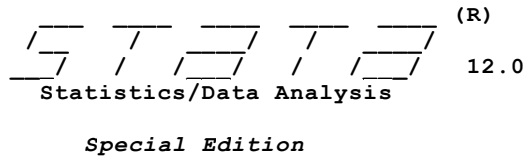


User: assignment 2 ex 1



12.0

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Notes:

1. (/v# option or -set maxvar-) 5000 maximum variables

Checking for updates...

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

bad serial number

unable to check for update; verify Internet settings are correct.

```
1 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"
2 . clear
3 . clear matrix
4 . capture log close
5 . cd "C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment 2\"
   C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment 2
6 . log using "assignment 2 ex 1.log", replace
   (note: file C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment
   > nd)
   name: <unnamed>
   log: C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment
   log type: text
   opened on: 3 Jan 2019, 18:26:44
7 .
   end of do-file
8 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"
9 . use assignment_wageregression.dta, clear
10 .
   end of do-file
11 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"
```

```

12 . //Assignment 2 Exercise 1
13 .
    end of do-file

14 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"

15 . label variable WAGE "wage"

16 . label variable EDUCATION "education"

17 . label variable SEX "sex"

18 . label variable EXPERIENCE "experience"

19 . label variable UNION "union"

20 . label variable AGE "age"

21 . label variable RACE "race"

22 . label variable MARR "marriage"

23 .
    end of do-file

24 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"

25 . //a
26 . gen WAGE_MALE=WAGE if SEX==0
    (245 missing values generated)

27 . label variable WAGE_MALE "male"

28 . gen WAGE_FEMALE=WAGE if SEX==1
    (289 missing values generated)

29 . label variable WAGE_FEMALE "female"

30 .
31 . su WAGE_MALE

```

Variable	Obs	Mean	Std. Dev.	Min	Max
WAGE_MALE	289	9.994913	5.285854	1	26.29

```

32 . su WAGE_FEMALE

```

Variable	Obs	Mean	Std. Dev.	Min	Max
WAGE_FEMALE	245	7.878857	4.720113	1.75	44.5

```

33 .
    end of do-file

34 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"

```

```

35 .
36 . //b
37 . twoway hist WAGE if SEX==0, xtitle("Hourly Wages For Male") name(Male)

38 . twoway hist WAGE if SEX==1, xtitle("Hourly Wages For Female") name(Female)

39 .
    end of do-file

40 . graph save Female "C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\As
    > male.gph", replace
    (file C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment 2\Assi

41 . graph save Male "C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assi
    > .gph", replace
    (file C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment 2\Assi

42 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"

43 . //c
44 . ttest WAGE, by(SEX)

```

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	289	9.994913	.3109326	5.285854	9.382925	10.6069
1	245	7.878857	.301557	4.720113	7.28487	8.472844
combined	534	9.024064	.2223905	5.139097	8.587194	9.460933
diff		2.116056	.4371957		1.257215	2.974898

diff = mean(0) - mean(1) t = **4.8401**
Ho: diff = 0 degrees of freedom = **532**

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = **1.0000** Pr(|T| > |t|) = **0.0000** Pr(T > t) = **0.0000**

```

45 . //d
46 . gen LWAGE=log(WAGE)

47 . label variable LWAGE "lwage"

48 . reg LWAGE

```

Source	SS	df	MS	Number of obs =	534
Model	0	0	.	F(0, 533) =	0.00
Residual	148.446822	533	.278511862	Prob > F =	.
				R-squared =	0.0000
				Adj R-squared =	0.0000
Total	148.446822	533	.278511862	Root MSE =	.52774

LWAGE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
_cons	2.059189	.0228376	90.17	0.000	2.014326	2.104051

49 . reg LWAGE SEX

Source	SS	df	MS	Number of obs = 534		
Model	7.09054726	1	7.09054726	F(1, 532) = 26.69		
Residual	141.356275	532	.265707284	Prob > F = 0.0000		
				R-squared = 0.0478		
				Adj R-squared = 0.0460		
Total	148.446822	533	.278511862	Root MSE = .51547		

LWAGE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
SEX	-.2312483	.0447652	-5.17	0.000	-.3191865	-.1433101
_cons	2.165286	.0303216	71.41	0.000	2.105721	2.224851

