Lab 2.1: Resistance of Summary Measures

The instructions below are numbered to correspond to the step numbers in the Experimental Procedure section of Lab 2.1, p. 82 of the text.

When printing from a SAS/INSIGHT window, you should select the items you want to print by clicking on the boxes bounding them. If you want to select multiple items, you may click repeatedly while holding down the Ctrl key, or, if they are contiguous, you may click and drag over the desired items. In the printing sequence, you will encounter a SAS printing dialog box. You will want to make sure **Fill page** and **Titles and footnotes** are both selected.

1. Access SAS/INSIGHT: *Solutions:Analysis:Interactive Data Analysis.* The data are found in SASDATA.CRIME.

2.,3. Select *Analyze:Distribution (Y)* from the data window. From the dialog box select AUTO as the Y variable and STATEN (the state name) as the label. A Distribution Window will appear with a density histogram (a cousin of the frequency histogram that you will learn about in chapter 4), a boxplot, and tables of summary measures for AUTO. Since in this application the density histogram looks exactly like the frequency histogram (only the numbers on the Y axis are different), you may use it instead of the frequency histogram in this lab.

2. Compute the k-times trimmed mean for $k = 3$ by choosing *Tables:Trimmed/Winsorized Mean:(1/2)N:3.* The output will appear at the bottom of the Distribution Window.

4. To identify the outlier on the boxplot, click on it. It will become highlighted, and its name will appear.

5. To change the Massachusetts auto theft rate of 1140.1 to a value of, say, 2140.1, click on the data window cell containing the value 1140.1, type 2140.1, and hit "Enter" (or "Return") on the keyboard. When you do this the plots and summary measures in the Distribution Window will be updated to reflect the change in the data.

6. To remove the Massachusetts data value, select Massachusetts (for example, by clicking on the outlier in the box plot) then choose *Edit:Observations:Exclude in Calculations* from the Distribution Window. The summary measures will be updated to reflect the change, and the plots will be modified to show that the observation is not included in the calculation (The square denoting the value in the boxplot will change to an x, for example.) To also remove the observation from the plots, choose *Edit:Observations: Hide in Graphs.*