

betaSandwich: Robust Confidence Intervals for Standardized Regression Coefficients

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Description

Generates robust confidence intervals for standardized regression coefficients using heteroscedasticity-consistent standard errors for models fitted by `lm()` as described in Dudgeon (2017).

Installation

You can install the released version of `betaSandwich` from [GitHub](#) with:

```
install.packages("remotes")
remotes::install_github("jeksterslab/betaSandwich")
```

Example

Describe the data and model here.

```
object <- lm(rating ~ ., data = attitude)
summary(object)

#>
```

```

#> Call:
#> lm(formula = rating ~ ., data = attitude)
#>
#> Residuals:
#>      Min       1Q   Median       3Q      Max
#> -10.9418  -4.3555   0.3158   5.5425  11.5990
#>
#> Coefficients:
#>              Estimate Std. Error t value Pr(>|t|)
#> (Intercept) 10.78708    11.58926   0.931 0.361634
#> complaints   0.61319     0.16098   3.809 0.000903 ***
#> privileges  -0.07305     0.13572  -0.538 0.595594
#> learning     0.32033     0.16852   1.901 0.069925 .
#> raises       0.08173     0.22148   0.369 0.715480
#> critical     0.03838     0.14700   0.261 0.796334
#> advance     -0.21706     0.17821  -1.218 0.235577
#> ---
#> Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
#>
#> Residual standard error: 7.068 on 23 degrees of freedom
#> Multiple R-squared:  0.7326, Adjusted R-squared:  0.6628
#> F-statistic: 10.5 on 6 and 23 DF, p-value: 1.24e-05

```

```

BetaHC(object, type = "hc5")

```

```

#> Call:
#> BetaHC(object = object, type = "hc5")
#>

```

```
#> Standardized regression slopes with HC5 standard errors:
#>           est      se      t      p    0.05%    0.5%    2.5%  97.5%
#> complaints  0.67073 0.1235  5.4324 1.606e-05  0.2055  0.3241  0.415315 0.9261
#> privileges -0.07343 0.1252 -0.5866 5.632e-01 -0.5450 -0.4248 -0.332371 0.1855
#> learning    0.30887 0.1520  2.0314 5.393e-02 -0.2640 -0.1180 -0.005669 0.6234
#> raises      0.06981 0.1446  0.4829 6.337e-01 -0.4749 -0.3360 -0.229256 0.3689
#> critical    0.03120 0.1396  0.2236 8.251e-01 -0.4946 -0.3606 -0.257488 0.3199
#> advance     -0.18346 0.1439 -1.2747 2.151e-01 -0.7257 -0.5875 -0.481192 0.1143
#>           99.5% 99.95%
#> complaints  1.0173 1.1359
#> privileges  0.2780 0.3982
#> learning    0.7357 0.8817
#> raises      0.4757 0.6145
#> critical    0.4230 0.5570
#> advance     0.2206 0.3588
```

More Information

See [GitHub Pages](#) for package documentation.

References

- Dudgeon, P. (2017). Some improvements in confidence intervals for standardized regression coefficients. *Psychometrika*, 82(4), 928–951. <https://doi.org/10.1007/s11336-017-9563-z>
- R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. <https://www.R-project.org/>