

**sem option method()** — Specifying method and calculation of VCE

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## Description

`sem option method()` specifies the method used to obtain the estimated parameters.

`sem option vce()` specifies the technique used to obtain the variance–covariance matrix of the estimates (VCE), which includes the reported standard errors.

## Syntax

```
sem ... [ , ... method(method) vce(vcetype) ... ]
```

<i>method</i>	Description
<code>m1</code>	maximum likelihood; the default
<code>mlmv</code>	<code>m1</code> with missing values
<code>adf</code>	asymptotic distribution free

<i>vcetype</i>	Description
<code>oim</code>	observed information matrix; the default
<code>eim</code>	expected information matrix
<code>opg</code>	outer product of gradients
<code>sbentler</code>	Satorra–Bentler estimator
<code>robust</code>	Huber/White/sandwich estimator
<code>cluster <i>clustvar</i></code>	generalized Huber/White/sandwich estimator
<code>bootstrap [ , <i>bootstrap_options</i> ]</code>	bootstrap estimation
<code>jackknife [ , <i>jackknife_options</i> ]</code>	jackknife estimation

`pweights` and `iweights` are not allowed with `sbentler`.

The following combinations of `method()` and `vce()` are allowed:

	<code>oim</code>	<code>eim</code>	<code>opg</code>	<code>sbentler</code>	<code>robust</code>	<code>cluster</code>	<code>bootstrap</code>	<code>jackknife</code>
<code>m1</code>	x	x	x	x	x	x	x	x
<code>mlmv</code>	x	x	x		x	x	x	x
<code>adf</code>	x	x					x	x

## Options

`method(method)` specifies the method used to obtain parameter estimates. `method(ml)` is the default.  
`vce(vcetype)` specifies the technique used to obtain the VCE. `vce(oim)` is the default.

## Remarks and examples

[stata.com](https://www.stata.com)

See [\[SEM\] intro 4](#), [\[SEM\] intro 8](#), and [\[SEM\] intro 9](#).

## Also see

- [\[SEM\] sem](#) — Structural equation model estimation command
- [\[SEM\] intro 4](#) — Substantive concepts
- [\[SEM\] intro 8](#) — Robust and clustered standard errors
- [\[SEM\] intro 9](#) — Standard errors, the full story
- [\[SEM\] example 26](#) — Fitting a model with data missing at random