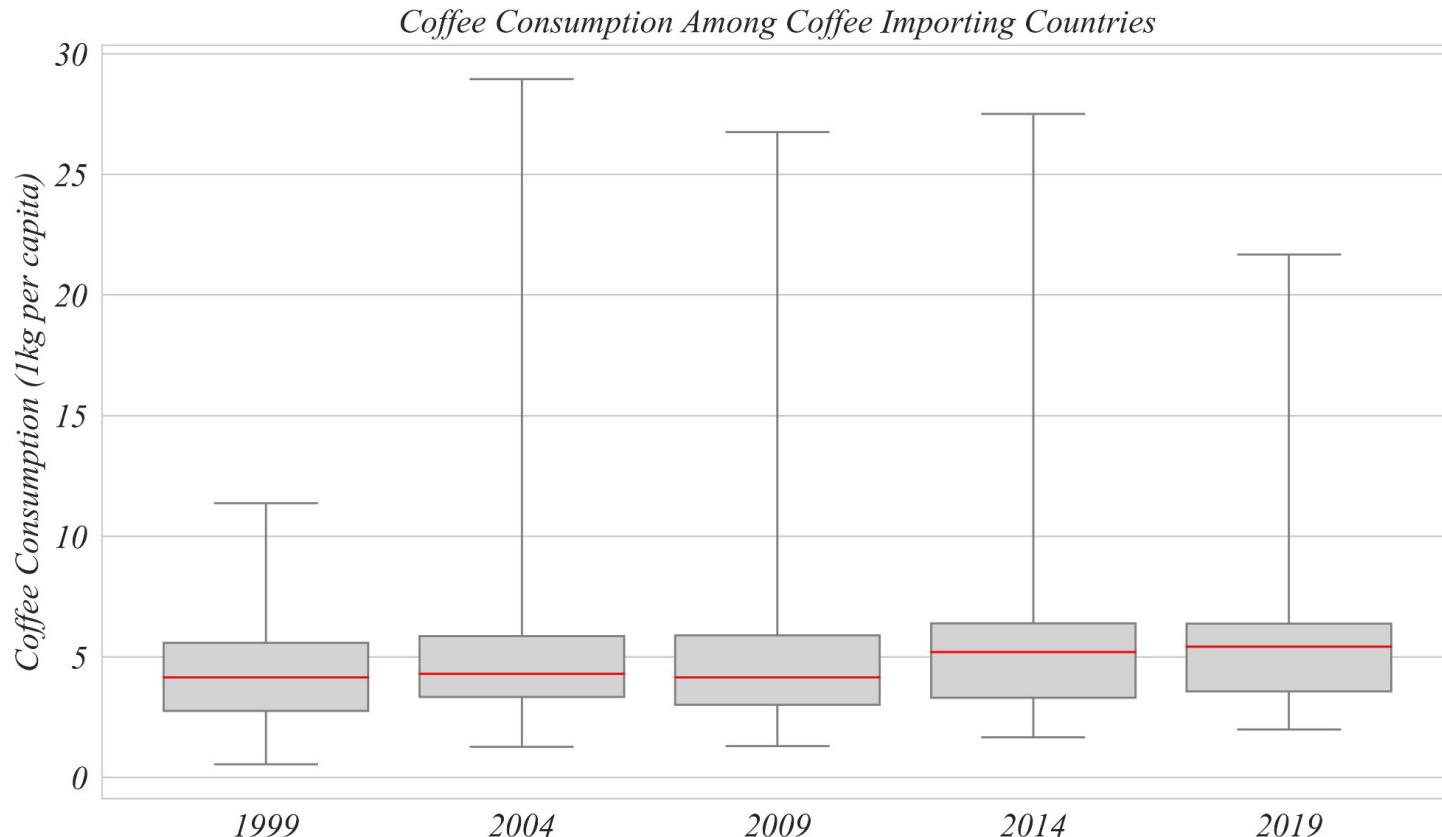
# Exploring Relationships

Q. Which years show at least half consuming less than 5 kg per capita?



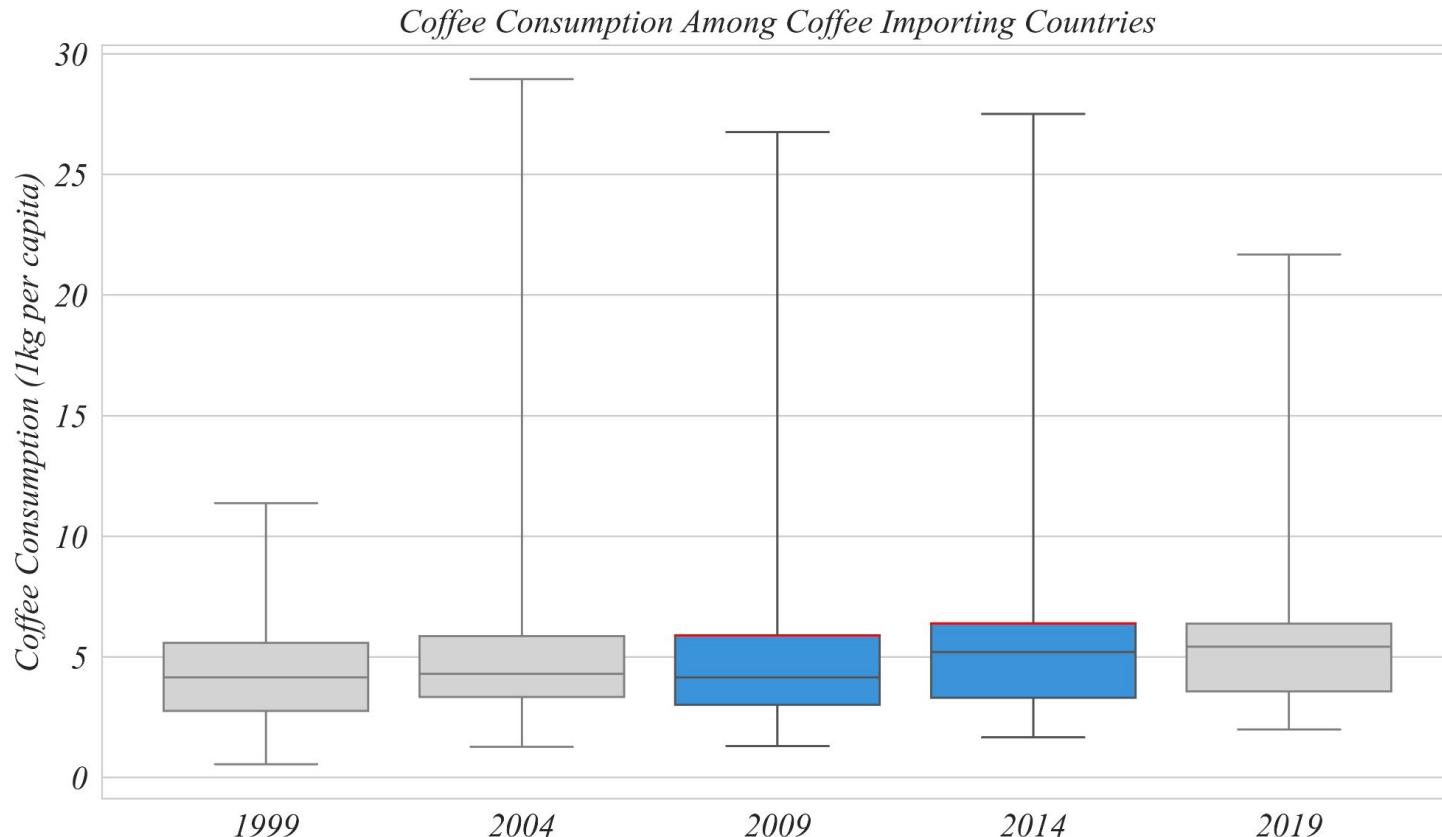
# Exploring Relationships

Q. Between which two years was there the largest jump in the median?



