betaMC: External Tests

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Tests

```
#> test-external-betaMC-beta-mc-adf
#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-beta-mc-mlm

#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-beta-mc-mvn

#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-beta-mc

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-delta-r-sq-mc
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-diff-adf

#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-diff-beta-mc

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-diff-mlm

#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-diff-mvn

#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-external-betaMC-mc
```

```
#> MC(object = object, R = R, type = "mvn")
#> MC(object = object, R = R, type = "adf")
#> MC(object = object, R = R, type = "hc0")
#> MC(object = object, R = R, type = "hc1")
#> MC(object = object, R = R, type = "hc2")
#> MC(object = object, R = R, type = "hc3")
#> MC(object = object, R = R, type = "hc4")
#> MC(object = object, R = R, type = "hc4m")
#> MC(object = object, R = R, type = "hc5")
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Call:
#> MC(object = object, R = 5L, decomposition = "chol")
#> The first set of simulated parameter estimates
#> and model-implied covariance matrix.
#>
#> $coef
#> [1] 0.4975416 0.4938482
#>
#> $sigmasq
#> [1] 0.4997596
#>
#> $vechsigmacapx
#> [1]  1.0016870140 -0.0009460879  1.0037689419
#>
#> $sigmacapx
#>               [,1]          [,2]
#> [1,]  1.0016870140 -0.0009460879
#> [2,] -0.0009460879  1.0037689419
#>
#> $sigmaysq
#> [1] 0.9920651
#>
#> $sigmayx
#> [1] 0.4979137 0.4952387
#>
#> $sigmacap
#>           [,1]          [,2]          [,3]
```

```
#> [1,] 0.9920651  0.4979137090  0.4952387481
#> [2,] 0.4979137  1.0016870140 -0.0009460879
#> [3,] 0.4952387 -0.0009460879  1.0037689419
#>
#> $pd
#> [1] TRUE
#>
#> Call:
#> MC(object = object, R = 5L, decomposition = "svd")
#> The first set of simulated parameter estimates
#> and model-implied covariance matrix.
#>
#> $coef
#> [1] 0.5010341 0.5002243
#>
#> $sigmasq
#> [1] 0.5042269
#>
#> $vechsigmacapx
#> [1]  1.001480093 -0.002353912  0.993785630
#>
#> $sigmacapx
#>              [,1]         [,2]
#> [1,]  1.001480093 -0.002353912
#> [2,] -0.002353912  0.993785630
#>
#> $sigmaysq
#> [1] 1.003123
#>
#> $sigmayx
#> [1] 0.5005982 0.4959363
#>
#> $sigmacap
#>           [,1]         [,2]         [,3]
#> [1,] 1.0031231  0.500598204  0.495936333
#> [2,] 0.5005982  1.001480093 -0.002353912
#> [3,] 0.4959363 -0.002353912  0.993785630
#>
#> $pd
#> [1] TRUE
#> test-external-betaMC-p-cor-mc
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> test-external-betaMC-r-sq-adf
```

```
#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> test-external-betaMC-r-sq-mc
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> test-external-betaMC-r-sq-mlm
```

```
#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> test-external-betaMC-r-sq-mvn
```

```
#> Monte Carlo Confidence Intervals
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> test-external-betaMC-s-cor-mc
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> [[1]]
#> [[1]][[1]]
#> [[1]][[1]]$value
#> [[1]][[1]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[1]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[2]]
#> [[1]][[2]]$value
#> [[1]][[2]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[2]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[3]]
#> [[1]][[3]]$value
#> [[1]][[3]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[3]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[4]]
#> [[1]][[4]]$value
#> [[1]][[4]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[4]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[5]]
```

```
#> [[1]][[5]]$value
#> [[1]][[5]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[5]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[6]]
#> [[1]][[6]]$value
#> [[1]][[6]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[6]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[7]]
#> [[1]][[7]]$value
#> [[1]][[7]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[7]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[8]]
#> [[1]][[8]]$value
#> [[1]][[8]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[8]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[9]]
#> [[1]][[9]]$value
#> [[1]][[9]]$value[[1]]
#> [1] TRUE
#>
#>
```

```
#> [[1]][[9]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[10]]
#> [[1]][[10]]$value
#> [[1]][[10]]$value[[1]]
#>           beta1 beta2 rsq sigmax1x1 sigmax2x1 sigmax2x2
#> sigmaysq      1     1  -2      0.25       0.5      0.25
#> sigmayx1      1     0   0      0.50       0.5      0.00
#> sigmayx2      0     1   0      0.00       0.5      0.50
#> sigmax1x1     0     0   0      1.00       0.0      0.00
#> sigmax2x1     0     0   0      0.00       1.0      0.00
#> sigmax2x2     0     0   0      0.00       0.0      1.00
#>
#>
#> [[1]][[10]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[11]]
#> [[1]][[11]]$value
#> [[1]][[11]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[11]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[12]]
#> [[1]][[12]]$value
#> [[1]][[12]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[12]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[13]]
#> [[1]][[13]]$value
#> [[1]][[13]]$value[[1]]
#> [1] TRUE
#>
```

```
#>
#> [[1]][[13]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[14]]
#> [[1]][[14]]$value
#> [[1]][[14]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[14]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[15]]
#> [[1]][[15]]$value
#> [[1]][[15]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[15]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[16]]
#> [[1]][[16]]$value
#> [[1]][[16]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[16]]$visible
#> [1] TRUE
```

Environment

```
ls()

#> [1] "nas1982"  "root"     "tex_file"
```

Class

```
#> [[1]]
#> [1] "data.frame"
#>
#> [[2]]
#> [1] "root_criterion"
#>
#> [[3]]
#> [1] "character"
```

References

R Core Team. (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/