

Description

girtest computes confidence intervals for the concentration parameter, for the bias of the 2SLS estimator and for the size distortion of the associated Wald test (5% nominal level).

Usage

```
girtest(Fstat, K_2)
```

Arguments

Fstat	F-statistic of the first-stage regression on the instruments (excluded exogenous variables).
K_2	Number of instruments (excluded exogenous variables) used in the first-stage regression.

Details

This function computes the test proposed in Proposition 1 in Ganics, Inoue and Rossi (2018). Note it is only applicable when there is only one endogenous regressor, and under homoskedasticity and serial uncorrelation. The maximum number of instruments supported is 30. Note that the bias only exists in overidentified models.

Value

Three 95% asymptotic level confidence intervals: for the concentration parameter; for the bias of the 2SLS estimator; and for the size distortion of the associated Wald statistic. The critical values are computed using the tables in Appendix D in Ganics, Inoue and Rossi (2018), Table D.7 (bias) and Table D.10 (size distortion).

Author(s)

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References

Ganics, Inoue and Rossi (2018). Confidence intervals for bias and size distortion in IV and local projections-IV models. *Banco de España Working Paper*.

Examples

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## Replication of Angrist and Krueger (1991) & Bound et al. (1995)
# Angrist and Krueger (1991): 28 instruments and F-stat = 1.61
girtest(Fstat = 1.61, K_2 = 28)

# Bound et al. (1995): 3 instruments and F-stat = 13.49
girtest(Fstat = 13.49, K_2 = 3)
```