tsrevar — Time-series operator programming command

Description

`tsrevar, substitute` takes a *varlist* that might contain *op*`.`*varname* combinations and substitutes equivalent temporary variables for the combinations.

`tsrevar, list` creates no new variables. It returns in `r(varlist)` the list of base variables corresponding to *varlist*.

Quick start

Create temporary variables containing the first lag and difference of `y` using `tsset` data, and store the temporary variable names in `r(varlist)`

```
tsrevar l.y d.y
```

Store the name of the base variable, `y`, in `r(varlist)`, and do not create any temporary variables

```
tsrevar l.y d.y, list
```

Syntax

`tsrevar` [*varlist*] [*if*] [*in*] [, `substitute` `list`]

You must `tsset` your data before using `tsrevar`; see [TS] **tsset**.
`collect` is allowed; see **[U] 11.1.10 Prefix commands**.

Options

`substitute` specifies that `tsrevar` resolve *op*`.`*varname* combinations by creating temporary variables as described above. `substitute` is the default action taken by `tsrevar`; you do not need to specify the option.

`list` specifies that `tsrevar` return a list of base variable names.

Remarks and examples

`tsrevar` substitutes temporary variables for any *op*`.`*varname* combinations in a variable list. For instance, the original *varlist* might be "`gnp L.gnp r`", and `tsrevar, substitute` would create *newvar* = `L.gnp` and create the equivalent varlist "`gnp` *newvar* `r`". This new varlist could then be used with commands that do not otherwise support time-series operators, or it could be used in a program to make execution faster at the expense of using more memory.

`tsrevar, substitute` might create no new variables, one new variable, or many new variables, depending on the number of *op*`.`*varname* combinations appearing in *varlist*. Any new variables created are temporary. The new, equivalent varlist is returned in `r(varlist)`. The new varlist corresponds one to one with the original *varlist*.

`tsrevar, list` returns in `r(varlist)` the list of base variable names of *varlist* with the time-series operators removed. `tsrevar, list` creates no new variables. For instance, if the original *varlist* were "`gnp l.gnp l2.gnp r l.cd`", then `r(varlist)` would contain "`gnp r cd`". This is useful for programmers who might want to create programs to keep only the variables corresponding to *varlist*.

Example 1

```
. use https://www.stata-press.com/data/r19/tsrevarex
. tsrevar l.gnp d.gnp r
```

creates two temporary variables containing the values for `l.gnp` and `d.gnp`. The variable `r` appears in the new variable list but does not require a temporary variable.

The resulting variable list is

```
. display "`r(varlist)'"
__00014P __00014Q r
```

(Your temporary variable names may be different, but that is of no consequence.)

We can see the results by listing the new variables alongside the original value of `gnp`.

```
. list gnp `r(varlist)'  in 1/5
```

	gnp	__00014P	__00014Q	r
1.	128	.	.	3.2
2.	135	128	7	3.8
3.	132	135	-3	2.6
4.	138	132	6	3.9
5.	145	138	7	4.2

Temporary variables automatically vanish when the program concludes.

If we had needed only the base variable names, we could have specified

```
. tsrevar l.gnp d.gnp r, list
. display "`r(varlist)'"
gnp r
```

The order of the list will probably differ from that of the original list; base variables are listed only once and are listed in the order that they appear in the dataset.

◁

❑ Technical note

tsrevar, substitute avoids creating duplicate variables. Consider

```
. tsrevar gnp l.gnp r cd l.cd l.gnp
```

l.gnp appears twice in the varlist. tsrevar will create only one new variable for l.gnp and use that new variable twice in the resulting r(varlist). Moreover, tsrevar will even do this across multiple calls:

```
. tsrevar gnp l.gnp cd l.cd
. tsrevar cpi l.gnp
```

l.gnp appears in two separate calls. At the first call, tsrevar creates a temporary variable corresponding to l.gnp. At the second call, tsrevar remembers what it has done and uses that same temporary variable for l.gnp again.

❑

Stored results

tsrevar stores the following in r():

Macros

r(varlist)	the modified variable list or list of base variable names

Also see

[P] **syntax** — Parse Stata syntax

[P] **unab** — Unabbreviate variable list

[R] **fvrevar** — Factor-variables operator programming command

[U] 11 Language syntax

[U] 11.4.4 Time-series varlists

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