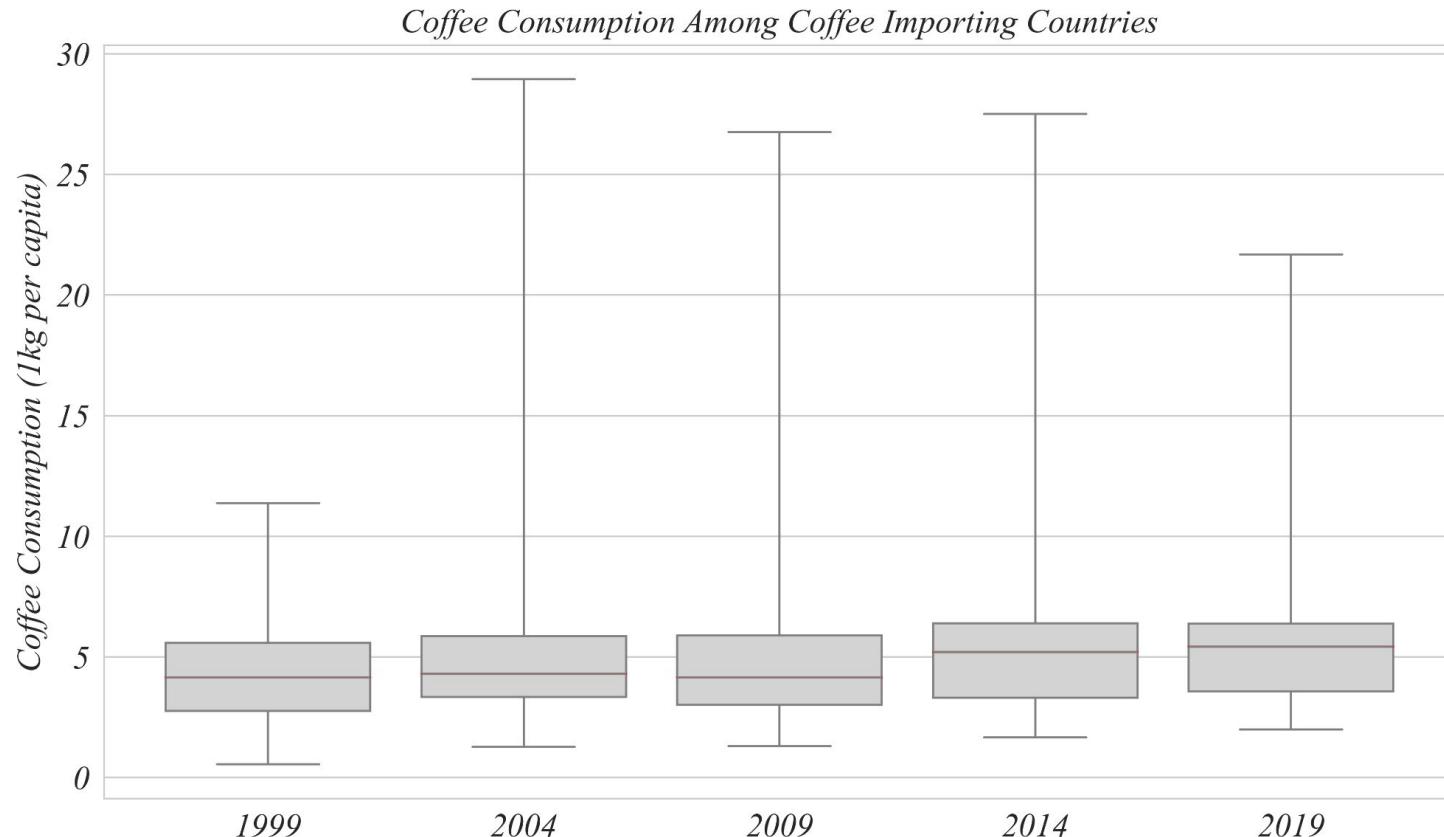
# Exploring Relationships

Q. Between which two years was there the largest jump in the median?



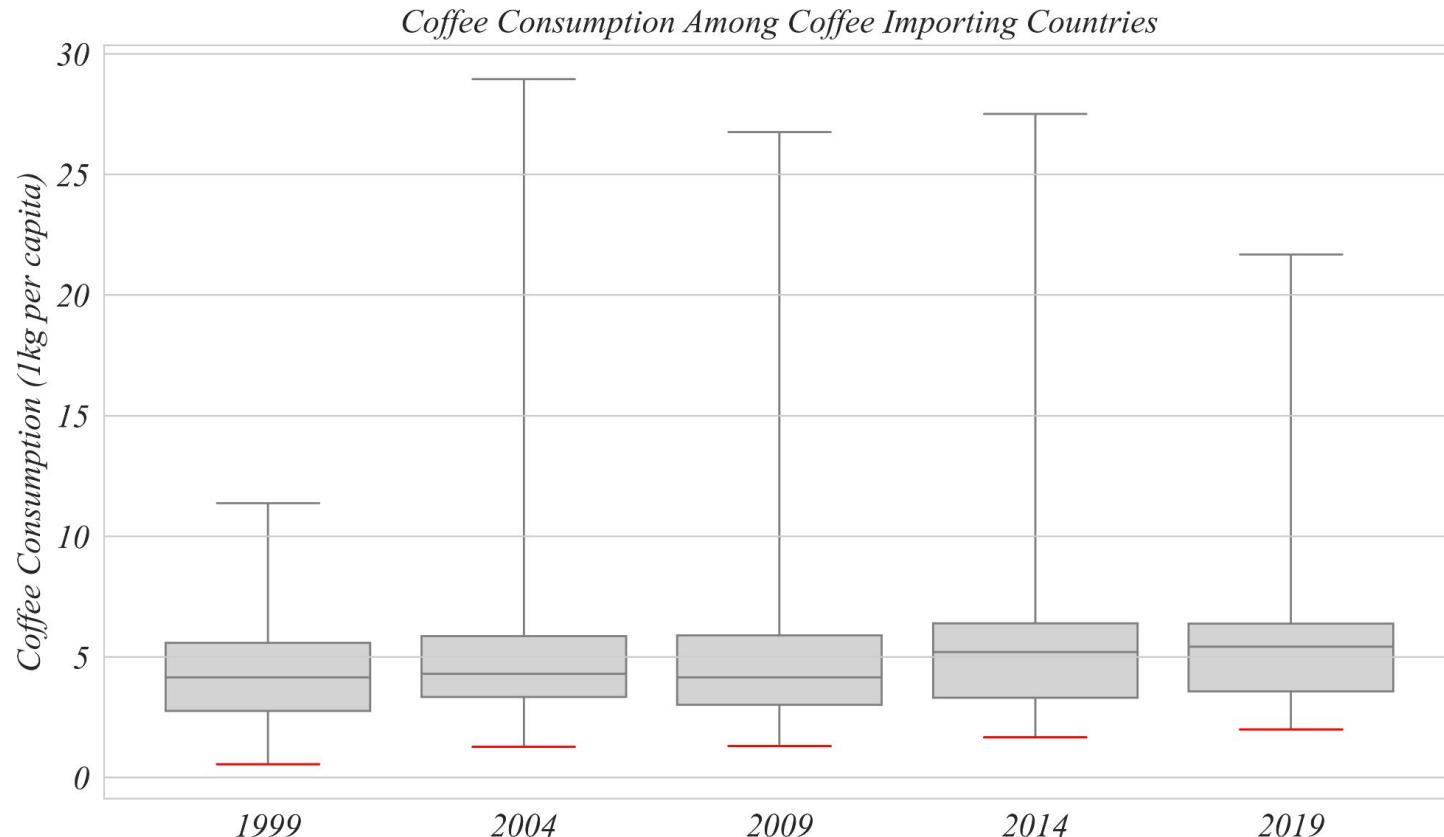
# Exploring Relationships

Q. Is the country with the lowest coffee consumption consuming more today?



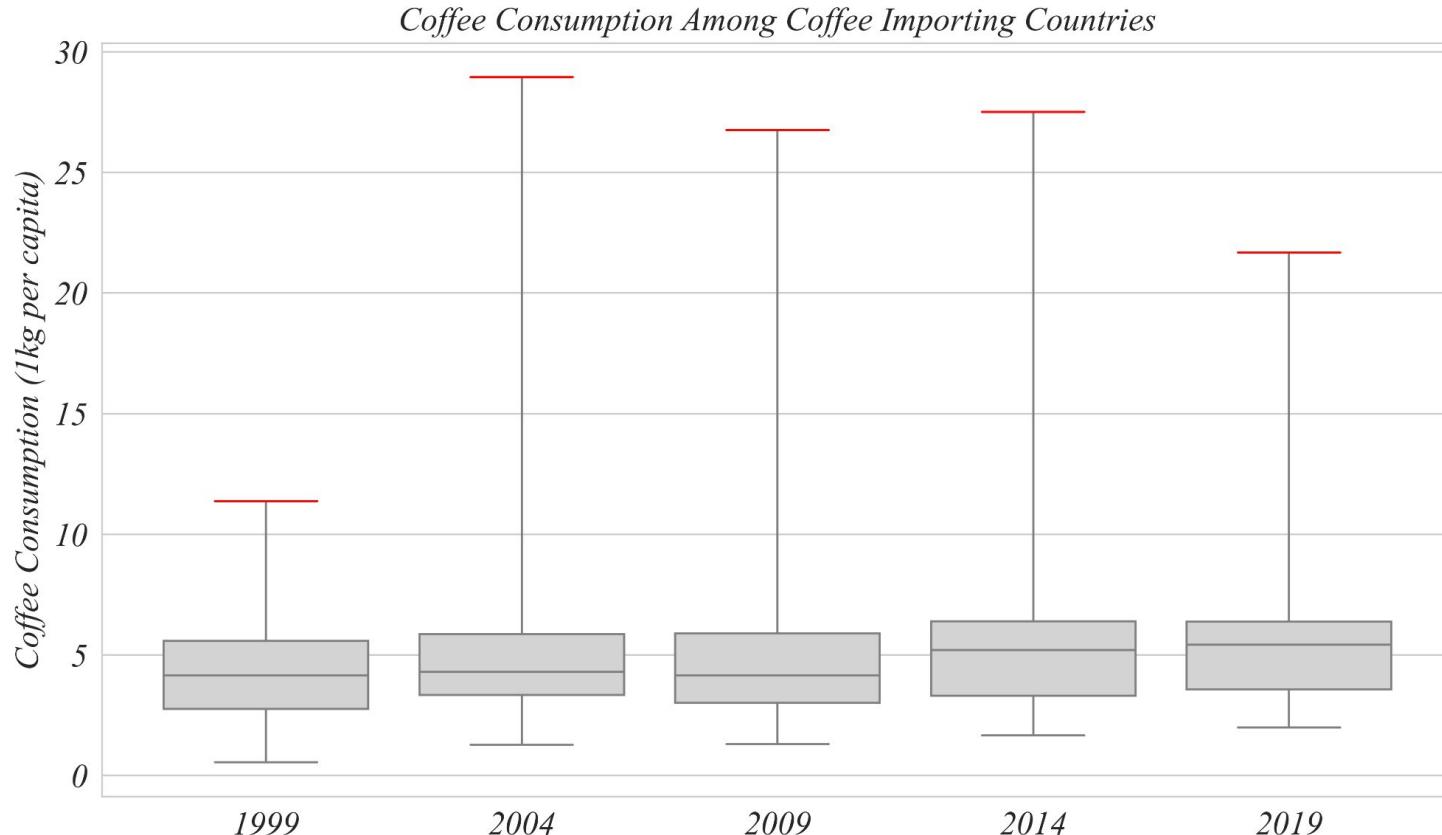
