

$$\text{Var}(u|x) = \sigma^2$$

$$\text{Var}(\text{abil} | \text{educ}) = \sigma^2 = \text{Var}(\text{wage} | \text{educ})$$

$$y = \beta_0 + \beta_1 x + u$$

$$E(\hat{\beta}_1) = \beta_1$$

$$\text{Var}(\text{wage} | \text{educ}) = \sigma^2 = \text{Var}(\text{quality} | \text{age})$$

wage

educ

ability

prop values

age

quality

$$E(u|x) = 0$$

$$E(\text{hprice} | \text{age})$$

$$= \beta_0 + \beta_1 \text{age}$$

$$E(y|x) = \beta_0 + \beta_1 x$$

$$E(\text{wage} | \text{educ}) = \beta_0 + \beta_1 \text{educ}$$