

Package ‘ordinalGOF’

May 9, 2026

Title Goodness-of-Fit Tests for Ordinal Regression Models

Version 0.1.0

Description Provides goodness-of-fit tests for ordinal regression models, including the Fagerland-Hosmer ordinal test, reproducing same output as 'Stata'. Supports polr(), vglm(), and binary glm() models. See Fagerland and Hosmer (2013) <doi:10.1002/sim.5645> and Fagerland and Hosmer (2017) <doi:10.1177/1536867X1701700308> for details.

License MIT + file LICENSE

Encoding UTF-8

RoxygenNote 7.3.3

Imports dplyr, magrittr, MASS, VGAM

Suggests spelling

Language en-US

URL <https://github.com/Funto-Aladekomo/ordinalGOF>

BugReports <https://github.com/Funto-Aladekomo/ordinalGOF/issues>

NeedsCompilation no

Author Oluwafunto Aladekomo [aut, cre],
Evan Kwiatkowski [aut]

Maintainer Oluwafunto Aladekomo <oluwafunto.a.aladekomo@uth.tmc.edu>

Repository CRAN

Date/Publication 2026-04-24 18:30:08 UTC

Contents

ordinalGOF	2
Index	4

Description

Tests the goodness of fit for ordinal regression models, reproducing results equivalent to 'Stata's output. Supports models from `polr()`, `vglm()`, and `binary glm()`.

Usage

```
ordinalGOF(
  model,
  data,
  catvars = NULL,
  g = 10,
  test = c("hl", "pr.chi2", "pr.dev", "lipsitz"),
  ties = c("stata", "sorted", "equal"),
  show_table = FALSE
)
```

Arguments

<code>model</code>	A fitted model object. Supported classes: <code>polr</code> (MASS), <code>vglm</code> (VGAM), or <code>glm</code> (stats, binomial family).
<code>data</code>	A data frame used to fit the model.
<code>catvars</code>	Character vector of categorical variable names. Required only when <code>test = "pr.chi2"</code> or <code>test = "pr.dev"</code> .
<code>g</code>	Integer. Number of quantile groups (default: 10).
<code>test</code>	Character. The test to perform. One of "hl" (default), "lipsitz", "pr.chi2", or "pr.dev".
<code>ties</code>	Character. Tie-breaking method for grouping. One of "stata" (default), "sorted", or "equal". "stata" reproduces 'Stata's behavior.
<code>show_table</code>	Logical. If TRUE, prints the observed/expected frequency table. Default is FALSE.

Value

An object of class `htest` containing:

statistic The chi-squared test statistic.

parameter Degrees of freedom.

p.value The p-value.

method A character string naming the test used.

Examples

```
library(MASS)
data(housing, package = "MASS")
m <- polr(Sat ~ Infl + Type + Cont, data = housing, Hess = TRUE)
ordinalGOF(m, data = housing, g = 5, test = "hl", ties = "stata")
```

Index

ordinalGOF, 2