betaMC: Internal Tests

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Tests

```
#> test-betaMC-beta-mc-methods
#> Call:
#> BetaMC(object = object)
#>
#> Standardized regression slopes
#> type = "HC3"
#>           est     se     R   0.05%   0.5%   2.5%  97.5%  99.5% 99.95%
#> NARTIC  0.4951 0.0804 20000  0.1572 0.2599 0.3199 0.6345 0.6781 0.7268
#> PCTGRT  0.3915 0.0824 20000  0.0969 0.1620 0.2135 0.5394 0.5894 0.6344
#> PCTSUPP 0.2632 0.0858 20000 -0.0579 0.0285 0.0866 0.4234 0.4725 0.5466
#> Call:
#> BetaMC(object = object)
#>
#> Standardized regression slopes
#> type = "HC3"
#> Call:
#> BetaMC(object = object)
#>
#> Standardized regression slopes
#> type = "HC3"
#>           est     se     R  0.05%   0.5%   2.5%  97.5%  99.5% 99.95%
#> NARTIC 0.7622 0.0723 20000 0.3092 0.5104 0.5875 0.8637 0.8923 0.9218
#> Call:
#> BetaMC(object = object)
#>
#> Standardized regression slopes
#> type = "HC3"

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

#> Difference between standardized regression coefficients with type =  " MVN "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1343 20000 -0.3237 -0.2460 -0.1620 0.3643 0.4389 0.5294
#> NARTIC-PCTSUPP 0.2319 0.1235 20000 -0.1872 -0.0921 -0.0164 0.4660 0.5376 0.6099
#> PCTGRT-PCTSUPP 0.1282 0.1217 20000 -0.2707 -0.1911 -0.1144 0.3619 0.4314 0.5131
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#> Difference between standardized regression coefficients withtype = "MVN"
#> Difference between standardized regression coefficients with type =  " ADF "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1217 20000 -0.3036 -0.2083 -0.1399 0.3371 0.4164 0.4867
#> NARTIC-PCTSUPP 0.2319 0.1183 20000 -0.1601 -0.0760 -0.0073 0.4548 0.5292 0.5972
#> PCTGRT-PCTSUPP 0.1282 0.1216 20000 -0.2800 -0.1962 -0.1166 0.3596 0.4340 0.5355
#> Difference between standardized regression coefficients withtype = "ADF"
#> Difference between standardized regression coefficients with type =  " HC0 "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1205 20000 -0.2834 -0.2048 -0.1328 0.3394 0.4131 0.4964
#> NARTIC-PCTSUPP 0.2319 0.1170 20000 -0.1635 -0.0773 -0.0007 0.4548 0.5230 0.6106
#> PCTGRT-PCTSUPP 0.1282 0.1196 20000 -0.3011 -0.1877 -0.1100 0.3586 0.4272 0.5029
#> Difference between standardized regression coefficients withtype = "HC0"
#> Difference between standardized regression coefficients with type =  " HC1 "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1250 20000 -0.3127 -0.2136 -0.1417 0.3459 0.4243 0.5110
#> NARTIC-PCTSUPP 0.2319 0.1228 20000 -0.1817 -0.0979 -0.0171 0.4677 0.5454 0.6292
#> PCTGRT-PCTSUPP 0.1282 0.1249 20000 -0.2946 -0.2028 -0.1216 0.3687 0.4424 0.5182
#> Difference between standardized regression coefficients withtype = "HC1"
#> Difference between standardized regression coefficients with type =  " HC2 "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1315 20000 -0.3245 -0.2356 -0.1565 0.3570 0.4389 0.5181
#> NARTIC-PCTSUPP 0.2319 0.1249 20000 -0.1774 -0.0939 -0.0197 0.4678 0.5465 0.6344
#> PCTGRT-PCTSUPP 0.1282 0.1278 20000 -0.3076 -0.2095 -0.1270 0.3732 0.4481 0.5508
#> Difference between standardized regression coefficients withtype = "HC2"
#> Difference between standardized regression coefficients with type =  " HC3 "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1434 20000 -0.3693 -0.2696 -0.1809 0.3803 0.4657 0.5803
#> NARTIC-PCTSUPP 0.2319 0.1328 20000 -0.2244 -0.1195 -0.0388 0.4776 0.5530 0.6631
#> PCTGRT-PCTSUPP 0.1282 0.1375 20000 -0.3424 -0.2328 -0.1476 0.3857 0.4728 0.5637
#> Difference between standardized regression coefficients withtype = "HC3"
#> Difference between standardized regression coefficients with type =  " HC4 "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1495 20000 -0.4268 -0.2942 -0.1965 0.3822 0.4854 0.5983
#> NARTIC-PCTSUPP 0.2319 0.1336 20000 -0.3021 -0.1486 -0.0472 0.4765 0.5552 0.6494
#> PCTGRT-PCTSUPP 0.1282 0.1364 20000 -0.3424 -0.2408 -0.1492 0.3882 0.4784 0.5616
#> Difference between standardized regression coefficients withtype = "HC4"
#> Difference between standardized regression coefficients with type =  " HC4M "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1478 20000 -0.4005 -0.2779 -0.1915 0.3866 0.4736 0.5639
#> NARTIC-PCTSUPP 0.2319 0.1357 20000 -0.2407 -0.1293 -0.0489 0.4838 0.5628 0.6619
#> PCTGRT-PCTSUPP 0.1282 0.1411 20000 -0.3470 -0.2495 -0.1587 0.3937 0.4826 0.5629
#> Difference between standardized regression coefficients withtype = "HC4M"
#> Difference between standardized regression coefficients with type =  " HC5 "
#>                   est     se     R   0.05%    0.5%    2.5%  97.5%  99.5% 99.95%
#> NARTIC-PCTGRT  0.1037 0.1325 20000 -0.3427 -0.2321 -0.1615 0.3566 0.4340 0.5080
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#> NARTIC-PCTSUPP 0.2319 0.1230 20000 -0.1943 -0.0974 -0.0187 0.4595 0.5365 0.6218
#> PCTGRT-PCTSUPP 0.1282 0.1283 20000 -0.2855 -0.2073 -0.1288 0.3739 0.4491 0.5317
#> Difference between standardized regression coefficients withtype = "HC5"

#> test-betaMC-diff-beta-mc

#> Test passed
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#> test-betaMC-vcov

#> Test passed
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#> Test passed
#> Test passed
#> [[1]]
#> [[1]][[1]]
#> [[1]][[1]]$value
#> [[1]][[1]]$value[[1]]
#>      2.5%     97.5%
#> 0.5874881 0.8637133
#>
#>
#> [[1]][[1]]$visible
#> [1] TRUE
#>
#>
```

```
#> [[1]][[2]]
#> [[1]][[2]]$value
#> [[1]][[2]]$value[[1]]
#>                       2.5%     97.5%
#> NARTIC-PCTGRT  -0.1614873 0.3566133
#> NARTIC-PCTSUPP -0.0187099 0.4594587
#> PCTGRT-PCTSUPP -0.1287937 0.3739118
#>
#>
#> [[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]]
#> Call:
#> BetaMC(object = object, decomposition = "svd")
#>
#> Standardized regression slopes
#> type = "HC3"
#>       est     se     R  0.05%   0.5%   2.5%  97.5%  99.5% 99.95%
#> x1 0.4830 0.0210 20000 0.4139 0.4273 0.4403 0.5233 0.5370 0.5508
#> x2 0.4857 0.0215 20000 0.4132 0.4292 0.4426 0.5272 0.5402 0.5559
#>
#>
#> [[1]][[4]]$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. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/