

# Title

**st** — Survival-time data

## 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 this subject came under observation at time  $t_0$  and that later, at  $t_1$ , a failure or censoring was observed, you have what we call survival-time data.

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**.

The *st* commands are

<code>stset</code>	[ST] <b>stset</b>	Declare data to be survival-time data
<code>stdescribe</code>	[ST] <b>stdescribe</b>	Describe survival-time data
<code>stsum</code>	[ST] <b>stsum</b>	Summarize survival-time data
<code>stvary</code>	[ST] <b>stvary</b>	Report whether variables vary over time
<code>stfill</code>	[ST] <b>stfill</b>	Fill in by carrying forward values of covariates
<code>stgen</code>	[ST] <b>stgen</b>	Generate variables reflecting entire histories
<code>stsplit</code>	[ST] <b>stsplit</b>	Split time-span records
<code>stjoin</code>	[ST] <b>stsplit</b>	Join time-span records
<code>stbase</code>	[ST] <b>stbase</b>	Form baseline dataset
<code>sts</code>	[ST] <b>sts</b>	Generate, graph, list, and test the survivor and cumulative hazard functions
<code>stir</code>	[ST] <b>stir</b>	Report incidence-rate comparison
<code>stci</code>	[ST] <b>stci</b>	Confidence intervals for means and percentiles of survival time
<code>strate</code>	[ST] <b>strate</b>	Tabulate failure rate
<code>stptime</code>	[ST] <b>stptime</b>	Calculate person-time
<code>stmh</code>	[ST] <b>strate</b>	Calculate rate ratios with the Mantel–Haenszel method
<code>stmc</code>	[ST] <b>strate</b>	Calculate rate ratios with the Mantel–Cox method
<code>stcox</code>	[ST] <b>stcox</b>	Fit Cox proportional hazards model
<code>estat concordance</code>	[ST] <b>stcox postestimation</b>	Compute the concordance probability
<code>estat phtest</code>	[ST] <b>stcox PH-assumption tests</b>	Test Cox proportional-hazards assumption
<code>stphplot</code>	[ST] <b>stcox PH-assumption tests</b>	Graphically assess the Cox proportional-hazards assumption
<code>stcoxkm</code>	[ST] <b>stcox PH-assumption tests</b>	Graphically assess the Cox proportional-hazards assumption

<code>streg</code>	[ST] <b>streg</b>	Fit parametric survival models
<code>stcurve</code>	[ST] <b>stcurve</b>	Plot survivor, hazard, cumulative hazard, or cumulative incidence function
<code>stcrreg</code>	[ST] <b>stcrreg</b>	Fit competing-risks regression models
<code>stpwr</code>	[ST] <b>stpwr</b>	Sample-size, power, and effect-size determination for survival studies
<code>stpwr cox</code>	[ST] <b>stpwr cox</b>	Sample size, power, and effect size for the Cox proportional hazards model
<code>stpwr exponential</code>	[ST] <b>stpwr exponential</b>	Sample size and power for the exponential test
<code>stpwr logrank</code>	[ST] <b>stpwr logrank</b>	Sample size, power, and effect size for the log-rank test
<code>sttocc</code>	[ST] <b>sttocc</b>	Convert survival-time data to case-control data
<code>sttoct</code>	[ST] <b>sttoct</b>	Convert survival-time data to count-time data
<code>st_*</code>	[ST] <b>st_*</b>	Survival analysis subroutines for programmers

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

You begin an analysis by `stset` 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`ing it, you will not have to `stset` it again in the future; Stata will remember.

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] **snapsn** — Convert snapshot data to time-span data

[ST] **survival analysis** — Introduction to survival analysis & epidemiological tables commands

[ST] **Glossary**