betaDelta: Internal Tests

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Tests

```
#> test-betaDelta-beta-delta-adf
#> Test passed
#> Call:
#> BetaDelta(object = object, type = "adf")
#>
#> Standardized regression slopes with ADF standard errors:
#> Call:
#> BetaDelta(object = object, type = "adf")
#>
#> Standardized regression slopes with ADF standard errors:
#> Test passed

#> test-betaDelta-beta-delta-methods

#> Call:
#> BetaDelta(object = object, type = "mvn")
#>
#> Standardized regression slopes with MVN standard errors:
#>            est     se      t     p   0.05%    0.5%    2.5%   97.5%   99.5%  99.95%
#> NARTIC  0.4951 0.0759 6.5272 0.000  0.2268  0.2905  0.3421  0.6482  0.6998  0.7635
#> PCTGRT  0.3915 0.0770 5.0824 0.000  0.1190  0.1837  0.2360  0.5469  0.5993  0.6640
#> PCTSUPP 0.2632 0.0747 3.5224 0.001 -0.0011  0.0616  0.1124  0.4141  0.4649  0.5276
#> Call:
#> BetaDelta(object = object, type = "mvn")
#>
#> Standardized regression slopes with MVN standard errors:
#> Call:
#> BetaDelta(object = object, type = "adf")
#>
#> Standardized regression slopes with ADF standard errors:
#>            est     se      t      p   0.05%    0.5%    2.5%   97.5%   99.5%  99.95%
#> NARTIC  0.4951 0.0674 7.3490 0.0000  0.2568  0.3134  0.3592  0.6311  0.6769  0.7335
#> PCTGRT  0.3915 0.0710 5.5164 0.0000  0.1404  0.2000  0.2483  0.5347  0.5830  0.6426
#> PCTSUPP 0.2632 0.0769 3.4231 0.0014 -0.0088  0.0558  0.1081  0.4184  0.4707  0.5353
#> Call:
```

```
#> BetaDelta(object = object, type = "adf")
#>
#> Standardized regression slopes with ADF standard errors:
#> Call:
#> BetaDelta(object = object, type = "mvn")
#>
#> Standardized regression slopes with MVN standard errors:
#>          est     se       t p  0.05%   0.5%   2.5%  97.5%  99.5% 99.95%
#> NARTIC 0.7622 0.0618 12.3341 0 0.5443 0.5958 0.6376 0.8867 0.9285   0.98
#> Call:
#> BetaDelta(object = object, type = "mvn")
#>
#> Standardized regression slopes with MVN standard errors:
#> Call:
#> BetaDelta(object = object, type = "adf")
#>
#> Standardized regression slopes with ADF standard errors:
#>          est     se       t p  0.05%   0.5%   2.5%  97.5%  99.5% 99.95%
#> NARTIC 0.7622 0.0604 12.625 0 0.5493 0.5996 0.6405 0.8838 0.9247  0.975
#> Call:
#> BetaDelta(object = object, type = "adf")
#>
#> Standardized regression slopes with ADF standard errors:

#> test-betaDelta-beta-delta-mvn

#> Test passed
#> Call:
#> BetaDelta(object = object, type = "mvn")
#>
#> Standardized regression slopes with MVN standard errors:
#> Call:
#> BetaDelta(object = object, type = "mvn")
#>
#> Standardized regression slopes with MVN standard errors:
#> Test passed

#> test-betaDelta-diff-beta-delta-methods

#> Call:
#> DiffBetaDelta(object = BetaDelta(object, type = "mvn"))
#>
#> Difference between standardized regression coefficients with MVN standard errors:
#>                  est     se      t      p   0.05%    0.5%    2.5%  97.5%
#> NARTIC-PCTGRT  0.1037 0.1357 0.7640 0.4491 -0.3763 -0.2624 -0.1702 0.3775
#> NARTIC-PCTSUPP 0.2319 0.1252 1.8524 0.0710 -0.2110 -0.1059 -0.0207 0.4845
#> PCTGRT-PCTSUPP 0.1282 0.1227 1.0451 0.3020 -0.3059 -0.2028 -0.1194 0.3759
```

```
#>                  99.5% 99.95%
#> NARTIC-PCTGRT   0.4697 0.5837
#> NARTIC-PCTSUPP  0.5697 0.6748
#> PCTGRT-PCTSUPP  0.4593 0.5624
#> Call:
#> DiffBetaDelta(object = BetaDelta(object, type = "mvn"))
#>
#> Difference between standardized regression coefficients with MVN standard errors:
#> Call:
#> DiffBetaDelta(object = BetaDelta(object, type = "adf"))
#>
#> Difference between standardized regression coefficients with ADF standard errors:
#>                    est     se      t      p   0.05%    0.5%    2.5%  97.5%
#> NARTIC-PCTGRT   0.1037 0.1212 0.8555 0.3971 -0.3250 -0.2233 -0.1409 0.3482
#> NARTIC-PCTSUPP  0.2319 0.1181 1.9642 0.0561 -0.1858 -0.0866 -0.0064 0.4702
#> PCTGRT-PCTSUPP  0.1282 0.1215 1.0555 0.2973 -0.3016 -0.1996 -0.1170 0.3734
#>                  99.5% 99.95%
#> NARTIC-PCTGRT   0.4306 0.5323
#> NARTIC-PCTSUPP  0.5504 0.6496
#> PCTGRT-PCTSUPP  0.4561 0.5581
#> Call:
#> DiffBetaDelta(object = BetaDelta(object, type = "adf"))
#>
#> Difference between standardized regression coefficients with ADF standard errors:
```

```
#> test-betaDelta-diff-beta-delta
```

```
#> 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]]
#>      2.5%     97.5%
#> 0.6404985 0.8838331
```

```
#> 
#> 
#> [[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]]
#>                             2.5%      97.5%
#> NARTIC-PCTGRT   -0.140868200 0.3481810
#> NARTIC-PCTSUPP -0.006364043 0.4701589
#> PCTGRT-PCTSUPP -0.116962608 0.3734447
#> 
#> 
#> [[1]][[4]]$visible
#> [1] TRUE
#> 
#> 
#> [[1]][[5]]
#> [[1]][[5]]$value
#> [[1]][[5]]$value[[1]]
#> [1] TRUE
#> 
#> 
#> [[1]][[5]]$visible
#> [1] TRUE
```

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Environment

```r
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/