

**Bayesian estimation** — Bayesian estimation commands
[Description](#)[Video examples](#)[Also see](#)

## Description

Bayesian estimation in Stata is similar to standard estimation—simply prefix the estimation commands with `bayes:` (see [\[BAYES\] bayes](#)). You can also refer to [\[BAYES\] bayesmh](#) and [\[BAYES\] bayesmh evaluators](#) for fitting more general Bayesian models.

The following estimation commands support the `bayes` prefix.

Command	Entry	Description
Linear regression models		
<code>regress</code>	<a href="#">[BAYES] bayes: regress</a>	Linear regression
<code>hetregress</code>	<a href="#">[BAYES] bayes: hetregress</a>	Heteroskedastic linear regression
<code>tobit</code>	<a href="#">[BAYES] bayes: tobit</a>	Tobit regression
<code>intreg</code>	<a href="#">[BAYES] bayes: intreg</a>	Interval regression
<code>truncreg</code>	<a href="#">[BAYES] bayes: truncreg</a>	Truncated regression
<code>mvreg</code>	<a href="#">[BAYES] bayes: mvreg</a>	Multivariate regression
Binary-response regression models		
<code>logistic</code>	<a href="#">[BAYES] bayes: logistic</a>	Logistic regression, reporting odds ratios
<code>logit</code>	<a href="#">[BAYES] bayes: logit</a>	Logistic regression, reporting coefficients
<code>probit</code>	<a href="#">[BAYES] bayes: probit</a>	Probit regression
<code>cloglog</code>	<a href="#">[BAYES] bayes: cloglog</a>	Complementary log–log regression
<code>hetprobit</code>	<a href="#">[BAYES] bayes: hetprobit</a>	Heteroskedastic probit regression
<code>binreg</code>	<a href="#">[BAYES] bayes: binreg</a>	GLM for the binomial family
<code>biprobit</code>	<a href="#">[BAYES] bayes: biprobit</a>	Bivariate probit regression
Ordinal-response regression models		
<code>ologit</code>	<a href="#">[BAYES] bayes: ologit</a>	Ordered logistic regression
<code>oprobit</code>	<a href="#">[BAYES] bayes: oprobit</a>	Ordered probit regression
<code>hetoprobit</code>	<a href="#">[BAYES] bayes: hetoprobit</a>	Heteroskedastic ordered probit regression
<code>ziologit</code>	<a href="#">[BAYES] bayes: ziologit</a>	Zero-inflated ordered logit regression
<code>zioprobit</code>	<a href="#">[BAYES] bayes: zioprobit</a>	Zero-inflated ordered probit regression
Categorical-response regression models		
<code>mlogit</code>	<a href="#">[BAYES] bayes: mlogit</a>	Multinomial (polytomous) logistic regression
<code>mprobit</code>	<a href="#">[BAYES] bayes: mprobit</a>	Multinomial probit regression
<code>clogit</code>	<a href="#">[BAYES] bayes: clogit</a>	Conditional logistic regression

### Count-response regression models

<code>poisson</code>	[BAYES] <b>bayes: poisson</b>	Poisson regression
<code>nbreg</code>	[BAYES] <b>bayes: nbreg</b>	Negative binomial regression
<code>gnbreg</code>	[BAYES] <b>bayes: gnbreg</b>	Generalized negative binomial regression
<code>tpoisson</code>	[BAYES] <b>bayes: tpoisson</b>	Truncated Poisson regression
<code>tnbreg</code>	[BAYES] <b>bayes: tnbreg</b>	Truncated negative binomial regression
<code>zip</code>	[BAYES] <b>bayes: zip</b>	Zero-inflated Poisson regression
<code>zinb</code>	[BAYES] <b>bayes: zinb</b>	Zero-inflated negative binomial regression

### Generalized linear models

<code>glm</code>	[BAYES] <b>bayes: glm</b>	Generalized linear models
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### Fractional-response regression models

