

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

[Description](#)   
 [Syntax](#)   
 [Options](#)   
 [Remarks and examples](#)   
 [Also see](#)

## 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

Stata, Stata Press, and Mata are registered trademarks of StataCorp LLC. Stata and Stata Press are registered trademarks with the World Intellectual Property Organization of the United Nations. StataNow and NetCourseNow are trademarks of StataCorp LLC. Other brand and product names are registered trademarks or trademarks of their respective companies. Copyright © 1985–2023 StataCorp LLC, College Station, TX, USA. All rights reserved.



For suggested citations, see the [FAQ on citing Stata documentation](#).