

st — Survival-time data

[Description](#) [Reference](#) [Also see](#)

Description

The term *st* refers to survival-time data and the commands—most of which begin with the letters *st*—for analyzing these data. If you have data on individual subjects with observations recording that a particular subject came under observation at time t_0 and that later, at t_1 , a failure was observed, you have what we call uncensored survival-time data. If you have data on individual subjects with observations recording that a particular subject came under observation at time t_0 and that later, at t_1 , a censoring was observed, you have right-censored survival-time data. If you have data on individual subjects with observations recording that a particular subject was observed at time t_0 , but a failure already occurred by that time, you have left-censored survival-time data. If you have data on individual subjects with observations recording that a particular subject failed sometime between times t_l and t_u , you have interval-censored survival-time data. And, of course, you may have data that contain observations of all the above types.

If you have subject-specific data, with observations recording not a span of time, but measurements taken on the subject at that point in time, you have what we call a snapshot dataset; see [\[ST\] `snapspan`](#).

If you have data on populations, with observations recording the number of units under test at time t (subjects alive) and the number of subjects that failed or were lost because of censoring, you have what we call count-time data; see [\[ST\] `ct`](#).

st commands	Description
<code>stset</code>	Declare data to be survival-time data
<code>stdescribe</code>	Describe survival-time data
<code>stsum</code>	Summarize survival-time data
<code>stvary</code>	Report variables that vary over time
<code>stfill</code>	Fill in by carrying forward values of covariates
<code>stgen</code>	Generate variables reflecting entire histories
<code>stsplit</code>	Split time-span records
<code>stjoin</code>	Join time-span records
<code>stbase</code>	Form baseline dataset
<code>sts</code>	Generate, graph, list, and test the survivor and cumulative hazard functions
<code>stir</code>	Report incidence-rate comparison
<code>stci</code>	Confidence intervals for means and percentiles of survival time
<code>strate</code>	Tabulate failure rate
<code>stptime</code>	Calculate person-time
<code>stmh</code>	Calculate rate ratios with the Mantel–Haenszel method
<code>stmc</code>	Calculate rate ratios with the Mantel–Cox method

<code>stcox</code>	Fit Cox proportional hazards model
<code>estat concordance</code>	Compute the concordance probability
<code>estat phtest</code>	Test Cox proportional-hazards assumption
<code>stphplot</code>	Graphically assess the Cox proportional-hazards assumption
<code>stcoxkm</code>	Graphically assess the Cox proportional-hazards assumption
<code>streg</code>	Fit parametric survival models
<code>stintreg</code>	Fit parametric survival models for interval-censored data
<code>xtstreg</code>	Random-effects parametric survival models
<code>mestreg</code>	Multilevel mixed-effects parametric survival models
<code>steffects</code>	Treatment-effects estimation for observational survival-time data
<code>stcurve</code>	Plot survivor, hazard, cumulative hazard, or cumulative incidence function
<code>stcrreg</code>	Fit competing-risks regression models
<code>stocc</code>	Convert survival-time data to case-control data
<code>sttoct</code>	Convert survival-time data to count-time data
<code>st_*</code>	Survival analysis subroutines for programmers
<code>fmm: streg</code>	Finite mixtures of parametric survival models
<code>bayes: streg</code>	Bayesian parametric survival models
<code>bayes: mestreg</code>	Bayesian multilevel parametric survival models

The `st` commands are used for analyzing time-to-absorbing-event (single-failure) data and for analyzing time-to-repeated-event (multiple-failure) data.

For uncensored and right-censored data, you begin an analysis by `stset`ting your data, which tells Stata the key survival-time variables; see [ST] [stset](#). Once you have `stset` your data, you can use the other `st` commands. If you save your data after `stset`ting it, you will not have to `stset` it again in the future; Stata will remember.

The `stintreg` command is designed for the analysis of general interval-censored data, including right-, left-, and interval-censored observations. It does not require `stset`ting the data.

The subsequent `st` entries are printed in this manual in alphabetical order. You can skip around, but if you want to be an expert on all of Stata's survival analysis capabilities, we suggest the reading order listed above.

Reference

Cleves, M. A. 1999. [ssa13: Analysis of multiple failure-time data with Stata](#). *Stata Technical Bulletin* 49: 30–39. Reprinted in *Stata Technical Bulletin Reprints*, vol. 9, pp. 338–349. College Station, TX: Stata Press.

Also see

- [ST] [stset](#) — Declare data to be survival-time data
- [ST] [ct](#) — Count-time data
- [ST] [snapspan](#) — Convert snapshot data to time-span data
- [ST] [survival analysis](#) — Introduction to survival analysis
- [ST] [Glossary](#)