**lateffects postestimation** — Postestimation tools for lateffects[+]

[+]Postestimation features after `lateffects` are part of StataNow.



## Postestimation commands

The following postestimation commands are of special interest after `lateffects`:

| Command | Description |
|---|---|
| `lateoverlap` | overlap plots |
| `latebalance` | check balance of covariates |
| `estat compliers` | covariate averages for compliers |

The following standard postestimation commands are also available:

| Command | Description |
|---|---|
| `estat summarize` | summary statistics for the estimation sample |
| `estat vce` | variance–covariance matrix of the estimators (VCE) |
| `estimates` | cataloging estimation results |
| `etable` | table of estimation results |
| `lincom` | point estimates, standard errors, testing, and inference for linear combinations of parameters |
| `nlcom` | point estimates, standard errors, testing, and inference for nonlinear combinations of parameters |
| `predictnl` | point estimates, standard errors, testing, and inference for generalized predictions |
| `test` | Wald tests of simple and composite linear hypotheses |
| `testnl` | Wald tests of nonlinear hypotheses |

# estat

## Description for estat compliers

`estat compliers` estimates the means of covariates used to estimate a local average treatment effect (LATE) alongside the mean of those same covariates for the complier subpopulation. `estat compliers` also provides an option to obtain the kappa weights used to compute the complier means, also referred to as Abadie's kappa.

## Menu for estat compliers

Statistics > Postestimation

## Syntax for estat compliers

`estat compliers` [ *lateffectsvarlist* ] [ `, genkappa(`*newvar*`)` ]

*lateffectsvarlist* is a list of covariates from `lateffects` estimation.

## Option for estat compliers

`genkappa(`*newvar*`)` generates a variable with name *newvar* containing the weights used to compute complier covariate averages. These weights are also known as kappa weights or Abadie's kappa.

# Remarks and examples

`estat compliers` helps us characterize the average of covariates in the complier subpopulation, relative to the overall population. Given that we are estimating a treatment effect for compliers, we would like to know how compliers compare with the population. `estat compliers` additionally provides the option of generating a variable that will store Abadie's kappa. As shown by Abadie (2003), we can use the kappa weights to characterize features other than the mean for the compliers subpopulation. Thus, the kappa weights are an object of interest in their own right.

# Stored results

`estat compliers` stores the following in `r()`:

Matrices

| | |
|---|---|
| `r(kappa)` | matrix of covariate means and complier covariate means |

## Methods and formulas

`estat compliers` estimates the means of the covariates in its first column and provides the mean of those covariates for the complier subpopulation in the second column. The complier subpopulation average, for each of the $k$ covariates, is an estimator of

$$\frac{E\left(\kappa_i x_{ik}\right)}{E\left(\kappa_i\right)}$$

where the computation replaces expected values by sample averages and where $\kappa_i$ is defined by

$$\kappa_i = 1 - \frac{d_i\left(1-z_i\right)}{1-p\left(z_i=1|\mathbf{x}_{zi}\right)} - \frac{\left(1-d_i\right)z_i}{p\left(z_i=1|\mathbf{x}_{zi}\right)}$$

In the expression above, $d_i$ refers to a realization of the observed treatment, $z_i$ refers to a realization of the binary instrument, and $\mathbf{x}_{zi}$ is a vector of covariates used to model the instrument propensity score, $p\left(z_i=1|\mathbf{x}_{zi}\right)$. In the expression above, $p\left(z_i=1|\mathbf{x}_{zi}\right)$ is replaced by the logistic or probit regression estimate of the propensity score used during estimation.

## Reference

Abadie, A. 2003. Semiparametric instrumental variable estimation of treatment response models. *Journal of Econometrics* 113: 231–263. https://doi.org/10.1016/S0304-4076(02)00201-4.

## Also see

[CAUSAL] **lateffects** — Local average treatment-effect estimation+

[CAUSAL] **latebalance** — Check balance after lateffects estimation+

[CAUSAL] **lateoverlap** — Overlap plots+

**[U] 20 Estimation and postestimation commands**