# Exploring Relationships

Q. Is the country with the lowest coffee consumption consuming more today?



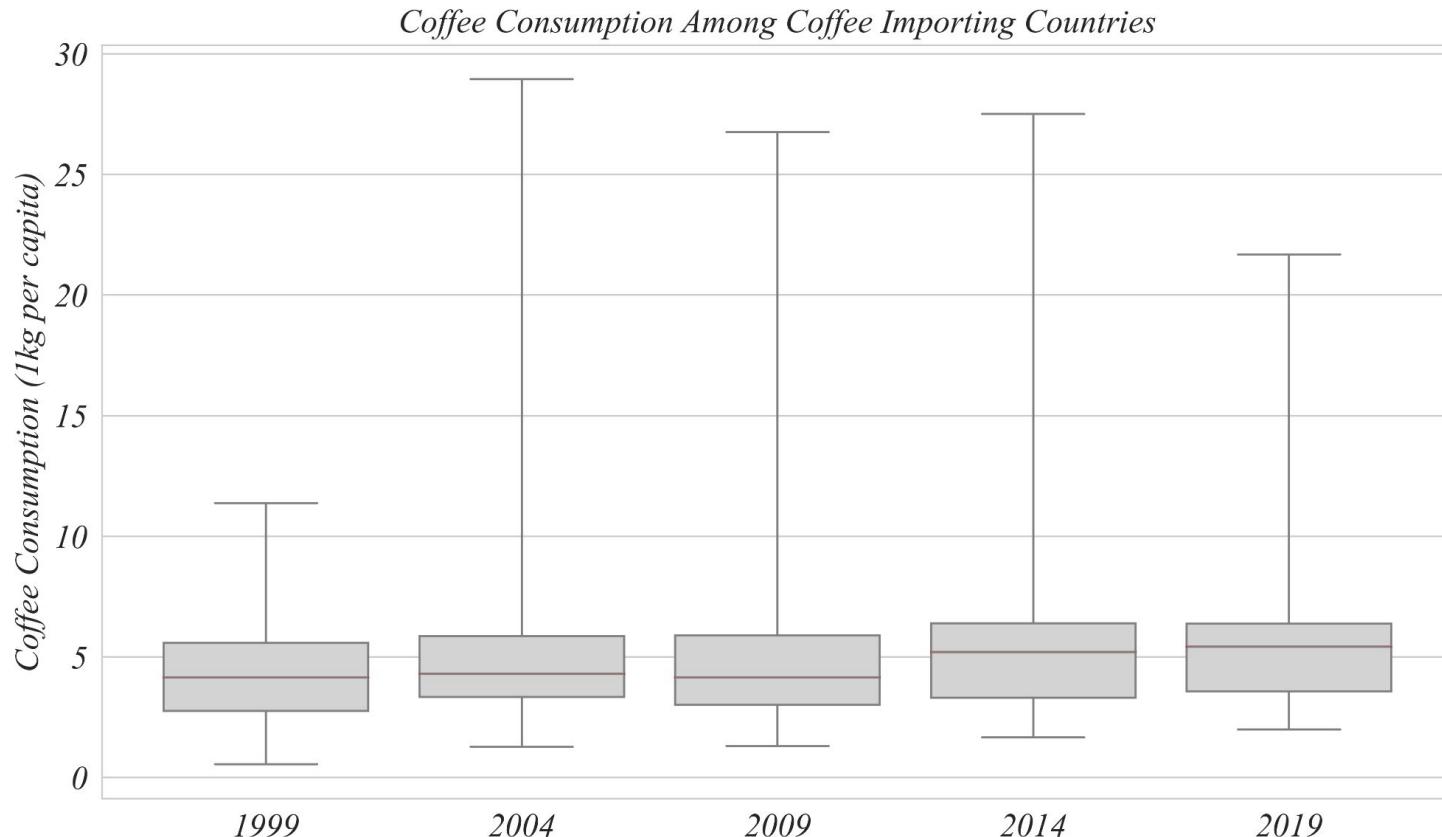
# Exploring Relationships

Q. What patterns do we observe about the maximums?



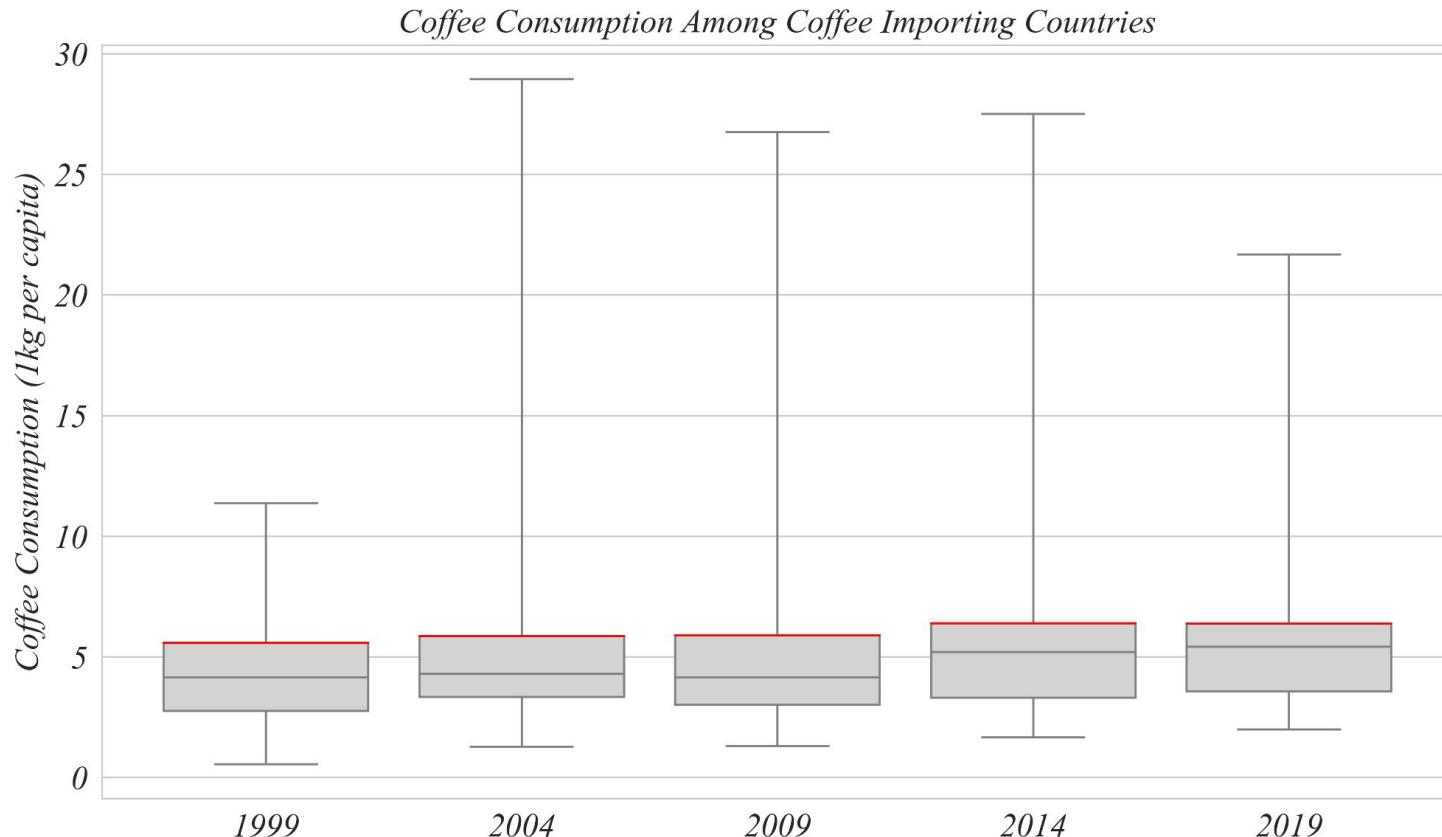
