

ESTIMATING THE NET ASSET VALUE

Suppose we wish to estimate the net asset value of a company. Each item has a book value and the net value. The book value for every item is known but the net value is more difficult to determine. We wish to estimate the total net value of all the items. A simple random sample is taken and the difference between the book value and the net value is determined for each item in the sample. The estimator for the total net value is then the sum of all the book values T corrected for $N\bar{D}$ where N is the number of items and \bar{D} is the sample average of the differences.

- a. Show that the estimator is unbiased.
- b. Express the variance of the estimator. What quantities do you need? How would you estimate the variance?
- c. Compare this estimator obtained by multiplying the average net value by N . Comment.
- d. Can you use the ratio estimate? What would be the advantage?