

Activity #1  
“Testing Hypotheses with Data”

**Test the hypothesis that converting roundabouts to traffic signals in 2012 reduced traffic accidents using ministry data.**

This activity involves familiarizing students with the Stata statistical software and testing the simple hypothesis that Qatar’s policy of converting roundabouts to traffic signals (input) reduced the number of traffic accidents in Doha (outcome). Two datasets are used for this analysis, each representing different ways of measuring and organizing the data. One (Doha\_total\_accidents\_quarterly.dta) reports all accidents in the city per quarter, as well as the number intersections that had been converted by the end of the quarter. The other (Doha\_intersection\_accidents\_quarterly.dta) reports the number of accidents reported per quarter at each of the treated intersections before and after the conversion.

- 1) Launch Stata
- 2) Identify the following fields
  - a. Results
  - b. Variables
  - c. Command
  - d. Review
- 3) Create a log file
- 4) Open Doha\_total\_accidents\_quarterly.dta
- 5) Open Data Browser
- 6) Inspect the data
- 7) Identify variable names
- 8) Close Data Browser
- 9) Calculate summary statistics for each variable (use Summarize command)
- 10) Graph total\_accidents (use Graph command)
- 11) Clear memory
- 12) Open Doha\_intersection\_accidents\_quarterly.dta
- 13) Open Data Browser
- 14) Inspect the data
- 15) Identify variable names
- 16) Close Data Browser
- 17) Calculate summary statistics for each variable (use Summarize command)
- 18) Graph total\_accidents (use Graph command)
- 19) Compare the results