

snapspan — Convert snapshot data to time-span data[Description](#)
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Description

`snapspan` converts snapshot data for a given subject to time-span data required for use with survival analysis commands, such as `stcox`, `streg`, and `stset`. `snapspan` replaces the data in the specified variables. Transformed variables may be “events” that occur at the instant of the snapshot or retrospective variables that are to apply to the time span ending at the time of the current snapshot.

Quick start

Create a time-span dataset from data containing subject identifier `id`, event variable `evar` occurring at the time in `tvar`, and other variables measured at that time

```
snapspan id tvar evar
```

Same as above, and create new variable `time0` containing the entry time for each record

```
snapspan id tvar evar, generate(time0)
```

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Syntax

```
snapspan idvar timevar varlist [, generate(newt0var) replace]
```

idvar records the subject ID and may be string or numeric.

timevar records the time of the snapshot; it must be numeric and may be recorded on any scale: date, hour, minute, second, etc.

varlist are the “event” variables, meaning that they occur at the instant of *timevar*. *varlist* can also include retrospective variables that are to apply to the time span ending at the time of the current snapshot. The other variables are assumed to be measured at the time of the snapshot and thus apply from the time of the snapshot forward. See [Specifying varlist](#) below.

`snapspan` does not allow alias variables; see [\[D\] frunalias](#) for advice on how to get around this restriction.

Options

`generate`(*newt0var*) adds *newt0var* to the dataset containing the entry time for each converted time-span record.

`replace` specifies that it is okay to change the data in memory, even though the dataset has not been saved on disk in its current form.

Remarks and examples

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Remarks are presented under the following headings:

[Snapshot and time-span datasets](#)
[Specifying varlist](#)

Snapshot and time-span datasets

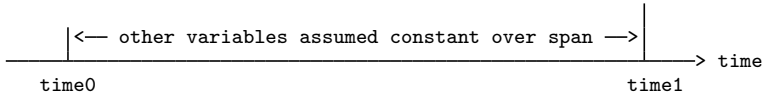
`snapspan` converts a snapshot dataset to a time-span dataset. A snapshot dataset records a subject *id*, a *time*, and then other variables measured at the *time*:

Snapshot datasets:

| <i>idvar</i> | <i>timevar</i> | x1 | x2 | ... |
|--------------|----------------|----|----|-----|
| 47 | 12 | 5 | 27 | ... |
| 47 | 42 | 5 | 18 | ... |
| 47 | 55 | 5 | 19 | ... |
| <i>idvar</i> | <i>datevar</i> | x1 | x2 | ... |
| 122 | 14jul1998 | 5 | 27 | ... |
| 122 | 12aug1998 | 5 | 18 | ... |
| 122 | 08sep1998 | 5 | 19 | ... |
| <i>idvar</i> | <i>year</i> | x1 | x2 | ... |
| 122 | 1994 | 5 | 27 | ... |
| 122 | 1995 | 5 | 18 | ... |
| 122 | 1997 | 5 | 19 | ... |

A time-span dataset records a span of time (*time0*, *time1*):

some variables assumed
to occur at *time1*



Time-span data are required, for instance, by `stset` and the `st` system. The variables assumed to occur at `time1` are the failure or event variables. All the other variables are assumed to be constant over the span.

Time-span datasets:

| idvar | time0 | time1 | x1 | x2 | ... | event |
|-------|-----------|-----------|----|----|-----|-------|
| 47 | 0 | 12 | 5 | 13 | ... | 0 |
| 47 | 12 | 42 | 5 | 27 | ... | 0 |
| 47 | 42 | 55 | 5 | 18 | ... | 1 |
| idvar | time0 | time1 | x1 | x2 | ... | event |
| 122 | 01jan1998 | 14jul1998 | 5 | 13 | ... | 0 |
| 122 | 14jul1998 | 12aug1998 | 5 | 27 | ... | 0 |
| 122 | 12aug1998 | 08sep1998 | 5 | 18 | ... | 1 |
| idvar | time0 | time1 | x1 | x2 | ... | event |
| 122 | 1993 | 1994 | 5 | 13 | ... | 0 |
| 122 | 1994 | 1995 | 5 | 27 | ... | 0 |
| 122 | 1995 | 1997 | 5 | 18 | ... | 1 |

To convert snapshot data to time-span data, you need to distinguish between event and nonevent variables. Event variables happen at an instant.

Say that you have a snapshot dataset containing variable `e` recording an event (`e = 1` might record surgery, death, becoming unemployed, etc.) and the rest of the variables—call them `x1`, `x2`, etc.—recording characteristics (such as sex, birth date, blood pressure, or weekly wage). The same data, in snapshot and time-span form, would be

| In snapshot form: | | | | | In time-span form: | | | | | |
|-------------------|------|----|----|----|--------------------|-------|------|----|----|----|
| id | time | x1 | x2 | e | id | time0 | time | x1 | x2 | e |
| 1 | 5 | a1 | b1 | e1 | 1 | . | 5 | . | . | e1 |
| 1 | 7 | a2 | b2 | e2 | 1 | 5 | 7 | a1 | b1 | e2 |
| 1 | 9 | a3 | b3 | e3 | 1 | 7 | 9 | a2 | b2 | e3 |
| 1 | 11 | a4 | b4 | e4 | 1 | 9 | 11 | a3 | b3 | e4 |

`snapspan` converts data from the form on the left to the form on the right:

```
. snapspan id time e, generate(time0) replace
```

The form on the right is suitable for use by `stcox` and `stset` and the other survival analysis commands.

Specifying varlist

The *varlist*—the third variable on—specifies the “event” variables.

In fact, the *varlist* specifies the variables that apply to the time span ending at the time of the current snapshot. The other variables are assumed to be measured at the time of the snapshot and thus apply from the time of the snapshot forward.

Thus *varlist* should include retrospective variables.

For instance, say that the snapshot recorded `bp`, blood pressure; `smokes`, whether the patient smoked in the last 2 weeks; and `event`, a variable recording examination, surgery, etc. Then *varlist* should include `smokes` and `event`. The remaining variables, `bp` and the rest, would be assumed to apply from the time of the snapshot forward.

Suppose that the snapshot recorded `ecs`, employment change status (hired, fired, promoted, etc.); `wage`, the current hourly wage; and `ms`, current marital status. Then *varlist* should include `esc` and `ms` (assuming snapshot records are not generated for reason of `ms` change). The remaining variables, `wage` and the rest, would be assumed to apply from the time of the snapshot forward.

Also see

[ST] **stset** — Declare data to be survival-time data

[D] **frunalias** — Change storage type of alias variables

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