____ (R)
/__ / ___/ / ___/
__/ / /___/ / ___/
Statistics/Data analysis

17.0

BE-Basic Edition

Statistics and Data Science

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Notes:

1. Unicode is supported; see help unicode advice.

Checking for updates...

(contacting http://www.stata.com)

Update status

Last check for updates: 04 Dec 2022

New update available: 15 Nov 2022 (what's new)
Current update level: 15 Feb 2022 (what's new)

Possible actions

Install available updates (or type -update all-)

Click to edit automatic update checking preferences

- 2 . Xtset totfat
 command Xtset not defined by Xtset.ado
 r(199);

3 . xtset totfat

Panel variable: totfat (unbalanced)

4 . xtset slcom

Panel variable: **slcom** (unbalanced)

5 . xtset seatbelt

Panel variable: **seatbelt** (unbalanced)

```
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6 . xtset gdl
   Panel variable: gdl (unbalanced)
7 . xtset bac10
   Panel variable: bac10 (unbalanced)
 8 . xtset bac08
   Panel variable: bac08 (unbalanced)
9 . xtset nghtfat
   Panel variable: nghtfat (unbalanced)
10 . xtset wkndfat
   Panel variable: wkndfat (unbalanced)
11 . xtset statepop
   Panel variable: statepop (balanced)
12 . xtset vehicmiles
   Panel variable: vehicmiles (unbalanced)
13 . xtset perc14 24
   Panel variable: perc14_24 (unbalanced)
14 . gen miles_pop = statepop*vehicmiles
15 . gen slcom_belt = slcom*seatbelt
16 . gen slcom_minage = slcom*minage
17 . gen slcom_zerotol = slcom*zerotol
18 . gen slcom_gdl = slcom*gdl
19 . gen slcom_perc = slcom*perc
20 . gen minage_seatbelt = minage*seatbelt
21 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slcom_
   > belt slcom_gdl, fe
```

Number of obs

Obs per group:

F(10,1103)

Prob > F

Number of groups =

min =

avg =

max =

1,200

87

13.8

18018.91

0.0000

45

note: slcom_belt omitted because of collinearity.
note: slcom_gdl omitted because of collinearity.

Fixed-effects (within) regression

Group variable: perc14_24

Within = **0.9939**

Between = **0.9934**

Overall = **0.9937**

 $corr(u_i, Xb) = -0.0202$

R-squared:

interval	[95% conf.	P> t	t	Std. err.	Coefficient	totfat
1.28e+0	-3.72e+09	0.338	-0.96	1.27e+09	-1.22e+09	slcom
11.6674	2425148	0.060	1.88	3.034974	5.712459	seatbelt
-19.8064	-45.74815	0.000	-4.96	6.61065	-32.77728	gdl
30.6695	4.192333	0.010	2.58	6.747094	17.43092	bac10
38.8741	5.039945	0.011	2.55	8.621872	21.95707	bac08
2.54358	2.279776	0.000	35.87	.067226	2.411682	nghtfat
-1.11782	-1.616576	0.000	-10.76	.1270955	-1.3672	wkndfat
-1.14e-0	-8.18e-06	0.009	-2.60	1.79e-06	-4.66e-06	statepop
4.61486	3.650479	0.000	16.82	.2457517	4.132672	vehicmiles
-2.36e-0	-4.12e-08	0.000	-7.25	4.48e-09	-3.24e-08	miles pop
				(omitted)	0	slcom belt
				(omitted)	0	slcom gdl
3.72e+0	-1.28e+09	0.338	0.96	1.27e+09	1.22e+09	_cons
					26.560305	sigma u
					68.945599	sigma e
	oui)	nce due t	of variar	(fraction	.12922822	rho

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 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 Number of obs 1,200 Number of groups = Group variable: perc14_24 87 R-squared: Obs per group: Within = **0.9939** min = 1 Between = **0.9941** 13.8 avg = Overall = **0.9938** max = 45

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 varia	nce due t	o u_i)	

- 23 . hausman fe re
 estimation result fe not found
 r(111);
- 24 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slcom
 > _
 slcom_ ambiguous abbreviation
 r(111);
- 25 .
- 26 . belt slcom_gdl, fe
 command belt is unrecognized
 r(199);
- 27 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slcom
 > _
 slcom_ ambiguous abbreviation
 r(111);
- 28 .
- 30 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slcom
 > _ belt slcom_gdl, fe
 slcom_ ambiguous abbreviation
 r(111);
- 31 . xtreg totfat slcom seatbelt gdl bac10 bac08 nghtfat wkndfat statepop vehicmiles miles_pop slcom_ > belt slcom_gdl, fe

note: slcom_belt omitted because of collinearity.
note: slcom_gdl omitted because of collinearity.

Fixed-effects (within) regression Number of obs 1,200 Group variable: perc14_24 Number of groups = 87 R-squared: Obs per group: Within = **0.9939** min = 1 Between = **0.9934** avg = 13.8 Overall = **0.9937** 45 max = F(10,1103) = 18018.91 $corr(u_i, Xb) = -0.0202$ 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					

sigma_e rho 68.945599 cho 12922822 (fraction of variance due to u_i)

32 . estimate store fe

33 . 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 Number of grou			1,200 87
R-squared: Within = 0.9939 Between = 0.9941 Overall = 0.9938		min avg max	=	1 13.8 45
<pre>corr(u_i, X) = 0 (assumed)</pre>	Wald chi2(9) Prob > chi2		= =	189720.00 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)			21220 00	_,,,,,
slcom gdl	9	(omitted)				
_cons	8.333817	6.065995	1.37	0.169	-3.555314	20.22295
sigma u	0					
sigma_e	68.943088					
rho	00.545000	(fraction	of varia	nce due t	oui)	
	0	(11 0001011	O. Vai Iai	ice due c	.o u_1)	

34 . estimate store re

35 . hausman fe re

Note: the rank of the differenced variance matrix (7) does not equal the number of coefficients being tested (9); be sure this is what you expect, or there may be problems computing the test. Examine the output of your estimators for anything unexpected and possibly consider scaling your variables so that the coefficients are on a similar scale.

	Coeffi	cients ——		
	(b)	(B)	(b-B)	<pre>sqrt(diag(V_b-V_B))</pre>
	fe	re	Difference	Std. err.
seatbelt	5.712459	3.282616	2.429843	1.510277
gdl	-32.77728	-35.65067	2.873387	1.661287
bac10	17.43092	26.22904	-8.798118	2.809571
bac08	21.95707	24.45677	-2.4997	3.179192
nghtfat	2.411682	2.390351	.0213307	.0179132
wkndfat	-1.3672	-1.302505	0646945	.0397876
statepop	-4.66e-06	-6.82e-06	2.15e-06	6.32e-07
vehicmiles	4.132672	4.137536	0048636	.0965876

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miles_pop -3.24e-08 -2.72e-08 -5.22e-09 1.42e-09

 $b = \hbox{Consistent under H0 and Ha; obtained from x treg.} \\ B = \hbox{Inconsistent under Ha, efficient under H0; obtained from x treg.}$

Test of H0: Difference in coefficients not systematic

chi2(7) =
$$(b-B)'[(V_b-V_B)^{-1}](b-B)$$

= 31.74

Prob > chi2 = **0.0000**