

stvary — Report variables that vary over time

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Description

`stvary` is for use with multiple-record datasets, for which `id()` has been `stset`. It reports whether values of variables within subject vary over time and reports their pattern of missing values. Although `stvary` is intended for use with multiple-record st data, it may be used with single-record data as well, but this produces little useful information.

`stvary` ignores weights, even if you have set them. `stvary` summarizes the variables in the computer or data sense of the word.

Quick start

Report whether variables vary over time and whether they have missing values using multiple-record `stset` data

```
stvary
```

As above, but only show report for `x1` and `x2`

```
stvary x1 x2
```

As above, but with separate reports for each level of `v1`

```
by v1, sort: stvary x1 x2
```

Menu

Statistics > Survival analysis > Setup and utilities > Report variables that vary over time

Syntax

```
stvary [varlist] [if] [in] [, noshow]
```

You must `stset` your data before using `stvary`; see [\[ST\] stset](#).

`by` and `collect` are allowed; see [\[U\] 11.1.10 Prefix commands](#).

`fweights`, `iwweights`, and `pweights` may be specified using `stset`; see [\[ST\] stset](#).

Option

Main

`noshow` prevents `stvary` from showing the key st variables. This option is seldom used because most people type `stset`, `show` or `stset`, `noshow` to set whether they want to see these variables mentioned at the top of the output of every st command; see [\[ST\] stset](#).

Remarks and examples

Consider a multiple-record dataset. A subject's sex, presumably, does not change, but his or her age might. `stvary` allows you to verify that values vary in the way that you expect:

```
. use https://www.stata-press.com/data/r17/stan3
(Heart transplant data)

. stvary

      Failure _d: died
Analysis time _t: t1
      ID variable: id

      Subjects for whom the variable is

Variable | constant   varying          never   always sometimes
          |           |          | missing missing   missing
-----|-----|-----|-----|-----|-----
      year |         103         0           103     0         0
      age  |         103         0           103     0         0
      stime|         103         0           103     0         0
  surgery |         103         0           103     0         0
transplant|         103         0           103     0         0
      wait |         103         0           103     0         0
posttran  |          34         69           103     0         0
```

That 103 values for `year` are “constant” does not mean that `year` itself is a constant—it means merely that, for each subject, the value of `year` does not change across the records. Whether the values of `year` vary across subjects is still an open question.

Now look at the bottom of the table: `posttran` is constant over time for 34 subjects and varies for the remaining 69.

Below we have another dataset, and we will examine just two of the variables:

```
. use https://www.stata-press.com/data/r17/stvaryex

. stvary sex drug

      Failure _d: fail
Analysis time _t: t
Exit on or before: time .
      ID variable: id

      Subjects for whom the variable is

Variable | constant   varying          never   always sometimes
          |           |          | missing missing   missing
-----|-----|-----|-----|-----|-----
      sex |         119         1           119     3         1
      drug|         121         2           123     0         0
```

Clearly, there are errors in the `sex` variable; for 119 of the subjects, `sex` does not change over time, but for one, it does. Also we see that we do not know the sex of three of the patients, but for another, we sometimes know it and sometimes do not. The latter must be a simple data-construction error. As for `drug`, we see that for two of our patients, the drug administered varied over time. Perhaps this is an error, or perhaps those two patients were treated differently from all the rest.

Video example

[How to describe and summarize survival data](#)

Stored results

stvary stores the following in `r()`:

Scalars

<code>r(cons)</code>	number of subjects for whom variable is constant when not missing
<code>r(varies)</code>	number of subjects for whom nonmissing values vary
<code>r(never)</code>	number of subjects for whom variable is never missing
<code>r(always)</code>	number of subjects for whom variable is always missing
<code>r(miss)</code>	number of subjects for whom variable is sometimes missing

Reference

Cleves, M. A., W. W. Gould, and Y. V. Marchenko. 2016. *An Introduction to Survival Analysis Using Stata*. Rev. 3rd ed. College Station, TX: Stata Press.

Also see

[ST] [stdescribe](#) — Describe survival-time data

[ST] [stfill](#) — Fill in by carrying forward values of covariates

[ST] [stset](#) — Declare data to be survival-time data