Tables from Data

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Last updated September 16, 2018

By now, you should have:

- Downloaded R or Stata
- Understood wht's what in a GUI
- Read in the August 2018 Poll

READING IN

As we saw in the previous note, in R:

```
library(tidyverse)

hh <- readRDS("data/input/2018-08/HHP_August2018_data.Rds")
```

And in Stata reading in a Stata dataset is through the `use` command

```
cd "data/input/2018-08"
use HHP_August2018_data, clear
```

SIMPLE TABLES IN R

```
xtabs(formula = ~ QH01, data =  hh)
```

```
## QH01
##  Yes   No
## 1297  130
```

And in R, you can abbreviate the argument names if you give them in the order provided:

```
xtabs(~ QM3AR1 + QHO1, hh)
```

```
##                       QHO1
## QM3AR1                 Yes  No
##   Strongly approve     375  39
##   Somewhat approve     352  29
##   Somewhat disapprove  220  24
##   Strongly disapprove  350  38
```

R TABLES WITH PERCENTAGES

For proportions, you can use the `prop.table()` function.

```
h1 <- xtabs(~ QHO1, data = hh)
prop.table(h1)
```

```
## QHO1
##        Yes         No
## 0.90889979 0.09110021
```

For presentation, it is always better to round to about 2 or 3 digits in total to make the numbers more readable. For this you would want to wrap your porportion table with the `round()` function.

```
round(prop.table(h1), digits = 2)
```

```
## QHO1
##  Yes   No
## 0.91 0.09
```

When using a table (cross-tabulation), `prop.table` has the option to either compute percentages as a proportion of the rows, the columns, or the cells.

```
m3h1 <- xtabs(~ QM3AR1 + QHO1, hh)
```

In cell percentages, all cells add up to 1:

```
prop.table(m3h1, margin = NULL)
```

```
##                       QH01
## QM3AR1                       Yes         No
##   Strongly approve    0.26278907 0.02733006
##   Somewhat approve    0.24667134 0.02032235
##   Somewhat disapprove 0.15416959 0.01681850
##   Strongly disapprove 0.24526980 0.02662929
```

With row percentages (`margin = 1`), each row adds up separately to 1:

```
prop.table(m3h1, margin = 1)
```

```
##                       QH01
## QM3AR1                       Yes         No
##   Strongly approve    0.90579710 0.09420290
##   Somewhat approve    0.92388451 0.07611549
##   Somewhat disapprove 0.90163934 0.09836066
##   Strongly disapprove 0.90206186 0.09793814
```

And with column percentages (`margin = 2`), each column adds up separately to 1:

```
prop.table(m3h1, margin = 2)
```

```
##                       QH01
## QM3AR1                       Yes        No
##   Strongly approve    0.2891288 0.3000000
##   Somewhat approve    0.2713955 0.2230769
##   Somewhat disapprove 0.1696222 0.1846154
##   Strongly disapprove 0.2698535 0.2923077
```

SIMPLE TABLES IN STATA

The tab (or tabulate) command

```
tab QM3AR1
```

```
       M3AR1 1. The |
 economy: M3 Do you |
         approve or |
  disapprove of the |
job President Trump |      Freq.     Percent        Cum.
--------------------+-----------------------------------
   Strongly approve |        414       29.01       29.01
   Somewhat approve |        381       26.70       55.71
```

```
Somewhat disapprove |        244       17.10       72.81
Strongly disapprove |        388       27.19      100.00
--------------------+-----------------------------------
              Total |      1,427      100.00
```

Options come after the comma (look at help page for what options are available)

```
tab QM3AR1, sort
```

```
       M3AR1 1. The |
 economy: M3 Do you |
         approve or |
  disapprove of the |
job President Trump |      Freq.     Percent        Cum.
--------------------+-----------------------------------
   Strongly approve |        414       29.01       29.01
Strongly disapprove |        388       27.19       56.20
   Somewhat approve |        381       26.70       82.90
Somewhat disapprove |        244       17.10      100.00
--------------------+-----------------------------------
              Total |      1,427      100.00
```

Cross-tabs

```
tab QM3AR1 QH01
```

```
       M3AR1 1. The |
 economy: M3 Do you |
         approve or |    H01 Do you have
  disapprove of the |   health insurance?
job President Trump |       Yes         No |     Total
--------------------+----------------------+----------
   Strongly approve |       375         39 |       414
   Somewhat approve |       352         29 |       381
Somewhat disapprove |       220         24 |       244
Strongly disapprove |       350         38 |       388
--------------------+----------------------+----------
              Total |     1,297        130 |     1,427
```

DEFINING THE SURVEY IN R

To do more complex operations like using weights, use the survey package to define the properties of the dataset.

```
library(survey)
library(srvyr)
```

To set weights,

```
hh_svy <- svydesign(data = hh, ids = ~0, weights = ~Propwts)
```

To do cross-tabs (now with weights)

```
svytable(~ QM3AR1 + QHO1, hh_svy)
```

```
##                       QHO1
## QM3AR1                     Yes        No
##   Strongly approve    365.89978  40.35705
##   Somewhat approve    339.31558  28.33873
##   Somewhat disapprove 224.37649  28.15894
##   Strongly disapprove 360.98314  39.57034
```