

$$\log(\text{wage}) = \beta_0 + \beta_1 \text{educ} + u$$

father's educ

IV (using 2SLS \rightarrow two-stage least squares)

1st stage regress educ on father's educ

\rightarrow predicted $\widehat{\text{educ}}$

2nd stage regress $\log(\text{wage})$ on $\widehat{\text{educ}}$

$$y = \beta_0 + \beta_1 x + \beta_2 x^2 + u$$

$$\frac{\Delta y}{\Delta x} = \beta_1 + 2\beta_2 x$$

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_1 x_2 + u$$

$$\Delta y / \Delta x_1 = \beta_1 + \beta_3 x_2$$