



log: /Users/baum/doc/Courses 2008-2009/EC228 F2008/ec228\_f2008\_day1.smcl  
 log type: smcl  
 opened on: 28 Aug 2008, 11:51:32

```
1 .
2 . // ec228_f2008_day1 cfb 28aug2008
3 .
4 . // display the codebook
5 . type http://fmwww.bc.edu/ec-p/data/wooldridge/crime1.des
CRIME1.DES
```

```
narr86   nfarr86   nparr86   pcnv      avgsen    tottime   ptime86   qemp86
inc86    durat     black     hispan    born60    pcnvsq    pt86sq    inc86sq
```

Obs: 2725

- 1. **narr86** # times arrested, 1986
- 2. **nfarr86** # felony arrests, 1986
- 3. **nparr86** # property crme arr., 1986
- 4. **pcnv** proportion of prior convictions
- 5. **avgsen** avg sentence length, mos.
- 6. **tottime** time in prison since 18 (mos.)
- 7. **ptime86** mos. in prison during 1986
- 8. **qemp86** # quarters employed, 1986
- 9. **inc86** legal income, 1986, \$100s
- 10. **durat** recent unemp duration
- 11. **black** =1 if black
- 12. **hispan** =1 if Hispanic
- 13. **born60** =1 if born in 1960
- 14. **pcnvsq** pcnv^2
- 15. **pt86sq** ptime86^2
- 16. **inc86sq** inc86^2

```
6 .
7 . // read in the data
8 . use http://fmwww.bc.edu/ec-p/data/wooldridge/crime1, clear
9 .
10 . // describe its contents and calculate descriptive stats
11 . describe
```

Contains data from <http://fmwww.bc.edu/ec-p/data/wooldridge/crime1.dta>  
 obs: 2,725  
 vars: 16 10 Jan 2000 16:54  
 size: 196,200 (99.9% of memory free)

variable name	storage type	display format	value label	variable label
<b>narr86</b>	float	%9.0g		
<b>nfarr86</b>	float	%9.0g		
<b>nparr86</b>	float	%9.0g		
<b>pcnv</b>	float	%9.0g		

```

avgsen      float  %9.0g
tottime     float  %9.0g
ptime86     float  %9.0g
qemp86      float  %9.0g
inc86       float  %9.0g
durat       float  %9.0g
black       float  %9.0g
hispan      float  %9.0g
born60      float  %9.0g
pcnvsq      float  %9.0g
pt86sq     float  %9.0g
inc86sq    float  %9.0g
    
```

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Sorted by:

12 . summarize

Variable	Obs	Mean	Std. Dev.	Min	Max
narr86	2725	.4044037	.8590768	0	12
nfarr86	2725	.2333945	.5810142	0	6
nparr86	2725	.1255046	.4828473	0	8
pcnv	2725	.3577872	.395192	0	1
avgsen	2725	.6322936	3.508031	0	59.2
tottime	2725	.8387523	4.607019	0	63.4
ptime86	2725	.387156	1.950051	0	12
qemp86	2725	2.309028	1.610428	0	4
inc86	2725	54.96705	66.62721	0	541
durat	2725	2.251376	4.607063	0	25
black	2725	.1611009	.3676915	0	1
hispan	2725	.2176147	.4126997	0	1
born60	2725	.3625688	.48083	0	1
pcnv <b>sq</b>	2725	.284131	.3907343	0	1
pt86 <b>sq</b>	2725	3.951193	22.08584	0	144
inc86 <b>sq</b>	2725	7458.933	16361.24	0	292681

13 .

14 . // test H0: average sentence for blacks = avg for non-blacks

15 . ttest avg**sen**, by(black)

Two-sample t test with equal variances

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]	
0	2286	.4487752	.0587415	2.808555	.333583	.5639673
1	439	1.587927	.2794932	5.856033	1.038613	2.137242
combined	2725	.6322936	.0672017	3.508031	.5005221	.764065
diff		-1.139152	.1815257		-1.495094	-.7832099

diff = mean(0) - mean(1) t = -6.2754  
 Ho: diff = 0 degrees of freedom = 2723

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

```
16 .
17 . // tabulate number of arrests
18 . tab narr86
```

narr86	Freq.	Percent	Cum.
0	1,970	72.29	72.29
1	559	20.51	92.81
2	121	4.44	97.25
3	42	1.54	98.79
4	12	0.44	99.23
5	13	0.48	99.71
6	4	0.15	99.85
7	1	0.04	99.89
9	1	0.04	99.93
10	1	0.04	99.96
12	1	0.04	100.00
Total	2,725	100.00	

```
19 .
20 . // regression of number of arrests on legal income
21 . regress narr86 inc86
```

Source	SS	df	MS	
Model	72.5556076	1	72.5556076	Number of obs = 2725
Residual	1937.79155	2723	.711638468	F( 1, 2723) = 101.96
Total	2010.34716	2724	.738012906	Prob > F = 0.0000

R-squared = 0.0361  
 Adj R-squared = 0.0357  
 Root MSE = .84359

narr86	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inc86	<b>-.0024495</b>	<b>.0002426</b>	<b>-10.10</b>	<b>0.000</b>	<b>-.0029252</b>	<b>-.0019738</b>
_cons	<b>.5390463</b>	<b>.0209514</b>	<b>25.73</b>	<b>0.000</b>	<b>.4979641</b>	<b>.5801286</b>

```

22 .
23 . // consider prior convictions, unemployment, race as well
24 . regress narr86 inc86 pcnv durat black hispan

```

Source	SS	df	MS	Number of obs =	2725
Model	<b>126.105393</b>	<b>5</b>	<b>25.2210787</b>	F( 5, 2719) =	<b>36.39</b>
Residual	<b>1884.24176</b>	<b>2719</b>	<b>.692990718</b>	Prob > F =	<b>0.0000</b>
Total	<b>2010.34716</b>	<b>2724</b>	<b>.738012906</b>	R-squared =	<b>0.0627</b>
				Adj R-squared =	<b>0.0610</b>
				Root MSE =	<b>.83246</b>

narr86	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
inc86	<b>-.0021246</b>	<b>.0002572</b>	<b>-8.26</b>	<b>0.000</b>	<b>-.0026289</b>	<b>-.0016203</b>
pcnv	<b>-.1418213</b>	<b>.0404691</b>	<b>-3.50</b>	<b>0.000</b>	<b>-.2211747</b>	<b>-.0624679</b>
durat	<b>.002914</b>	<b>.0036923</b>	<b>0.79</b>	<b>0.430</b>	<b>-.0043259</b>	<b>.010154</b>
black	<b>.3257535</b>	<b>.0452257</b>	<b>7.20</b>	<b>0.000</b>	<b>.2370734</b>	<b>.4144337</b>
hispan	<b>.1804347</b>	<b>.039774</b>	<b>4.54</b>	<b>0.000</b>	<b>.1024443</b>	<b>.258425</b>
_cons	<b>.4736218</b>	<b>.0322772</b>	<b>14.67</b>	<b>0.000</b>	<b>.4103314</b>	<b>.5369122</b>

```

25 .
26 . log close
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```