

## Description

`sem` can fit combined models across subgroups of the data while allowing some parameters to vary and constraining others to be equal across subgroups. These subgroups could be males and females, age category, and the like.

`sem` performs such estimation when the `group` (*varname*) option is specified. The `ginvariant` (*pclass-name*) option specifies which parameters are to be constrained to be equal across the groups.

## Syntax

```
sem paths ..., ... group_options
```

<i>group_options</i>	Description
<code>group</code> ( <i>varname</i> )	fit model for different groups
<code>ginvariant</code> ( <i>pclassname</i> )	specify parameters that are equal across groups
<i>pclassname</i>	Description
<code>scoef</code>	structural coefficients
<code>scons</code>	structural intercepts
<code>mcoef</code>	measurement coefficients
<code>mcons</code>	measurement intercepts
<code>serrvar</code>	covariances of structural errors
<code>merrvar</code>	covariances of measurement errors
<code>smerrcov</code>	covariances between structural and measurement errors
<code>meanex</code>	means of exogenous variables
<code>covex</code>	covariances of exogenous variables
<code>all</code>	all the above
<code>none</code>	none of the above

`ginvariant`(`mcoef` `mcons`) is the default if `ginvariant`() is not specified.

`meanex`, `covex`, and `all` exclude the observed exogenous variables (that is, they include only the latent exogenous variables) unless you specify the `noxconditional` option or the `noxconditional` option is otherwise implied; see [SEM] [sem option noxconditional](#). This is what you would desire in most cases.

## Options

`group` (*varname*) specifies that the model be fit as described above. *varname* specifies the name of a numeric variable that records the group to which the observation belongs.

If you are using summary statistics data in place of raw data, *varname* is the name of the group variable as reported by `ssd describe`; see [\[SEM\] ssd](#).

`ginvariant(pclassname)` specifies which classes of parameters of the model are to be constrained to be equal across groups. The classes are defined above. The default is `ginvariant(mcoef mcons)` if the option is not specified.

## Remarks and examples

See [\[SEM\] Intro 6](#), and see [\[SEM\] Example 20](#) and [\[SEM\] Example 23](#).

## Also see

[\[SEM\] sem](#) — Structural equation model estimation command

[\[SEM\] Intro 6](#) — Comparing groups

[\[SEM\] Example 20](#) — Two-factor measurement model by group

[\[SEM\] Example 23](#) — Specifying parameter constraints across groups

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