

Bootstrapping using Bootstrapper.xls

To use the bootstrapping module created for excel you will need to download bootstrapper.xls from “the webpage”

Once you have downloaded it save it into your working directory and open it up. Make sure you enable macros.

You will see that columns A and B are highlighted and there are 50 highlighted rows. (Rows 2 through 51) This is where your data is to be inputted. This macro will only accept 50 entries for each dataset.

This macro is designed to be able to bootstrap different kinds of data. Once you have inputted your data click “Perform Bootstrap”

If you only input one dataset the macro will ask you how many bootstraps you wish to perform. Upon clicking “OK”, the macro will create as many new samples as you have indicated, each the same size as the original sample. The new samples are created by sampling with replacement from the old samples. The data inputted can be a series of 0’s and 1’s which allow you to work with proportions.

The macro will then produce means and medians for all off the samples and then find the 2.5 and 97.5 percentiles from all the bootstrapped samples, to give a 95% confidence interval.

If you input two datasets of the same size the macro will enquire whether you are using paired or unpaired data. For paired data the method is the same except the bootstrap is performed on the differences between dataset 1 and dataset 2.

For unpaired data, (if you input uneven datasets the macro will default to the unpaired method) the macro bootstraps both dataset 1 and dataset 2, and calculates their means and medians. The 1st bootstrapped mean output is the difference between the 1st bootstrapped mean of dataset 1 and dataset 2, similarly for the medians.

For all of the above methods after the bootstrap has been run it is possible to draw a histogram of both the means and medians calculated. To draw a histogram click “Draw histogram” and the macro will prompt you to enter the number of bins you wish to use. You may use between 8 and 20 bins, the more bins you use the smoother your histogram will look.

After each run you should hit “Reset” so the macro is ready to go again for the next dataset you wish to add.