ECO220Y: Homework, Lecture 2

Readings: Chapters 4 (Sections 4.1-4.3), Chapter 5

Exercises: Chapter 4: 9, 12; Chapter 5: 10, 17, 19 (by hand), 27, 32, 33, 53

Problems:

(1) For a sample size of 10, fill in values for the variable x such that the interquartile range is equal to the range and the variance of x is not zero. Fill in the data such that x is sorted from smallest to largest.

i	1	2	3	4	5	6	7	8	9	10
X_i										

(2) Which histogram shows the sample with the largest sample s.d.? Smallest? Explain the intuition.
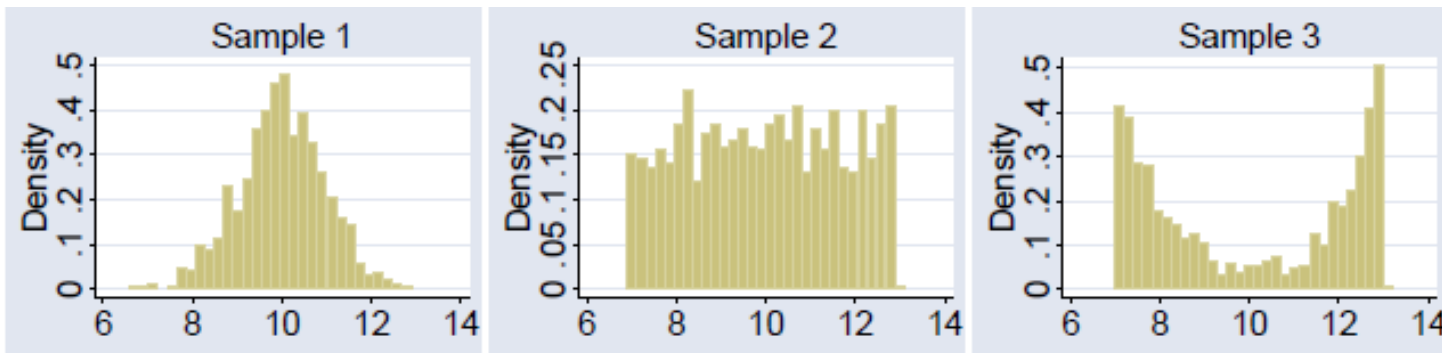
(3) Find the 15th percentile of the data summarized in the histogram below.
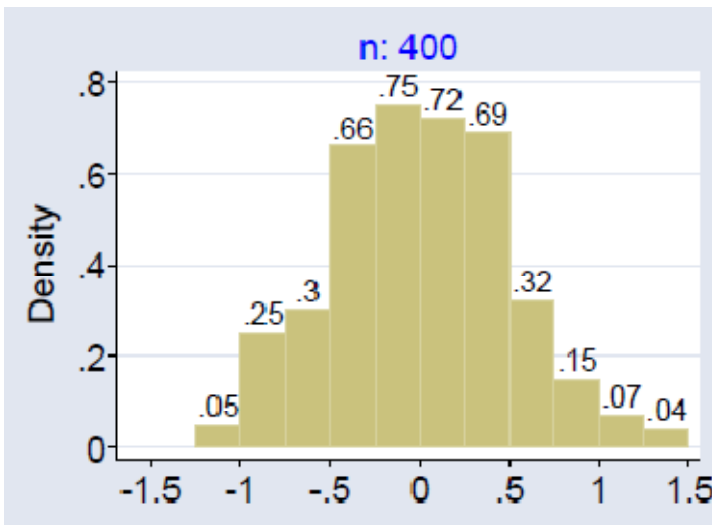
(4) Consider this abstract from a recent academic journal article. Note: A citation is when a publication is listed in the reference section (e.g. bibliography) of another publication. Can an article that is completely pointless get less than zero citations from other authors? Given that many articles get a small number of citations (and in some cases zero) while a few outstanding articles get a very large number of citations, is there a positive skew or negative skew in the distribution of citations? Do you agree with the author that the median is better than the mean in this circumstance? What does the author mean that the degree of skewness varies across journals? Draw a couple of sketches to illustrate. Could the last sentence of the abstract possibly be consistent with the following: the 50th percentile of citations for the lower-ranked journals is greater than the

75th percentile of citations of the higher-ranked journals? (Hint: Remember that the journal ranking is based on means and not percentiles and think about how having a few super-star articles could affect the mean.) Again, draw some sketches to illustrate.

Don't Get Skewed Over by Journal Rankings

Howard J. Wall, Federal Reserve Bank of St. Louis

Abstract

Nearly all journal rankings in economics use some weighted average of citations to calculate a journal's impact. These rankings are often used, formally or informally, to help assess the publication success of individual economists or institutions. Although ranking methods and opinions are legion, scant attention has been paid to the usefulness of any ranking as representative of the many articles published in a journal. First, because the distributions of citations across articles within a journal are seriously skewed, and the skewness differs across journals, the appropriate measure of central tendency is the median rather than the mean. Second, large shares of articles in the highest-ranked journals are cited less frequently than typical articles in much-lower-ranked journals.