<code>fracreg</code>	[BAYES] <b>bayes: fracreg</b>	Fractional response regression
<code>betareg</code>	[BAYES] <b>bayes: betareg</b>	Beta regression

### Survival regression models

<code>streg</code>	[BAYES] <b>bayes: streg</b>	Parametric survival models
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### Sample-selection regression models

<code>heckman</code>	[BAYES] <b>bayes: heckman</b>	Heckman selection model
<code>heckprobit</code>	[BAYES] <b>bayes: heckprobit</b>	Probit regression with sample selection
<code>heckoprobit</code>	[BAYES] <b>bayes: heckoprobit</b>	Ordered probit model with sample selection

### Longitudinal/panel-data regression models

<code>xtreg</code>	[BAYES] <b>bayes: xtreg</b>	Random-effects linear regression
<code>xtlogit</code>	[BAYES] <b>bayes: xtlogit</b>	Random-effects logit regression
<code>xtprobit</code>	[BAYES] <b>bayes: xtprobit</b>	Random-effects probit regression
<code>xtologit</code>	[BAYES] <b>bayes: xtologit</b>	Random-effects ordered logit regression
<code>xtoprobit</code>	[BAYES] <b>bayes: xtoprobit</b>	Random-effects ordered probit regression
<code>xtnlogit</code>	[BAYES] <b>bayes: xtnlogit</b>	Random-effects multinomial logit regression
<code>xtpoisson</code>	[BAYES] <b>bayes: xtpoisson</b>	Random-effects Poisson regression
<code>xtnbreg</code>	[BAYES] <b>bayes: xtnbreg</b>	Random-effects negative binomial regression

### Multilevel regression models

<code>mixed</code>	[BAYES] <b>bayes: mixed</b>	Multilevel linear regression
<code>metobit</code>	[BAYES] <b>bayes: metobit</b>	Multilevel tobit regression
<code>meintreg</code>	[BAYES] <b>bayes: meintreg</b>	Multilevel interval regression
<code>melogit</code>	[BAYES] <b>bayes: melogit</b>	Multilevel logistic regression
<code>meprobit</code>	[BAYES] <b>bayes: meprobit</b>	Multilevel probit regression
<code>mecloglog</code>	[BAYES] <b>bayes: mecloglog</b>	Multilevel complementary log–log regression
<code>meologit</code>	[BAYES] <b>bayes: meologit</b>	Multilevel ordered logistic regression
<code>meoprobit</code>	[BAYES] <b>bayes: meoprobit</b>	Multilevel ordered probit regression
<code>mepoisson</code>	[BAYES] <b>bayes: mepoisson</b>	Multilevel Poisson regression
<code>menbreg</code>	[BAYES] <b>bayes: menbreg</b>	Multilevel negative binomial regression
<code>meglm</code>	[BAYES] <b>bayes: meglm</b>	Multilevel generalized linear model
<code>mestreg</code>	[BAYES] <b>bayes: mestreg</b>	Multilevel parametric survival regression

## Time-series models

`var`                    [\[BAYES\] bayes: var](#)                    Vector autoregression

## DSGE models

`dsge`                    [\[BAYES\] bayes: dsge](#)                    Linear DSGE model

`dsge1`                   [\[BAYES\] bayes: dsge1](#)                   Nonlinear DSGE model

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## Video examples

[Introduction to Bayesian statistics, part 1: The basic concepts](#)

[Introduction to Bayesian statistics, part 2: MCMC and the Metropolis–Hastings algorithm](#)

## Also see

[\[BAYES\] bayes](#) — Bayesian regression models using the bayes prefix

[\[BAYES\] bayesmh](#) — Bayesian models using Metropolis–Hastings algorithm

[\[BAYES\] bayesmh evaluators](#) — User-defined evaluators with bayesmh

[\[BAYES\] Bayesian postestimation](#) — Postestimation tools for bayesmh and the bayes prefix

[\[BAYES\] Intro](#) — Introduction to Bayesian analysis

[\[BAYES\] Glossary](#)