

**estat eqgof** — Equation-level goodness-of-fit statistics
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## Description

`estat eqgof` is for use after `sem` but not `gsem`.

`estat eqgof` displays equation-by-equation goodness-of-fit statistics. Displayed are  $R^2$  and the Bentler–Raykov squared multiple-correlation coefficient ([Bentler and Raykov 2000](#)).

These two concepts of fit are equivalent for recursive SEMs and univariate linear regression. For nonrecursive SEMs, these measures are distinct.

Equation-level variance decomposition is also reported, along with the overall model coefficient of determination.

## Menu

Statistics > SEM (structural equation modeling) > Goodness of fit > Equation-level goodness of fit

## Syntax

```
estat eqgof [ , format(%fmt) ]
```

## Option

`format(%fmt)` specifies the display format. The default is `format(%9.0f)`.

## Remarks and examples

[stata.com](#)

See [\[SEM\] example 3](#).

In rare circumstances, these equation-level goodness-of-fit measures in nonrecursive structural equations have unexpected values. It is possible to obtain negative  $R^2$  and multiple-correlation values.

It is recommended to use the Bentler–Raykov squared multiple correlations as a measure of explained variance for nonrecursive systems that involve endogenous variables with reciprocal causations.

## Stored results

`estat eqgof` stores the following in `r()`:

### Scalars

<code>r(N_groups)</code>	number of groups
<code>r(CD[_#])</code>	overall coefficient of determination (for group #)

### Matrices

<code>r(nobs)</code>	sample size for each group
<code>r(eqfit[_#])</code>	fit statistics (for group #)

## Reference

Bentler, P. M., and T. Raykov. 2000. On measures of explained variance in nonrecursive structural equation models. *Journal of Applied Psychology* 85: 125–131.

## Also see

[SEM] [example 3](#) — Two-factor measurement model

[SEM] [estat gof](#) — Goodness-of-fit statistics

[SEM] [estat ggof](#) — Group-level goodness-of-fit statistics

[SEM] [methods and formulas for sem](#) — Methods and formulas for sem

[SEM] [sem postestimation](#) — Postestimation tools for sem