



17.0
BE—Basic Edition

Statistics and Data Science

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Notes:

1. Unicode is supported; see [help unicode advice](#).
2. New update available; type `-update all-`

```
1 . import excel "C:\Users\tkaur\Downloads\driving dataset (2).xlsx", sheet("driving") firstrow  
   (24 vars, 1,200 obs)
```

```
2 . xtset totfat
```

Panel variable: **totfat** (unbalanced)

```
3 . xtset slcom
```

Panel variable: **slcom** (unbalanced)

```
4 . xtset seatbelt
```

Panel variable: **seatbelt** (unbalanced)

```
5 . xtset gdl
```

Panel variable: **gdl** (unbalanced)

```
6 . xtset bac10
```

Panel variable: **bac10** (unbalanced)

```
7 . xtset bac08
```

Panel variable: **bac08** (unbalanced)

```
8 . xtset nghtfat
```

Panel variable: **nghtfat** (unbalanced)

```
9 . xtset wkndfat
```

Panel variable: **wkndfat** (unbalanced)

```
10 . xtset statepop
```

Panel variable: **statepop** (balanced)

```
11 . xtset vehicmiles
```

Panel variable: **vehicmiles** (unbalanced)

```
12 . xtset perc14_24
```

Panel variable: **perc14_24** (unbalanced)

```
13 . gen miles_pop = statepop*vehicmiles
```

```
14 . gen slcom_belt = slcom*seatbelt
```

```
15 . gen slcom_minage = slcom*minage
```

```
16 . gen slcom_zerotol = slcom*zerotol
```

```
17 . gen slcom_gdl = slcom*gdl
```

```
18 . gen slcom_perc = slcom*perc
```

```
19 . gen minage_seatbelt = minage*seatbelt
```

```
20 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles perc14_24 miles_
> pop slcom_belt slcom_gdl , fe
the panel variable perc14_24 may not be included as an independent variable
r(198);
```

```
21 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slco
> m_belt slcom_gdl , fe
note: slcom_belt omitted because of collinearity.
note: slcom_gdl omitted because of collinearity.
```

Fixed-effects (within) regression
Group variable: **perc14_24**

Number of obs = **1,200**
Number of groups = **87**

R-squared:

Within = **0.9939**
Between = **0.9934**
Overall = **0.9937**

Obs per group:

min = **1**
avg = **13.8**
max = **45**

corr(u_i, Xb) = **-0.0202** F(10,1103) = **18018.91**
Prob > F = **0.0000**

| totfat | Coefficient | Std. err. | t | P> t | [95% conf. interval] | |
|------------|-------------|-----------|--------|-------|----------------------|-----------|
| slcom | -1.22e+09 | 1.27e+09 | -0.96 | 0.338 | -3.72e+09 | 1.28e+09 |
| seatbelt | 5.712459 | 3.034974 | 1.88 | 0.060 | -.2425148 | 11.66743 |
| gdl | -32.77728 | 6.61065 | -4.96 | 0.000 | -45.74815 | -19.80641 |
| bac10 | 17.43092 | 6.747094 | 2.58 | 0.010 | 4.192333 | 30.66951 |
| bac08 | 21.95707 | 8.621872 | 2.55 | 0.011 | 5.039945 | 38.87419 |
| nghtfat | 2.411682 | .067226 | 35.87 | 0.000 | 2.279776 | 2.543587 |
| wkndfat | -1.3672 | .1270955 | -10.76 | 0.000 | -1.616576 | -1.117823 |
| statepop | -4.66e-06 | 1.79e-06 | -2.60 | 0.009 | -8.18e-06 | -1.14e-06 |
| vehicmiles | 4.132672 | .2457517 | 16.82 | 0.000 | 3.650479 | 4.614866 |
| miles_pop | -3.24e-08 | 4.48e-09 | -7.25 | 0.000 | -4.12e-08 | -2.36e-08 |
| slcom_belt | 0 (omitted) | | | | | |
| slcom_gdl | 0 (omitted) | | | | | |
| _cons | 1.22e+09 | 1.27e+09 | 0.96 | 0.338 | -1.28e+09 | 3.72e+09 |
| sigma_u | 26.560305 | | | | | |

| | |
|---------|---|
| sigma_e | 68.945599 |
| rho | .12922822 (fraction of variance due to u_i) |

F test that all u_i=0: F(86, 1103) = 1.30 Prob > F = 0.0380

22 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slco
slco ambiguous abbreviation
r(111);

23 .

24 . > m_belt slcom_gdl , re
> is not a valid command name
r(199);

25 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slcom
> _belt slcom_gdl , re
note: slcom omitted because of collinearity.
note: slcom_belt omitted because of collinearity.
note: slcom_gdl omitted because of collinearity.

Random-effects GLS regression
Group variable: perc14_24

Number of obs = 1,200
Number of groups = 87

R-squared:

Within = 0.9939
Between = 0.9941
Overall = 0.9938

Obs per group:

min = 1
avg = 13.8
max = 45

corr(u_i, X) = 0 (assumed)

Wald chi2(9) = 189720.00
Prob > chi2 = 0.0000

| totfat | Coefficient | Std. err. | z | P> z | [95% conf. interval] | |
|------------|-------------------------------------|-----------|--------|-------|----------------------|-----------|
| slcom | 0 (omitted) | | | | | |
| seatbelt | 3.282616 | 2.632514 | 1.25 | 0.212 | -1.877017 | 8.44225 |
| gdl | -35.65067 | 6.398502 | -5.57 | 0.000 | -48.1915 | -23.10984 |
| bac10 | 26.22904 | 6.134296 | 4.28 | 0.000 | 14.20604 | 38.25204 |
| bac08 | 24.45677 | 8.014326 | 3.05 | 0.002 | 8.748977 | 40.16456 |
| nghtfat | 2.390351 | .0647954 | 36.89 | 0.000 | 2.263354 | 2.517348 |
| wkndfat | -1.302505 | .1207071 | -10.79 | 0.000 | -1.539087 | -1.065923 |
| statepop | -6.82e-06 | 1.68e-06 | -4.06 | 0.000 | -.0000101 | -3.53e-06 |
| vehicmiles | 4.137536 | .2259751 | 18.31 | 0.000 | 3.694633 | 4.580439 |
| miles_pop | -2.72e-08 | 4.25e-09 | -6.41 | 0.000 | -3.55e-08 | -1.89e-08 |
| slcom_belt | 0 (omitted) | | | | | |
| slcom_gdl | 0 (omitted) | | | | | |
| _cons | 8.333817 | 6.065995 | 1.37 | 0.169 | -3.555314 | 20.22295 |
| sigma_u | 0 | | | | | |
| sigma_e | 68.943088 | | | | | |
| rho | 0 (fraction of variance due to u_i) | | | | | |

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