Title

svy: tabulate oneway — One-way tables for survey data

Syntax

Basic syntax

```
svy: tabulate varname
```

Full syntax

```
svy [vcetype] [, svy_options] : tabulate varname [if] [in]
    [, tabulate_options display_items display_options]
```

Syntax to report results

```
svy [, display_items display_options]
```

vcetype	description
SE	
`linearized`	Taylor linearized variance estimation
`brr`	BRR variance estimation; see [SVY] **svy brr**
`jackknife`	jackknife variance estimation; see [SVY] **svy jackknife**

Specifying a *vcetype* overrides the default from `svyset`.

svy_options	description
if/in	
`subpop(`[*varname*] [*if*]`)`	identify a subpopulation
SE	
brr_options	more options allowed with BRR variance estimation; see [SVY] ***brr_options***
jackknife_options	more options allowed with jackknife variance estimation; see [SVY] ***jackknife_options***

`svy` requires that the survey design variables be identified using `svyset`; see [SVY] **svyset**.

See [U] **20 Estimation and postestimation commands** for more capabilities of estimation commands.

Warning: Using `if` or `in` restrictions will often not produce correct variance estimates for subpopulations. To compute estimates for a subpopulation, use the `subpop()` option.

tabulate_options	description
Model	
stdize(*varname*)	variable identifying strata for standardization
stdweight(*varname*)	weight variable for standardization
tab(*varname*)	variable for which to compute cell totals/proportions
missing	treat missing values like other values

display_items	description
Table items	
cell	cell proportions
count	weighted cell counts
se	standard errors
ci	confidence intervals
deff	display the DEFF design effects
deft	display the DEFT design effects
cv	display the coefficient of variation
srssubpop	report design effects assuming SRS within subpopulation
obs	cell observations

When any of `se`, `ci`, `deff`, `deft`, `cv`, or `srssubpop` is specified, only one of `cell` or `count` can be specified. If none of `se`, `ci`, `deff`, `deft`, `cv`, or `srssubpop` is specified, both `cell` and `count` can be specified.

display_options	description
Reporting	
level(#)	set confidence level; default is `level(95)`
†proportion	display proportions; the default
percent	display percentages instead of proportions
nomarginal	suppress column marginal
nolabel	suppress displaying value labels
cellwidth(#)	cell width
csepwidth(#)	column-separation width
stubwidth(#)	stub width
format(%*fmt*)	cell format; default is `format(%6.0g)`

†`proportion` is not shown in the dialog box.

Menu

Statistics > Survey data analysis > Tables > One-way tables

Description

`svy: tabulate` produces one-way tabulations for complex survey data. See [SVY] **svy: tabulate twoway** for two-way tabulations for complex survey data.

Options

svy_options; see [SVY] **svy**.

Model

`stdize(`*varname*`)` specifies that the point estimates be adjusted by direct standardization across the strata identified by *varname*. This option requires the `stdweight()` option.

`stdweight(`*varname*`)` specifies the weight variable associated with the strata identified in the `stdize()` option. The standardization weights must be constant within the standard strata.

`tab(`*varname*`)` specifies that counts be cell totals of this variable and that proportions (or percentages) be relative to (that is, weighted by) this variable. For example, if this variable denotes income, then the cell "counts" are instead totals of income for each cell, and the cell proportions are proportions of income for each cell.

`missing` specifies that missing values in *varname* be treated as another row category rather than be omitted from the analysis (the default).

Table items

`cell` requests that cell proportions (or percentages) be displayed. This is the default if `count` is not specified.

`count` requests that weighted cell counts be displayed.

`se` requests that the standard errors of cell proportions (the default) or weighted counts be displayed. When `se` (or `ci`, `deff`, `deft`, or `cv`) is specified, only one of `cell` or `count` can be selected. The standard error computed is the standard error of the one selected.

`ci` requests confidence intervals for cell proportions or weighted counts.

`deff` and `deft` request that the design-effect measures DEFF and DEFT be displayed for each cell proportion or weighted count. See [SVY] **estat** for details.

Options `deff` and `deft` are not allowed with estimation results that used direct standardization or poststratification.

`cv` requests that the coefficient of variation be displayed for each cell proportion, count, or row or column proportion. See [SVY] **estat** for details.

`srssubpop` requests that DEFF and DEFT be computed using an estimate of SRS (simple random sampling) variance for sampling within a subpopulation. By default, DEFF and DEFT are computed using an estimate of the SRS variance for sampling from the entire population. Typically, `srssubpop` would be given when computing subpopulation estimates by strata or by groups of strata.

`obs` requests that the number of observations for each cell be displayed.

Reporting

`level(#)` specifies the confidence level, as a percentage, for confidence intervals. The default is `level(95)` or as set by `set level`; see [U] **20.7 Specifying the width of confidence intervals**.

`proportion`, the default, requests that proportions be displayed.

`percent` requests that percentages be displayed instead of proportions.

`nomarginal` requests that the column marginal not be displayed.

`nolabel` requests that variable labels and value labels be ignored.

