

Quantitative and Formal Methods in IR

Assignment 1

This assignment is due at the beginning of lecture (Thursday) the third week of Hilary Term (05/02/2009). You will hand me a printed copy in class and e-mail the assignment to me (david.armstrong@politics.ox.ac.uk) *before* the Thursday lecture when the assignment is due. The assignments will be graded on the usual scale where 60 is considered passing. For those from outside the Oxford system who have yet to be formally assessed here, scores ranging from 60 to 70 are considered perfectly acceptable. On rare cases, scores of above 70 will be awarded for exceptional work. Scores less than 60 are considered failing. You will be allowed to resubmit any failed assignments by the end of the term as per the course syllabus. Changes to the deadline for assignments will be entertained on a case-by-case basis in the presence of exceptional circumstances when I am contacted *before* the deadline. Assignments not turned in by the deadline will receive a score of zero.

Please type your responses to the questions. I leave the formatting of the responses up to you, but it would be to your benefit to make it easy for me to navigate through the document. This could include, clearly marking sections to which the answers apply and putting all copied Stata output in a fixed-width font (I recommend 8 or 9pt Courier New). I do not require you to distill the Stata output into tables, though if you want, you are certainly welcomed to do so.

The questions below will require you to use the `assignment1.dta` dataset that can be downloaded from the course website: <http://www.quantoid.net/IRStats.PHP>. Notes pertaining to the dataset and individual variables can be seen by typing `notes` in the Stata command window and hitting “enter.” Below is a description of the variables in the dataset:

country Country Name (Correlates of War).

ccode Correlates of War numeric state code.

civilizations Henderson and Tucker civilization code. Type `codebook civilizations, tab(10)` to see values.

civ_small Small Henderson and Tucker civilization code, keeping distinct only those civilizations containing more than 10 countries, all others grouped into “other.”

num_mids Number of Militarized Interstate Disputes with hostility level above 2 for each country.

Question 1

What are the levels of measurement of `civilizations` and `num_mids` ?

Question 2

Make a histogram for the `num_mids` variable. How many bins did you use? Describe, in words, the distribution of the data. Just from looking at the graph, what can you say about the relationship between the median and the mean of this variable?

Question 3

What is the standard deviation of the `num_mids` variable? How would you interpret this number?

Question 4

Make a 95% confidence interval for the mean of `num_mids`.

1. First, do this by hand using just the mean and standard deviation from the summary statistics for the variable.
2. Second, confirm your answer using the `ci` command in Stata to construct the confidence interval

How do you interpret this interval?

Question 5

Have Stata make the 99% confidence interval for the mean of `num_mids`. What is the relationship of this interval to the 95% interval? Why is this so?