# Exploring Relationships

Q. Which years did more than 25% of countries consume less than 5 kg?



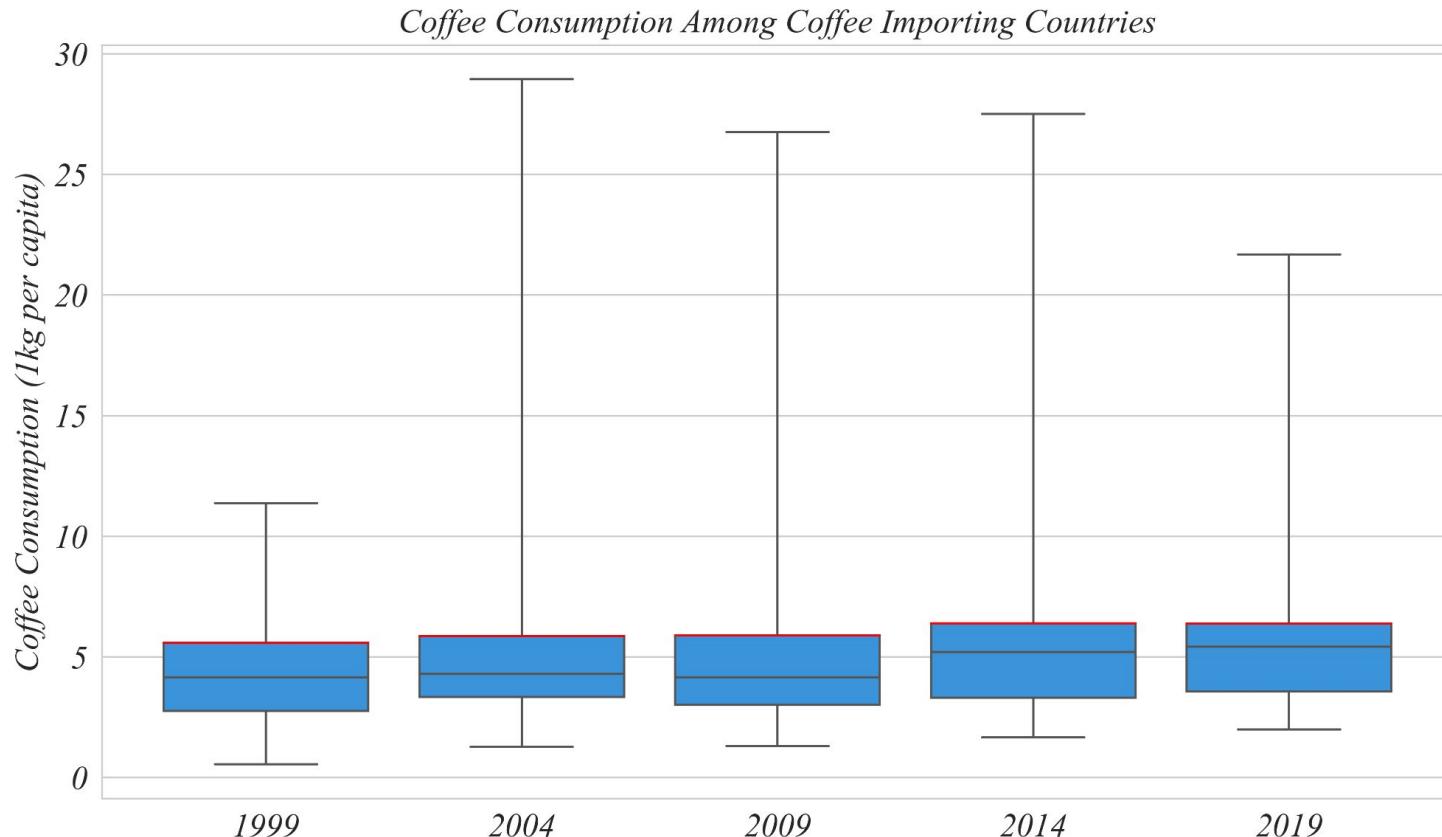
# Exploring Relationships

Q. Which years did more than 25% of countries consume less than 5 kg?



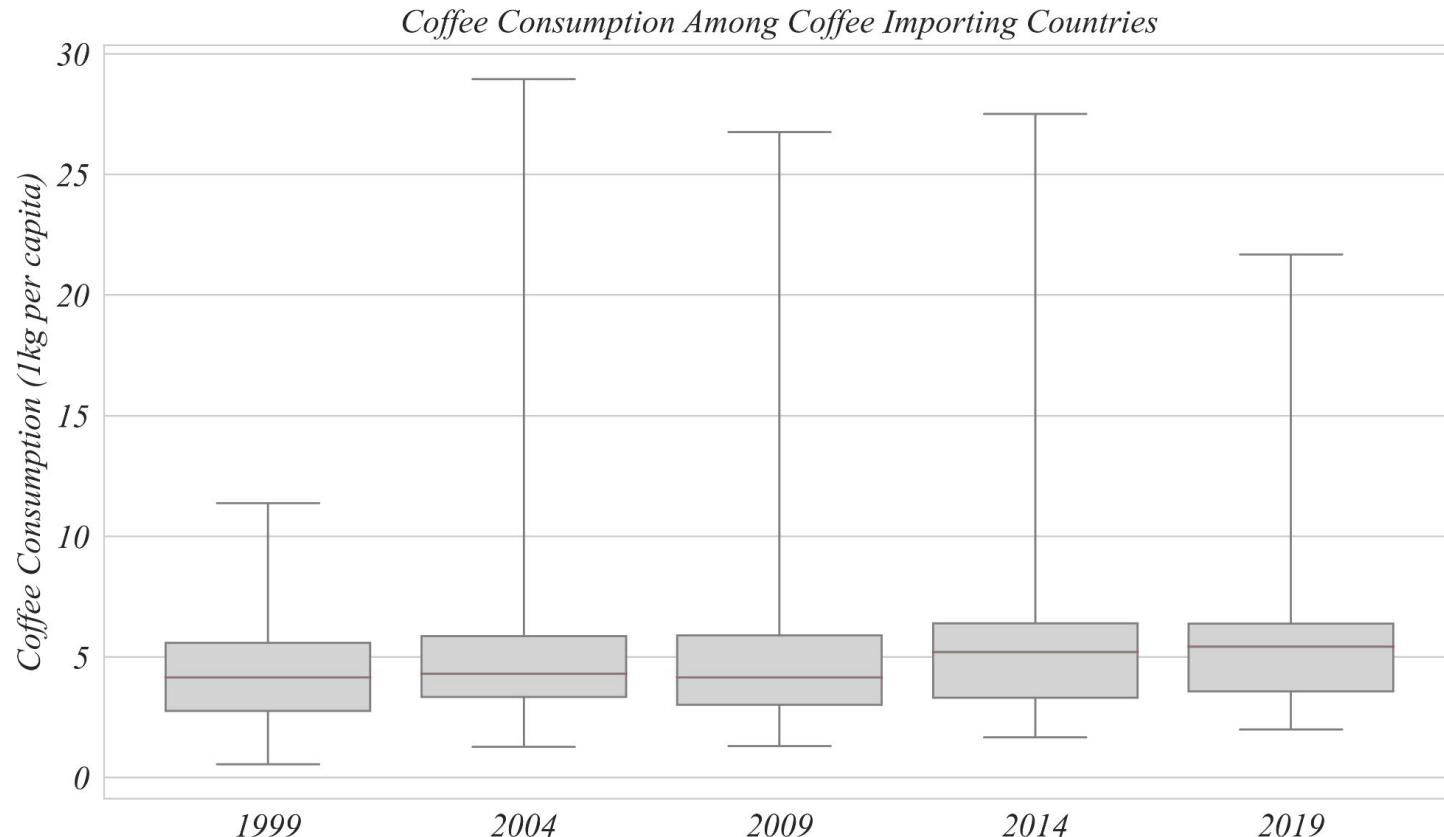