`cellwidth(#)`, `csepwidth(#)`, and `stubwidth(#)` specify widths of table elements in the output; see [P] **tabdisp**. Acceptable values for the `stubwidth()` option range from 4 to 32.

`format(%`*fmt*`)` specifies a format for the items in the table. The default is `format(%6.0g)`. See [U] **12.5 Formats: Controlling how data are displayed**.

`svy: tabulate` uses the `tabdisp` command (see [P] **tabdisp**) to produce the table. Only five items can be displayed in the table at one time. The `ci` option implies two items. If too many items are selected, a warning will appear immediately. To view more items, redisplay the table while specifying different options.

Remarks

Despite the long list of options for `svy: tabulate`, it is a simple command to use. Using the `svy: tabulate` command is just like using `tabulate` to produce one-way tables for ordinary data. The main difference is that `svy: tabulate` computes standard errors appropriate for complex survey data.

Standard errors and confidence intervals can optionally be displayed for weighted counts or cell proportions. The confidence intervals for proportions are constructed using a logit transform so that their endpoints always lie between 0 and 1; see [SVY] **svy: tabulate twoway**. Associated design effects (DEFF and DEFT) can be viewed for the variance estimates.

▷ Example 1

Here we use `svy: tabulate` to estimate the distribution of the `race` category variable from our NHANES II dataset (McDowell et al. 1981). Before calling `svy: tabulate`, we use `svyset` to declare the survey structure of the data.

```
. use http://www.stata-press.com/data/r11/nhanes2b
. svyset psuid [pweight=finalwgt], strata(stratid)
      pweight: finalwgt
          VCE: linearized
  Single unit: missing
     Strata 1: stratid
         SU 1: psuid
        FPC 1: <zero>
. svy: tabulate race
(running tabulate on estimation sample)
Number of strata   =        31                  Number of obs      =      10351
Number of PSUs     =        62                  Population size    =  117157513
                                                Design df          =         31
```

1=white, 2=black, 3=other	proportions
White	.8792
Black	.0955
Other	.0253
Total	1

Key: proportions = cell proportions

Here we display weighted counts for each category of `race` along with the 95% confidence bounds, as well as the design effects DEFF and DEFT. We also use the `format()` option to improve the look of the table.

```
. svy: tabulate race, format(%11.3g) count ci deff deft
(running tabulate on estimation sample)
Number of strata   =        31                 Number of obs      =      10351
Number of PSUs     =        62                 Population size    =  117157513
                                               Design df          =         31
```

1=white, 2=black, 3=other	count	lb	ub	deff	deft
White	102999549	97060400	108938698	60.2	7.76
Black	11189236	8213964	14164508	18.6	4.31
Other	2968728	414930	5522526	47.9	6.92
Total	117157513				

```
  Key:  count     =  weighted counts
        lb        =  lower 95% confidence bounds for weighted counts
        ub        =  upper 95% confidence bounds for weighted counts
        deff      =  deff for variances of weighted counts
        deft      =  deft for variances of weighted counts
```

From the above results, we can conclude with 95% confidence that the number of people in the population that fall within the `White` category is between 97,060,400 and 108,938,698.

◁

Saved results

In addition to the results documented in [SVY] **svy**, `svy: tabulate` also saves the following in `e()`:

Scalars

`e(r)`	number of rows	`e(total)`	weighted sum of `tab()` variable

Macros

`e(cmd)`	`tabulate`	`e(rowvlab)`	row variable label
`e(tab)`	`tab()` variable	`e(rowvar)`	*varname*, the row variable
`e(rowlab)`	`label` or empty	`e(setype)`	`cell` or `count`

Matrices

`e(Prop)`	matrix of cell proportions	`e(V_row)`	variance for row totals
`e(Obs)`	matrix of observation counts	`e(V_srs_row)`	V_{srs} for row totals
`e(Deff)`	DEFF vector for `e(setype)` items	`e(Deff_row)`	DEFF for row totals
`e(Deft)`	DEFT vector for `e(setype)` items	`e(Deft_row)`	DEFT for row totals
`e(Row)`	values for row variable		

Methods and formulas

`svy: tabulate` is implemented as an ado-file.

See *Methods and formulas* in [SVY] **svy: tabulate twoway** for a discussion of how table items and confidence intervals are computed. A one-way table is really just a two-way table that has one row or column.

Reference

McDowell, A., A. Engel, J. T. Massey, and K. Maurer. 1981. Plan and operation of the Second National Health and Nutrition Examination Survey, 1976–1980. *Vital and Health Statistics* 1(15): 1–144.

Also see

[SVY] **svy postestimation** — Postestimation tools for svy

[SVY] **svydescribe** — Describe survey data

[R] **tabulate oneway** — One-way tables of frequencies

[SVY] **svy: tabulate twoway** — Two-way tables for survey data

[U] **20 Estimation and postestimation commands**

[SVY] **direct standardization** — Direct standardization of means, proportions, and ratios

[SVY] **poststratification** — Poststratification for survey data

[SVY] **subpopulation estimation** — Subpopulation estimation for survey data

[SVY] **svy** — The survey prefix command

[SVY] **variance estimation** — Variance estimation for survey data