Bootstrapping confidence intervals and mean values for Log Response Ratio

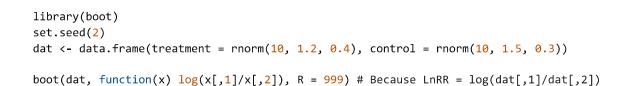
Asked 11 years, 10 months ago Modified 1 year, 7 months ago Viewed 2k times 🛟 Part of R Language Collective



I am trying to bootstrap 95% CIs and mean values for measurements in order to examine the effect size of a treatment. The method I want to use is called LnRR or Logarithmic Response Ratio (1, 2, 3). It's calculated simply by Log(Response to treatment / Response to control). If the 95% CIs are not overlapping with 0, there is more than 95% probability for an effect naturally. Negative LnRR means that treatment has a negative effect.



The bootstrapping function in boot package is kind of confusing and I am struggling to calculate 95% CI's and mean values. I have tried following:



I am clearly doing something wrong. How can I bootstrap confidence intervals (boot.ci) for this type of function? I am sure that the answer is here, but for some reason, I just can't understand how to do this.

r statistics-bootstrap

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asked Oct 24, 2012 at 16:18



1 Answer

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I agree that the boot synatax is a little confusing, at first. The issue is that you need to write a function that takes both your data, AND a vector i which contains the indices to subsample. Let's rewrite your function explicitly to make it clearer:



```
yourFun <- function(x, i) {
  xSub <- x[i, ] #resample x
  LnRR <- log(xSub[, 1]/xSub[,2])
  return(mean(LnRR))
}</pre>
```



Then call boot in more-or-less the same way that you did:



b <- boot(dat, yourFun, R=999)
plot(b) #always worth looking at</pre>

#Calculate ci's
boot.ci(b)

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edited Jan 26, 2023 at 8:26

Mikko

7,690 9 57 96

answered Oct 24, 2012 at 16:31



Drew Steen

16.4k 12 64 91