

**Estimation** — Estimation commands for use with mi estimate

[Description](#)    [Also see](#)

## Description

Multiple-imputation data analysis in Stata is similar to standard data analysis. The standard syntax applies, but you need to remember the following for MI data analysis:

1. The data must be declared as `mi` data.

If you already have multiply imputed data (saved in Stata format), use `mi import` to import it into `mi`; see [\[MI\] mi import](#).

If you do not have multiply imputed data, use `mi set` (see [\[MI\] mi set](#)) to declare your original data to be `mi` data and use `mi impute` (see [\[MI\] mi impute](#)) to fill in missing values.

2. After you have declared `mi` data, commands such as `svyset`, `stset`, and `xtset` cannot be used. Instead use `mi svyset` to declare survey data, use `mi stset` to declare survival data, and use `mi xtset` to declare panel data. See [\[MI\] mi XXXset](#).
3. Prefix the estimation commands with `mi estimate:` (see [\[MI\] mi estimate](#)).

The following estimation commands support the `mi estimate` prefix.

| Command                                | Entry                        | Description                                     |
|--|------------------------------|---|
| Linear regression models               |                              |   |
| <code>regress</code>                   | <a href="#">[R] regress</a>  | Linear regression                               |
| <code>cnsreg</code>                    | <a href="#">[R] cnsreg</a>   | Constrained linear regression                   |
| <code>mvreg</code>                     | <a href="#">[MV] mvreg</a>   | Multivariate regression                         |
| Binary-response regression models      |                              |   |
| <code>logistic</code>                  | <a href="#">[R] logistic</a> | Logistic regression, reporting odds ratios      |
| <code>logit</code>                     | <a href="#">[R] logit</a>    | Logistic regression, reporting coefficients     |
| <code>probit</code>                    | <a href="#">[R] probit</a>   | Probit regression                               |
| <code>cloglog</code>                   | <a href="#">[R] cloglog</a>  | Complementary log–log regression                |
| <code>binreg</code>                    | <a href="#">[R] binreg</a>   | GLM for the binomial family                     |
| Count-response regression models       |                              |   |
| <code>poisson</code>                   | <a href="#">[R] poisson</a>  | Poisson regression                              |
| <code>nbreg</code>                     | <a href="#">[R] nbreg</a>    | Negative binomial regression                    |
| <code>gnbreg</code>                    | <a href="#">[R] nbreg</a>    | Generalized negative binomial regression        |
| Ordinal-response regression models     |                              |   |
| <code>ologit</code>                    | <a href="#">[R] ologit</a>   | Ordered logistic regression                     |
| <code>oprobit</code>                   | <a href="#">[R] oprobit</a>  | Ordered probit regression                       |
| Categorical-response regression models |                              |   |
| <code>mlogit</code>                    | <a href="#">[R] mlogit</a>   | Multinomial (polytomous) logistic regression    |
| <code>mprobit</code>                   | <a href="#">[R] mprobit</a>  | Multinomial probit regression                   |
| <code>clogit</code>                    | <a href="#">[R] clogit</a>   | Conditional (fixed-effects) logistic regression |

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### Fractional-response regression models

`fracreg` [R] **fracreg** Fractional response regression

### Quantile regression models

`qreg` [R] **qreg** Quantile regression  
`iqreg` [R] **iqreg** Interquantile range regression  
`sqreg` [R] **sqreg** Simultaneous-quantile regression  
`bsqreg` [R] **bsqreg** Bootstrapped quantile regression

### Survival regression models

`stcox` [ST] **stcox** Cox proportional hazards model  
`streg` [ST] **streg** Parametric survival models  
`stcrreg` [ST] **stcrreg** Competing-risks regression

### Other regression models

`glm` [R] **glm** Generalized linear models  
`areg` [R] **areg** Linear regression with a large dummy-variable set  
`rreg` [R] **rreg** Robust regression  
`truncreg` [R] **truncreg** Truncated regression

### Descriptive statistics

`mean` [R] **mean** Estimate means  
`proportion` [R] **proportion** Estimate proportions  
`ratio` [R] **ratio** Estimate ratios  
`total` [R] **total** Estimate totals

### Panel-data models

`xtreg` [XT] **xtreg** Fixed-, between- and random-effects, and population-averaged linear models  
`xtrc` [XT] **xtrc** Random-coefficients model  
`xtlogit` [XT] **xtlogit** Fixed-effects, random-effects, and population-averaged logit models  
`xtprobit` [XT] **xtprobit** Random-effects and population-averaged probit models  
`xtcloglog` [XT] **xtcloglog** Random-effects and population-averaged cloglog models  
`xtpoisson` [XT] **xtpoisson** Fixed-effects, random-effects, and population-averaged Poisson models  
`xtnbreg` [XT] **xtnbreg** Fixed-effects, random-effects, and population-averaged negative binomial models  
`xtgee` [XT] **xtgee** Fit population-averaged panel-data models by using GEE

### Multilevel mixed-effects models

`mixed` [ME] **mixed** Multilevel mixed-effects linear regression

### Survey regression models

`svy:` [SVY] **svy** Estimation commands for survey data (excluding commands that are not listed above)

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Only Taylor-linearized survey variance estimation is supported with `svy:`.

## Also see

- [MI] [mi estimate](#) — Estimation using multiple imputations
- [MI] [mi estimate postestimation](#) — Postestimation tools for mi estimate
- [MI] [mi import](#) — Import data into mi
- [MI] [mi impute](#) — Impute missing values
- [MI] [mi set](#) — Declare multiple-imputation data
- [MI] [Workflow](#) — Suggested workflow
- [MI] [Intro](#) — Introduction to mi
- [MI] [Intro substantive](#) — Introduction to multiple-imputation analysis
- [MI] [Glossary](#)