# Exploring Relationships

Q. Which years did more than 25% of countries consume less than 5 kg?



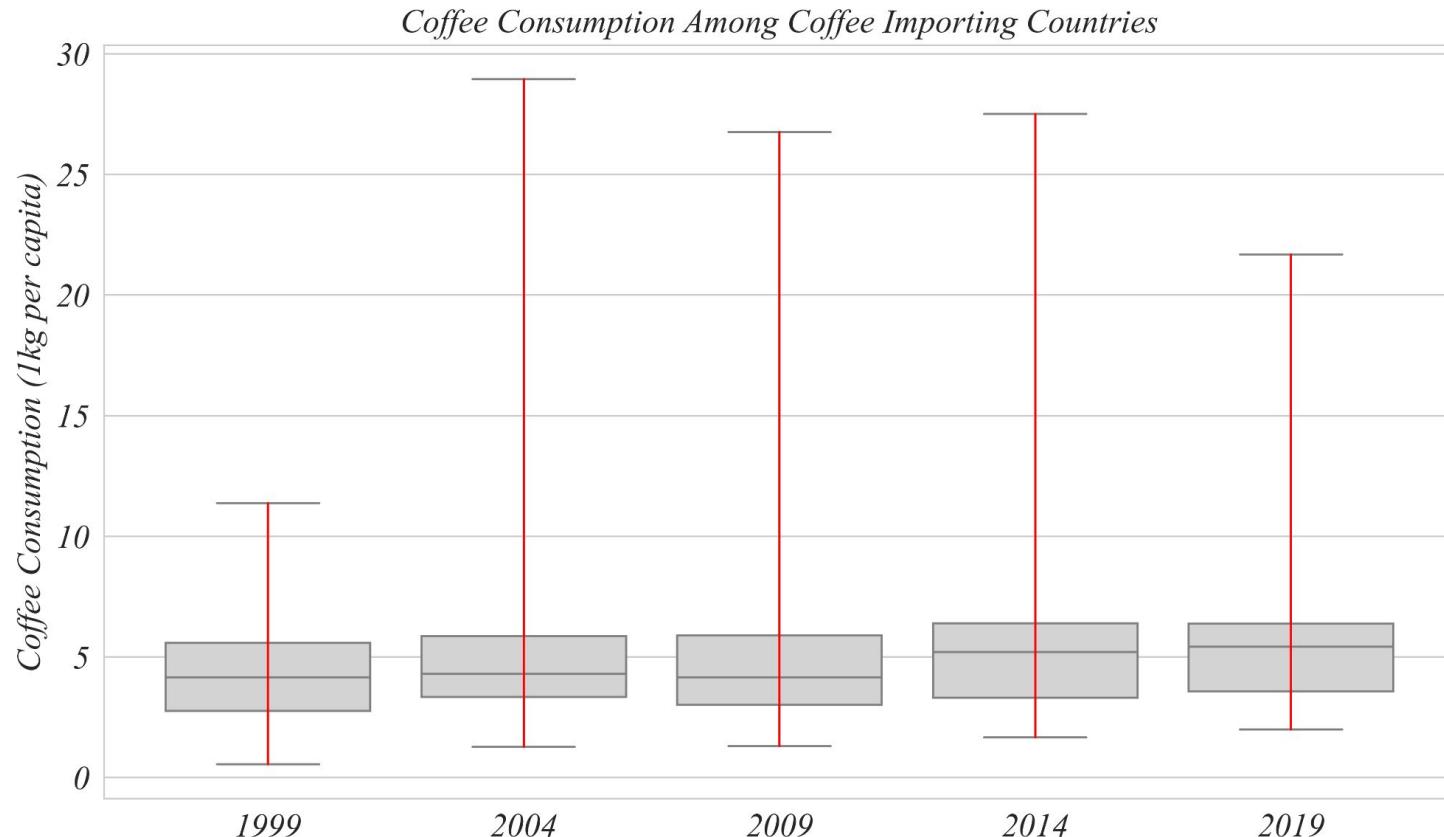
# Exploring Relationships

Q. Which year saw the greatest difference in consumption between any two countries?



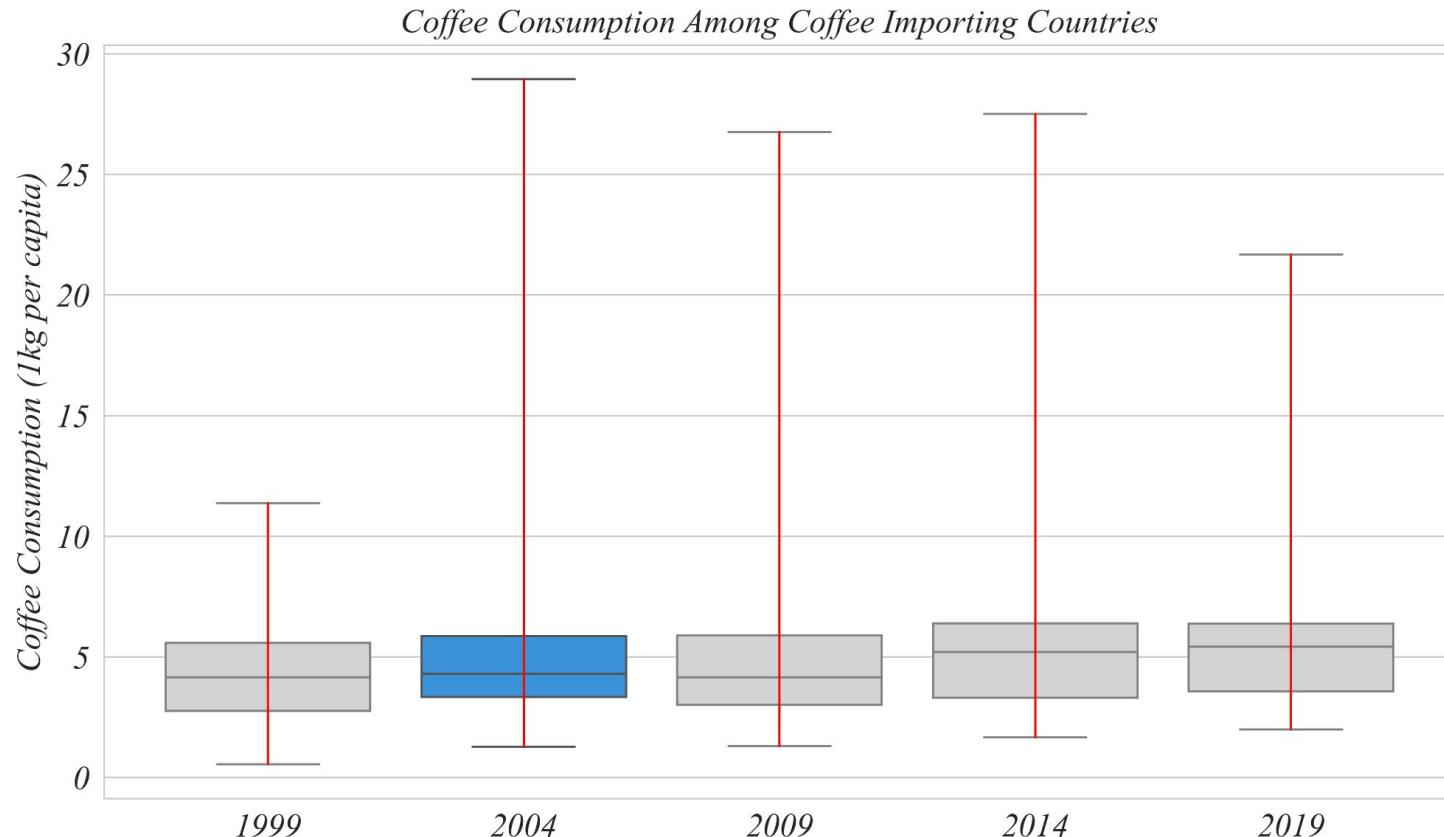
