Package ‘ccostr’

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Type Package
Title Estimation of Mean Costs in Censored Data
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the mean of censored cost data. Including the estimators
BT from Bang and Tsiatis (2000) <doi:10.1093/biomet/87.2.329> and
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ccmean

Calculates estimates of the mean cost with censored data

Description

This function calculates the mean cost for right-censored cost data over a period of L time units (days, months, years,...)

Usage

ccmean(x, L = max(x$surv), addInterPol = 0)

Arguments

x
  A dataframe with columns: id, cost, delta and surv. If Cost history is available it can be specified by: start and stop,
L
  Limit. Mean cost is calculated up till L, if not specified L = max(surv)
addInterPol
  This parameter affects the interpolation of cost between two observed times. Defaults to zero.

Details

The function returns four estimates. The first two are simple and biased downwards, and included for comparison. The estimates are:
- AS: "Available Sample estimator" - The simple sample mean
- CC: "Complete Case estimator" - The mean of fully observed cases
- BT: "Weighted Complete Case estimator" - Bang and Tsiatis’s estimator
- ZT: "Weighted Available estimator" - Zhao and Tian’s estimator
The function needs the following in a dataframe:
- id: The id separating each individual
- cost: The total cost, or if start and stop provided the specific cost
- start: Start of cost
- stop: End of cost, if one time cost then start = stop
- delta: Event variable, 1 = event, 0 = no event
- surv: Survival

Value

An object of class "ccobject".
References


Examples

```r
hcost
ccmean(hcost, L = 1461, addInterPol = 1)
```

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**hcost**

*Simulated data from the stata hcost package*

Description

Simulated data from the stata hcost package

Usage

```r
data(hcost)
```

Format

A data frame with 9882 rows and 7 variables:

- **id**: id separating individuals
- **start**: start of specified cost
- **stop**: end of specified cost
- **cost**: cost in given period
- **trt**: treatment variable
- **delta**: event variable, 0 = censored
- **surv**: survival period

Source

Blog

References

Examples

data(hcost)

plot.ccobject  

Adding to the generic plot function

Description

Adding to the generic plot function

Usage

## S3 method for class 'ccobject'
plot(x, ...)

Arguments

  x  
The ccobject  
  ...  
passthrough

Value

  a plot

print.ccobject  

Adding to the generic print function

Description

Adding to the generic print function

Usage

## S3 method for class 'ccobject'
print(x, ...)

Arguments

  x  
The ccobject  
  ...  
passthrough

Value

  a plot
simCostData

Simulates censored cost data

Description
This function can be used to demonstrate the bias and coverage of the estimators in the ccmean function.

Usage
simCostData(n = 100, dist = "unif", censor = "light", cdist = "exp", L = 10)

Arguments
- n: Number of individuals to simulate
- dist: Survival distribution either "unif" = unif(0,10) or "exp" = exp (1/6)
- censor: Censoring "light" ~ 25% or "heavy" ~ 40%, changes a bit depending on cdist
- cdist: Distribution used to censor, "exp" exponential or "unif" uniform
- L: Number of years to summarize over

Details
The function simulates survival times from either an uniform distribution or an exponential distribution, and a cost history. There are two options for censoring, heavy (~40 light (~25

Value
Simulation of censored cost

References

Examples
# The simulated data can be used to show how the estimators perform
simCostData(n = 100, dist = "unif", censor = "light", cdist = "exp", L = 10)
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