fmm: tobit — Finite mixtures of tobit regression models

Description

fmm: tobit fits mixtures of tobit regression models; see [FMM] fmm and [R] tobit for details.

Quick start

Mixture of two tobit regression models of y on x1 and x2 where y is censored at the minimum of y
fmm 2: tobit y x1 x2, ll

As above, but where the lower-censoring limit is zero
fmm 2: tobit y x1 x2, ll(0)

As above, but where lower and upper are variables containing the censoring limits
fmm 2: tobit y x1 x2, ll(lower) ul(upper)

With class probabilities depending on z1 and z2
fmm 2, lcprob(z1 z2): tobit y x1 x2, ll

With robust standard errors
fmm 2, vce(robust): tobit y x1 x2, ll

Constrain coefficients on x1 and x2 to be equal across classes
fmm 2, lcinvariant(coef): tobit y x1 x2, ll

Menu

Statistics > FMM (finite mixture models) > Continuous outcomes > Tobit regression
Syntax

Basic syntax

    fmm #: tobit depvar [indepvars] [, options]

Full syntax

    fmm # [if] [in] [weight] [, fmmopts]: tobit depvar [indepvars] [, options]

where # specifies the number of class models.

<table>
<thead>
<tr>
<th>options</th>
<th>Description</th>
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<tbody>
<tr>
<td>noconstant</td>
<td>suppress the constant term</td>
</tr>
<tr>
<td>ll(varname</td>
<td>#)</td>
</tr>
<tr>
<td>ul(varname</td>
<td>#)</td>
</tr>
<tr>
<td>offset(varname)</td>
<td>include varname in model with coefficient constrained to 1</td>
</tr>
</tbody>
</table>

indepvars may contain factor variables; see [U] 11.4.3 Factor variables.

depvar and indepvars may contain time-series operators; see [U] 11.4.4 Time-series varlists.

For a detailed description of options, see Options in [R] tobit.
### fmmopts

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#### Model

- **lcinvvariant**(pclassname) specify parameters that are equal across classes; default is lcinvvariant(none)
- **lcprob**(varlist) specify independent variables for class probabilities
- **lclabel**(name) name of the categorical latent variable; default is lclabel(Class)
- **lcbase**(#) base latent class
- **constraints**(constraints) apply specified linear constraints

#### SE/Robust

- **vce**(vcetype) vcetype may be oim, robust, or cluster clustvar

#### Reporting

- **level**(#) set confidence level; default is level(95)
- **nocnsreport** do not display constraints
- **noheader** do not display header above parameter table
- **nodvheader** do not display dependent variables information in the header
- **notable** do not display parameter table
- **display_options** control columns and column formats, row spacing, line width, display of omitted variables and base and empty cells, and factor-variable labeling

#### Maximization

- **maximize_options** control the maximization process
- **startvalues**(svmethod) method for obtaining starting values; default is startvalues(factor)
- **emopts**(maxopts) control EM algorithm for improved starting values
- **noestimate** do not fit the model; show starting values instead
- **collinear** keep collinear variables
- **coeflegend** display legend instead of statistics

**varlist** may contain factor variables; see [U] 11.4.3 Factor variables.

by, statsby, and svy are allowed; see [U] 11.1.10 Prefix commands.

vce() and weights are not allowed with the svy prefix; see [SVY] svy.

fweights, iweights, and pweights are allowed; see [U] 11.1.6 weight.

coefflegend does not appear in the dialog box.

See [U] 20 Estimation and postestimation commands for more capabilities of estimation commands.

For a detailed description of fmmopts, see Options in [FMM] fmm.

### pclassname

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- **cons** intercepts and cutpoints
- **coef** fixed coefficients
- **errvar** covariances of errors
- **scale** scaling parameters
- **all** all the above
- **none** none of the above; the default
Remarks and examples

For a general introduction to finite mixture models, see [FMM] fmm intro. For general information about tobit regression, see [R] tobit. For examples using fmm, see examples in Contents.

Stored results

See Stored results in [FMM] fmm.

Methods and formulas

See Methods and formulas in [FMM] fmm.

Also see

[FMM] fmm — Finite mixture models using the fmm prefix
[FMM] fmm intro — Introduction to finite mixture models
[FMM] fmm postestimation — Postestimation tools for fmm
[FMM] Glossary
[R] tobit — Tobit regression
[SVY] svy estimation — Estimation commands for survey data