Title

fmm: ivregress — Finite mixtures of linear regression models with endogenous covariates

Description

`fmm: ivregress` fits mixtures of linear regression models with endogenous covariates; see [FMM] **fmm** and [R] **ivregress** for details.

Quick start

Mixture of two linear regressions of `y1` on `x1` with endogenous regressor `y2` that is instrumented by `w1`

```
fmm 2: ivregress y1 x1 (y2 = w1)
```

Same as above, but with class probabilities depending on `z1` and `z2`

```
fmm 2, lcprob(z1 z2): ivregress y1 x1 (y2 = w1)
```

With robust standard errors

```
fmm 2, vce(robust): ivregress y1 x1 (y2 = w1)
```

Constrain coefficients on `x1`, `w1`, and `y2` to be equal across classes

```
fmm 2, lcinvariant(coef): ivregress y1 x1 (y2 = w1)
```

Menu

Statistics > FMM (finite mixture models) > Continuous outcomes > Linear regression with endogenous covariates

Syntax

Basic syntax

`fmm` # `:` `ivregress` *depvar* [*varlist*$_1$] (*varlist*$_2$ `=` *varlist_iv*) [`,` *options*]

Full syntax

`fmm` # [*if*] [*in*] [*weight*] [`,` *fmmopts*] `:`

`ivregress` *depvar* [*varlist*$_1$] (*varlist*$_2$ `=` *varlist_iv*) [`,` *options*]

where # specifies the number of class models.

options	Description
Model	
`noconstant`	suppress the constant term

varlist$_1$ and *varlist_iv* may contain factor variables; see [U] **11.4.3 Factor variables**.

depvar, *varlist*$_1$, and *varlist_iv* may contain time-series operators; see [U] **11.4.4 Time-series varlists**.

For a detailed description of *options*, see *Options* in [R] **ivregress**.

fmmopts	Description
Model	
lcinvariant(*pclassname*)	specify parameters that are equal across classes; default is lcinvariant(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, opg, 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, collect, 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**.

collinear and coeflegend do 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	Description
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

stata.com

For a general introduction to finite mixture models, see [FMM] **fmm intro**. For general information about linear regression with endogenous covariates, see [R] **ivregress**. 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] **ivregress** — Single-equation instrumental-variables regression

[SVY] **svy estimation** — Estimation commands for survey data