# Exploring Relationships

Q. Which year saw the greatest difference in consumption between any two countries?



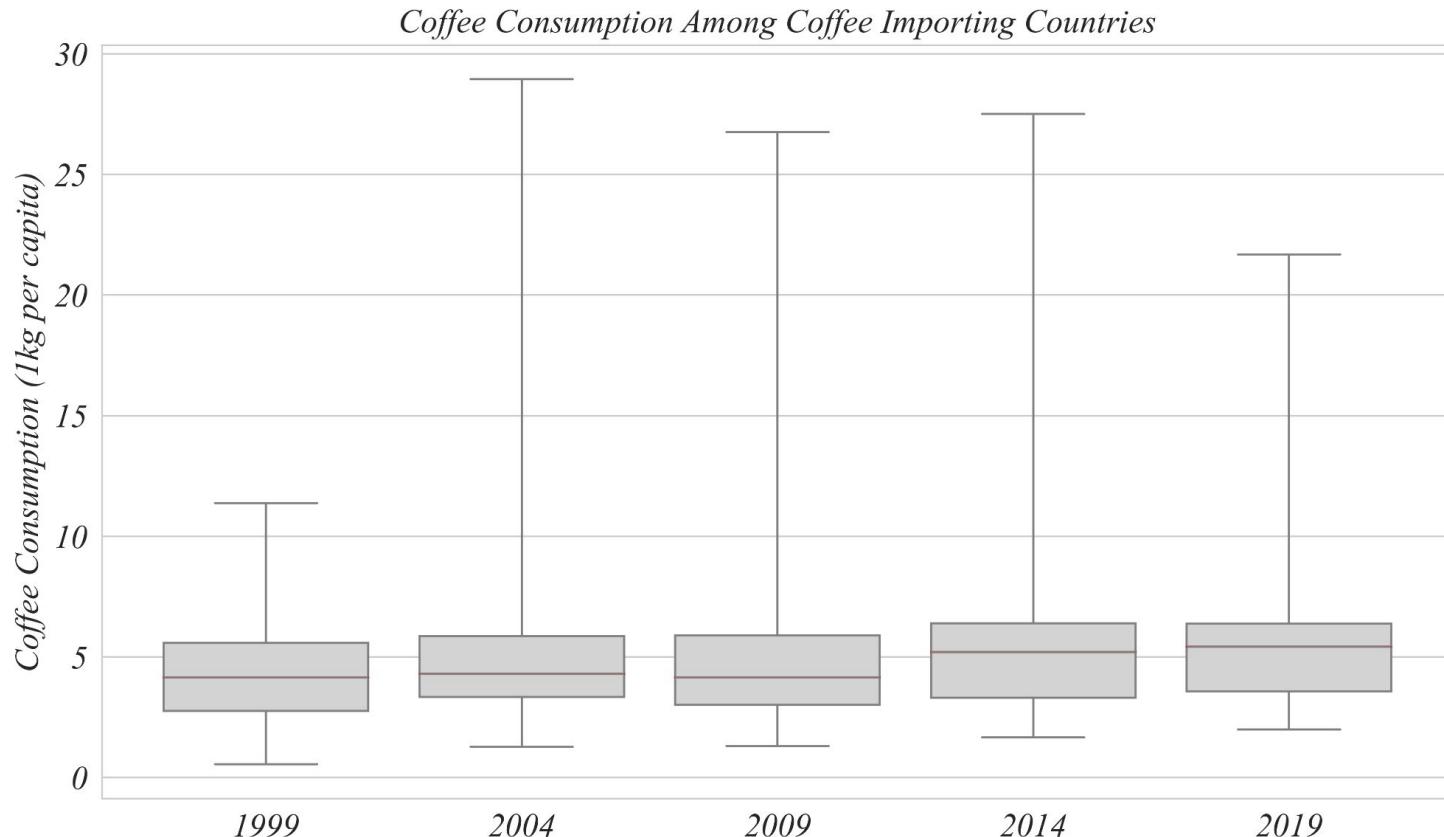
# Exploring Relationships

Q. Which year saw the greatest difference in consumption between any two countries?



# Exploring Relationships

Q. In which year did all