

Module 6: Transforming data

(The attached PDF file has better formatting.)

Homework assignment: choosing a transformation

A random distribution of 10,000 values has the following characteristics:

- Minimum value: 0.0186
- First quartile: 0.4977
- Median: 0.9822
- Mean: 1.6280
- Third quartile: 1.9480
- Maximum value: 45.180

- Is this distribution symmetric, left-skewed, or right-skewed? Calculate $(H_U - M)/(M - H_L)$, (the upper hinge minus the median) divided by (the median minus the lower hinge) to justify your answer.
- Should you transform the value up or down the ladder of powers and roots to make the distribution symmetric?
- You are choosing among five transformations to remove the skewness: X^2 , \sqrt{X} , $\ln(X)$, $1/\sqrt{X}$, and $1/X$. Which transformation would you choose? Use the table below to justify your answer. You may eliminate some choices are moving the wrong way up or down the ladder of powers and roots.

	H_L	Median	H_U	$(H_U - M)/(M - H_L)$
X				
X^2				
\sqrt{X}				
$\ln(X)$				
$1/\sqrt{X}$				
$1/X$				