

Lesson 7

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Introduction to Applied Econometrics

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Simple Panel Data Methods

- Example 1: Fertility and age
- Example 2: Wage and education

Correctly calculating the marginal effects.

Dependent Variable: <i>kids</i>		
Independent Variables	Coefficients	Standard Errors
<i>educ</i>	-.128	.018
<i>age</i>	.532	.138
<i>age</i> ²	-.0058	.0016
<i>black</i>	1.076	.174
<i>east</i>	.217	.133
<i>northcen</i>	.363	.121
<i>west</i>	.198	.167
<i>farm</i>	-.053	.147
<i>othrural</i>	-.163	.175
<i>town</i>	.084	.124
<i>smcity</i>	.212	.160
<i>y74</i>	.268	.173
<i>y76</i>	-.097	.179
<i>y78</i>	-.069	.182
<i>y80</i>	-.071	.183
<i>y82</i>	-.522	.172
<i>y84</i>	-.545	.175
<i>constant</i>	-7.742	3.052
<i>n</i> = 1,129 <i>R</i> ² = .1295 <i>R</i> ² = .1162		

$$\begin{aligned}
 \log(\hat{wage}) = & .459 + .118 \text{ y85} + .0747 \text{ educ} + .0185 \text{ y85} \cdot \text{educ} \\
 & (.093) \quad (.123) \quad (.0067) \quad (.0094) \\
 & + .0296 \text{ exper} - .00040 \text{ exper}^2 + .202 \text{ union} \\
 & (.0036) \quad (.00008) \quad (.030) \\
 & - .317 \text{ female} + .085 \text{ y85} \cdot \text{female} \\
 & (.037) \quad (.051) \\
 n = & 1,084, R^2 = .426, \bar{R}^2 = .422.
 \end{aligned}
 \tag{13.2}$$

Figure: ref. Wooldridge, pg 413

Two Period Panel Data Analysis

- Example 3: Crime rates and unemployment

Organizing Data and Issues with Panel Datasets

- Organizing data;
- The main issues with longitudinal datasets.