countries increase their coffee consumption?



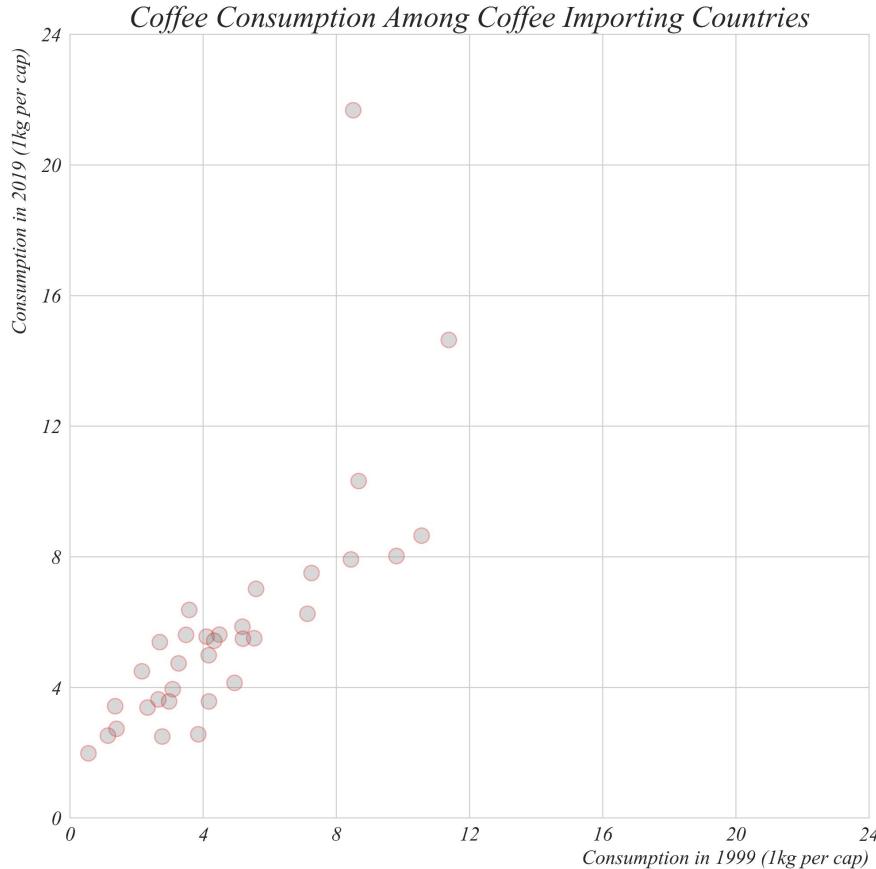
# Excel Exercise: Boxplot or Box and Whisker Plot

We're going to use a set of boxplots to visually compare across years the distributions of coffee consumption per capita among coffee importing countries.

