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Bayesian estimation — Bayesian estimation commands

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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. For Bayesian variable selection, see [BAYES] **bayesselect**.

The following estimation commands support the bayes prefix.

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

Count-response regression models

poisson	[BAYES] **bayes: poisson**	Poisson regression
nbreg	[BAYES] **bayes: nbreg**	Negative binomial regression
gnbreg	[BAYES] **bayes: gnbreg**	Generalized negative binomial regression
tpoisson	[BAYES] **bayes: tpoisson**	Truncated Poisson regression
tnbreg	[BAYES] **bayes: tnbreg**	Truncated negative binomial regression
zip	[BAYES] **bayes: zip**	Zero-inflated Poisson regression
zinb	[BAYES] **bayes: zinb**	Zero-inflated negative binomial regression

Generalized linear models

glm	[BAYES] **bayes: glm**	Generalized linear models

Fractional-response regression models

fracreg	[BAYES] **bayes: fracreg**	Fractional response regression
betareg	[BAYES] **bayes: betareg**	Beta regression

Survival regression models

streg	[BAYES] **bayes: streg**	Parametric survival models

Sample-selection regression models

heckman	[BAYES] **bayes: heckman**	Heckman selection model
heckprobit	[BAYES] **bayes: heckprobit**	Probit regression with sample selection
heckoprobit	[BAYES] **bayes: heckoprobit**	Ordered probit model with sample selection

Longitudinal/panel-data regression models

xtreg	[BAYES] **bayes: xtreg**	Random-effects linear regression
xtlogit	[BAYES] **bayes: xtlogit**	Random-effects logit regression
xtprobit	[BAYES] **bayes: xtprobit**	Random-effects probit regression
xtologit	[BAYES] **bayes: xtologit**	Random-effects ordered logit regression
xtoprobit	[BAYES] **bayes: xtoprobit**	Random-effects ordered probit regression
xtmlogit	[BAYES] **bayes: xtmlogit**	Random-effects multinomial logit regression
xtpoisson	[BAYES] **bayes: xtpoisson**	Random-effects Poisson regression
xtnbreg	[BAYES] **bayes: xtnbreg**	Random-effects negative binomial regression

Multilevel regression models

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

Time-series models

var	[BAYES] **bayes: var**	Vector autoregressive models

DSGE models

dsge	[BAYES] **bayes: dsge**	Linear DSGE models
dsgenl	[BAYES] **bayes: dsgenl**	Nonlinear DSGE models

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] **bayesselect** — Bayesian variable selection for linear regression

[BAYES] **Bayesian postestimation** — Postestimation tools after Bayesian estimation

[BAYES] **Intro** — Introduction to Bayesian analysis

[BAYES] **Glossary**

For suggested citations, see the FAQ on citing Stata documentation.