50 . estat imtest, white

White's test for Ho: homoskedasticity
 against Ha: unrestricted heteroskedasticity

chi2(1) = **1.66**
 Prob > chi2 = **0.1970**

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	1.66	1	0.1970
Skewness	4.12	1	0.0423
Kurtosis	0.11	1	0.7455
Total	5.89	3	0.1170

51 . //e

52 . reg LWAGE SEX EDUCATION EXPERIENCE

Source	SS	df	MS	Number of obs = 534		
Model	40.0248424	3	13.3416141	F(3, 530) = 65.22		
Residual	108.42198	530	.204569773	Prob > F = 0.0000		
				R-squared = 0.2696		
				Adj R-squared = 0.2655		
Total	148.446822	533	.278511862	Root MSE = .45229		

LWAGE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
SEX	-.255947	.039409	-6.49	0.000	-.333364	-.17853
EDUCATION	.0980059	.0080088	12.24	0.000	.0822729	.1137388
EXPERIENCE	.0126683	.0016968	7.47	0.000	.0093351	.0160016
_cons	.6749291	.1205102	5.60	0.000	.4381928	.9116655

```

53 . //f
54 . gen EXPERIENCE_SQ=EXPERIENCE^2
55 . label variable EXPERIENCE_SQ "experience_sq"
56 . reg WAGE SEX EDUCATION EXPERIENCE EXPERIENCE_SQ

```

Source	SS	df	MS	Number of obs = 534		
Model	3743.92273	4	935.980682	F(4, 529) = 47.92		
Residual	10332.7758	529	19.5326575	Prob > F = 0.0000		
				R-squared = 0.2660		
				Adj R-squared = 0.2604		
Total	14076.6985	533	26.4103162	Root MSE = 4.4196		

WAGE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
SEX	-2.344911	.3850913	-6.09	0.000	-3.101407	-1.588415
EDUCATION	.8956196	.0796405	11.25	0.000	.7391691	1.05207
EXPERIENCE	.2696761	.0540749	4.99	0.000	.1634482	.3759041
EXPERIENCE_SQ	-.0036191	.0011912	-3.04	0.002	-.0059592	-.001279
_cons	-4.662972	1.18883	-3.92	0.000	-6.998378	-2.327566

```

57 . reg LWAGE SEX EDUCATION EXPERIENCE EXPERIENCE_SQ

```

Source	SS	df	MS	Number of obs = 534		
Model	44.0564645	4	11.0141161	F(4, 529) = 55.81		
Residual	104.390358	529	.19733527	Prob > F = 0.0000		
				R-squared = 0.2968		
				Adj R-squared = 0.2915		
Total	148.446822	533	.278511862	Root MSE = .44422		

LWAGE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
SEX	-.2570355	.0387066	-6.64	0.000	-.3330731	-.1809979
EDUCATION	.0912936	.0080049	11.40	0.000	.0755683	.1070189
EXPERIENCE	.0360522	.0054352	6.63	0.000	.025375	.0467295
EXPERIENCE_SQ	-.0005412	.0001197	-4.52	0.000	-.0007764	-.000306
_cons	.6007445	.1194927	5.03	0.000	.3660061	.8354829

```

58 . //g...
59 . sort EXPERIENCE
60 . regress LWAGE EXPERIENCE

```

Source	SS	df	MS	Number of obs = 534		
Model	1.72128586	1	1.72128586	F(1, 532) = 6.24		
Residual	146.725536	532	.27579988	Prob > F = 0.0128		
				R-squared = 0.0116		
				Adj R-squared = 0.0097		
Total	148.446822	533	.278511862	Root MSE = .52517		

LWAGE	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
EXPERIENCE	.0045904	.0018375	2.50	0.013	.0009808	.0082
_cons	1.977378	.039861	49.61	0.000	1.899074	2.055682

61 . mfx

Marginal effects after regress
 y = Fitted values (predict)
 = **2.0591886**

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
EXPERI~E	.0045904	.00184	2.50	0.012	.000989 .008192	17.8221

62 .
 end of do-file

63 . do "C:\Users\WILLIA~1\AppData\Local\Temp\STD00000000.tmp"

64 .
 65 . cap log close

66 .
 end of do-file

67 . save "C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment 2\As
 > 1.dta"
 file C:\Users\William Li\Documents\Uni Marburg 2.0\WS18 Macroeconomics\Tutorial\Assignment 2\Assig
 > dta saved

68 .