- Data: Part\_1\_6\_Coffee\_Per\_Cap.csv

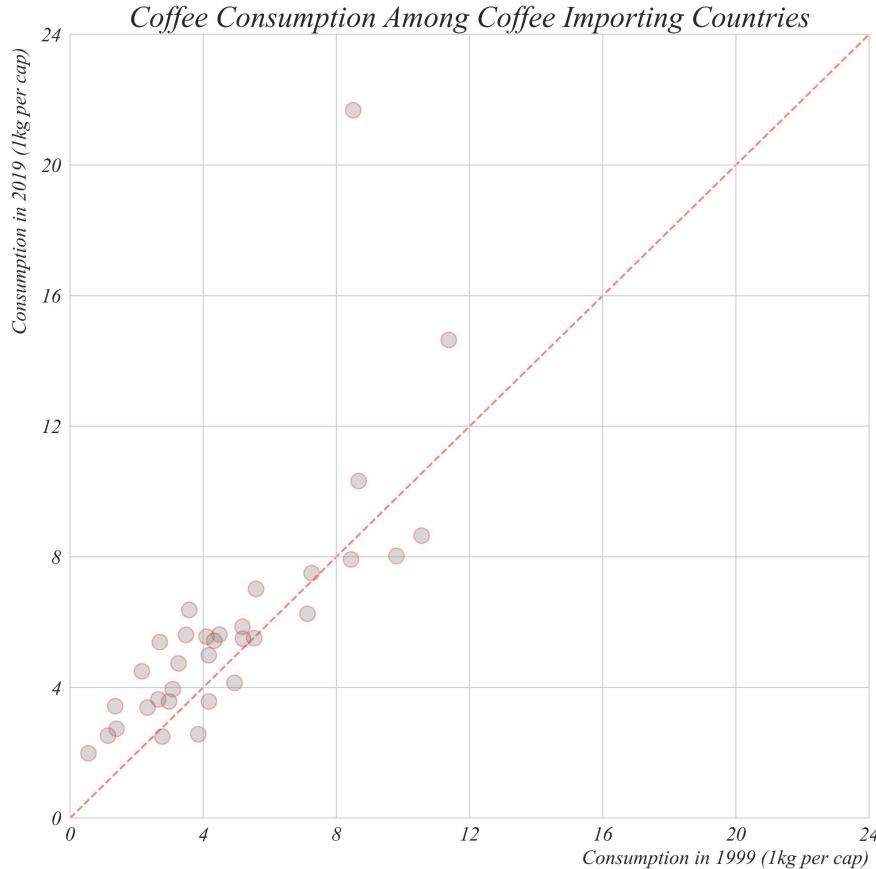
# Exploring Relationships

Q. Did all countries increase their coffee consumption?



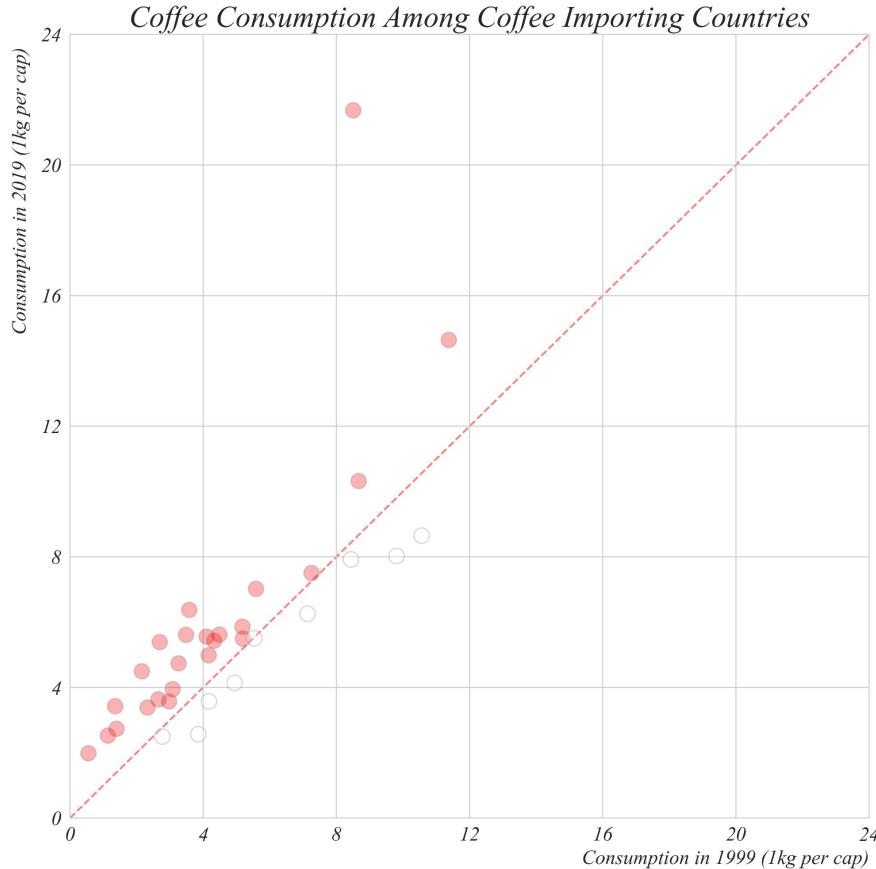
# Exploring Relationships

Q. Did all countries increase their coffee consumption?



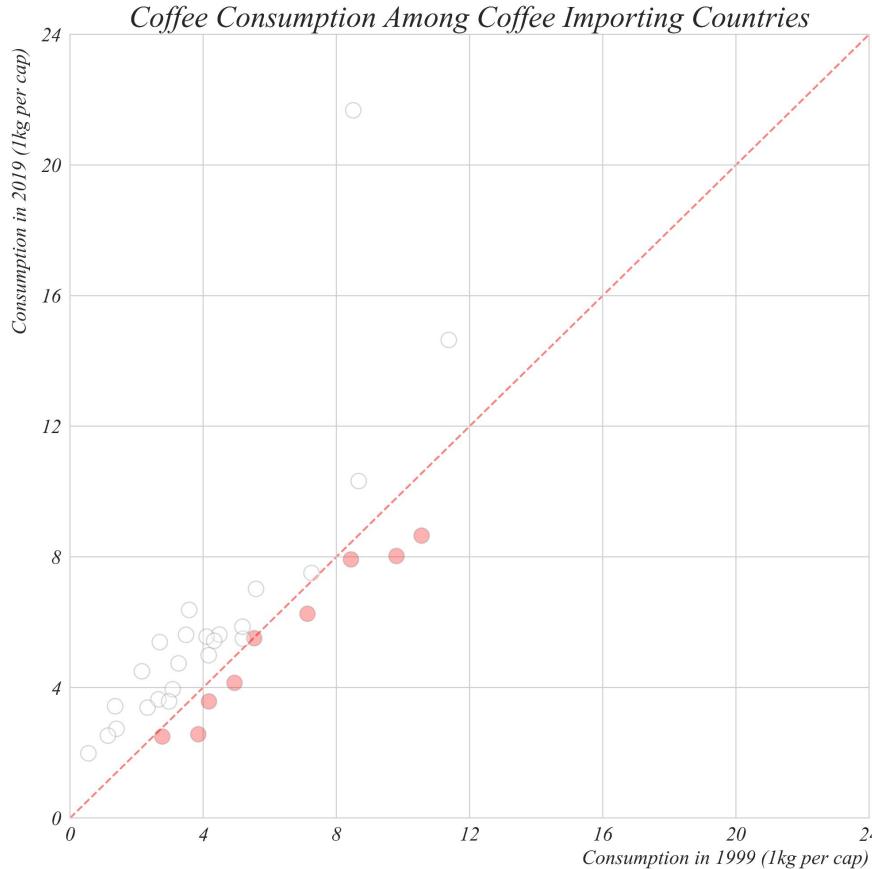
# Exploring Relationships

Q. Which countries increase their coffee consumption?



# Exploring Relationships

Q. Which countries decreased their coffee consumption?



# Exploring Relationships

Q. Does the data confirm that the world is drinking more coffee?

