(R)
Statistics/Data Analysis

User: Andong_Yan_HW1

(R)
14.0
Statistics/Data Analysis

MP - Parallel Edition

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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\HW1\hw1.do"

2 . log using C:\Users\yadto\Dropbox\USC\ECON513\HW1\hw1.log,replace
```

```
      name:  <unnamed>
       log:  C:\Users\yadto\Dropbox\USC\ECON513\HW1\hw1.log
  log type:  text
 opened on:   6 Sep 2016, 12:21:46

3 .
4 . use C:\Users\yadto\Dropbox\USC\ECON513\HW1\hw1

5 .
6 . *question 1*
7 . gen exp2 = expyears^2

8 . reg lnearningswk educyears expyears exp2
```

Source	SS	df	MS		
Model	26.0122513	3	8.67075042	Number of obs	= 935
Residual	156.787751	931	.168407895	F(3, 931)	= 51.49
				Prob > F	= 0.0000
				R-squared	= 0.1423
				Adj R-squared	= 0.1395
Total	182.800002	934	.195717347	Root MSE	= .41038

lnearningswk	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
educyears	.0923143	.0075559	12.22	0.000	.0774857	.1071429
expyears	.079138	.024945	3.17	0.002	.030183	.128093
exp2	-.0019633	.0008706	-2.25	0.024	-.0036719	-.0002546
_cons	4.016274	.2222775	18.07	0.000	3.580051	4.452497

```
 9 .
10 . *question 2*
11 . gen beta0 = _b[_cons]

12 . gen beta1 = _b[educyears]

13 . gen beta2 = _b[expyears]

14 . gen beta3 = _b[exp2]

15 . predict residual, res

16 . gen zeta = beta1 - beta2 - beta3*(2*expyears-1)

17 . su zeta
```

Variable	Obs	Mean	Std. Dev.	Min	Max
zeta	**935**	**.0646605**	**.0150296**	**.0308459**	**.101524**

```
18 .
19 . *question 3*
20 . gen educnew = educyears + 1

21 . gen expnew = expyears - 1

22 . gen exp2new = expnew^2

23 . gen newwage = beta0+beta1*educnew+beta2*expnew+beta3*exp2new

24 . egen avnewwage = mean(newwage)

25 . egen avwage = mean(lnearningswk)

26 . gen zetapredict = avnewwage - avwage

27 . su zetapredict
```

Variable	Obs	Mean	Std. Dev.	Min	Max
zetapredict	**935**	**.0646601**	**0**	**.0646601**	**.0646601**

```
28 . * the mean of zetapredict is the increasing effect of the policy*
29 . * compared to zeta, they are almost the same*
30 .
31 . *question 4*
32 . gen educmodify = educyears + (12 - educyears) if educyears <12
(847 missing values generated)

33 . replace educmodify = educyears if educyears >= 12
(847 real changes made)

34 . gen expmodify = expyears - (12 - educyears) if educyears < 12
(847 missing values generated)
```

```
35 . replace expmodify = expyears if educyears >= 12
   (847 real changes made)

36 . gen exp2modify = expmodify ^2

37 . gen wagemodify = beta0+beta1*educmodify+beta2*expmodify+beta3*exp2modify

38 . egen avwagemodify = mean(wagemodify)

39 . gen zetamodify = avwagemodify - avwage

40 . su zetamodify
```

Variable	Obs	Mean	Std. Dev.	Min	Max
zetamodify	**935**	**.0122766**	**0**	**.0122766**	**.0122766**

```
41 . * the mean of zetamodify is the increasing effect of the policy*
42 .
   end of do-file

43 .
```