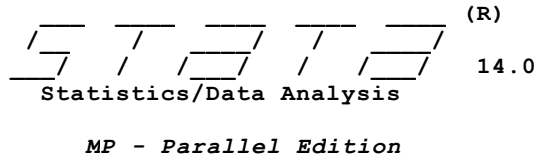


User: Andong Yan



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Notes:

1. Unicode is supported; see [help unicode advice](#).
2. More than 2 billion observations are allowed; see [help obs advice](#).
3. Maximum number of variables is set to 5000; see [help set maxvar](#).

```
1 . do "C:\Users\yadto\Dropbox\USC\ECON513\HW4\hw4_Andong_Yan.do"
2 . use "C:\Users\yadto\Dropbox\USC\ECON513\HW4\Card-Krueger.dta", clear
3 .
4 . quietly:{
```

-----question a -----

Source	SS	df	MS	Number of obs	=	391
Model	959.586342	5	191.917268	F(5, 386)	=	2.50
Residual	29596.2262	386	76.674161	Prob > F	=	0.0301
				R-squared	=	0.0314
				Adj R-squared	=	0.0189
Total	30555.8125	391	78.1478581	Root MSE	=	8.7564

deltay	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
STATE	2.965651	1.12227	2.64	0.009	.7591239	5.172177
bk	-2.051036	1.122164	-1.83	0.068	-4.257355	.1552819
kfc	-1.561428	1.366897	-1.14	0.254	-4.248924	1.126068
roy	-4.313903	1.286916	-3.35	0.001	-6.844145	-1.78366
wend	-2.110868	1.471083	-1.43	0.152	-5.003206	.7814698

coefficient of STATE is what we are interested  
 compared to result in lecture 11, p9, beta is slightly bigger in conditional  
 --> dif-in-dif, and standard error seems to be no change.

-----question b-----

Variable	Obs	Mean	Std. Dev.	Min	Max
n01	391	34	0	34	34
n02	391	12	0	12	12
n03	391	17	0	17	17
n04	391	13	0	13	13
n11	391	129	0	129	129
n12	391	68	0	68	68
n13	391	78	0	78	78
n14	391	40	0	40	40

within cluster correlation: .01177981  
variance of eta: .89394301  
variance of epsilon: 74.993816

-----question c-----  
correction factor: 1.5639582  
corrected standard error of state: 1.4034915  
corrected standard error of bk: 1.4033589  
corrected standard error of kfc: 1.7094186  
corrected standard error of roy: 1.6093953  
corrected standard error of wend: 1.8397113

-----question d-----  

	state	bk	kfc	roy	wend
(OLS)	1.1222696	1.1221637	1.3668972	1.2869159	1.4710827
(Correct)	1.33109	1.3431727	1.6447788	1.5488614	1.6959883
(Correction factor)	1.4034915	1.4033589	1.7094186	1.6093953	1.8397113

-----question e -----  
note: swend omitted because of collinearity

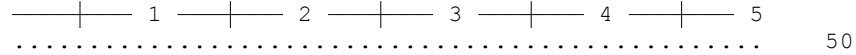
Source	SS	df	MS	Number of obs	=	391
Model	1225.20219	8	153.150274	F(8, 383)	=	2.00
Residual	29330.6103	383	76.581228	Prob > F	=	0.0454
				R-squared	=	0.0401
				Adj R-squared	=	0.0200
Total	30555.8125	391	78.1478581	Root MSE	=	8.7511

deltay	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
STATE	3.583173	2.793814	1.28	0.200	-1.909959	9.076306
bk	-3.367647	1.500796	-2.24	0.025	-6.318478	-.4168159
kfc	2.041667	2.526216	0.81	0.419	-2.925322	7.008656
roy	-3.867647	2.122446	-1.82	0.069	-8.040752	.3054584
wend	-2.576923	2.42711	-1.06	0.289	-7.349052	2.195206
sbk	1.046102	3.263654	0.32	0.749	-5.37082	7.463024
skfc	-4.856457	3.913229	-1.24	0.215	-12.55056	2.837643
sroy	-1.161039	3.645817	-0.32	0.750	-8.329361	6.007284
swend	0	(omitted)				

we cannot do clustered standard errors since ols residual e has properties:  
--> e\*s\*c has expectation of 0, where d is state, c is chain,  
--> so ols estimator of variance of cluster specific error is also 0.

-----question f -----  
(running regress on estimation sample)

Bootstrap replications (50)



Linear regression	Number of obs	=	391
	Replications	=	50
	Wald chi2(5)	=	13.41
	Prob > chi2	=	0.0198
	R-squared	=	0.0314
	Adj R-squared	=	0.0189
	Root MSE	=	8.7564

deltay	Observed Coef.	Bootstrap Std. Err.	z	P> z	Normal-based [95% Conf. Interval]	
STATE	2.965651	1.49098	1.99	0.047	.0433831	5.887918
bk	-2.051036	1.540156	-1.33	0.183	-5.069687	.9676149
kfc	-1.561428	1.441175	-1.08	0.279	-4.38608	1.263224
roy	-4.313903	1.458461	-2.96	0.003	-7.172433	-1.455372
wend	-2.110868	1.60989	-1.31	0.190	-5.266194	1.044458

the standard error grows bigger compared to a

5 .  
end of do-file

6 .