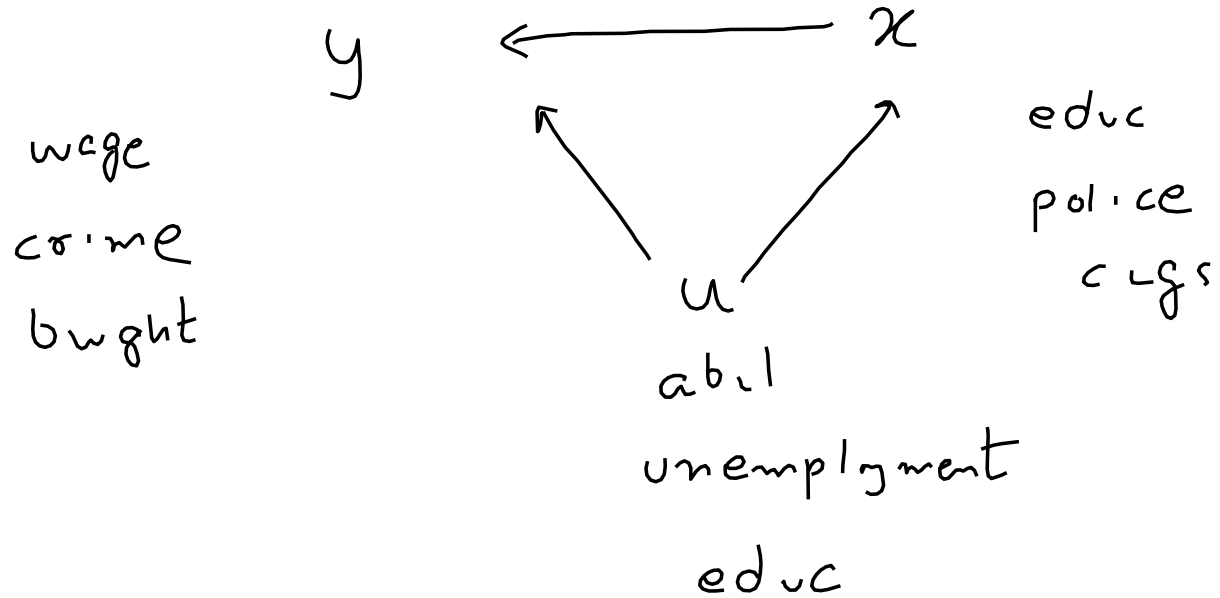
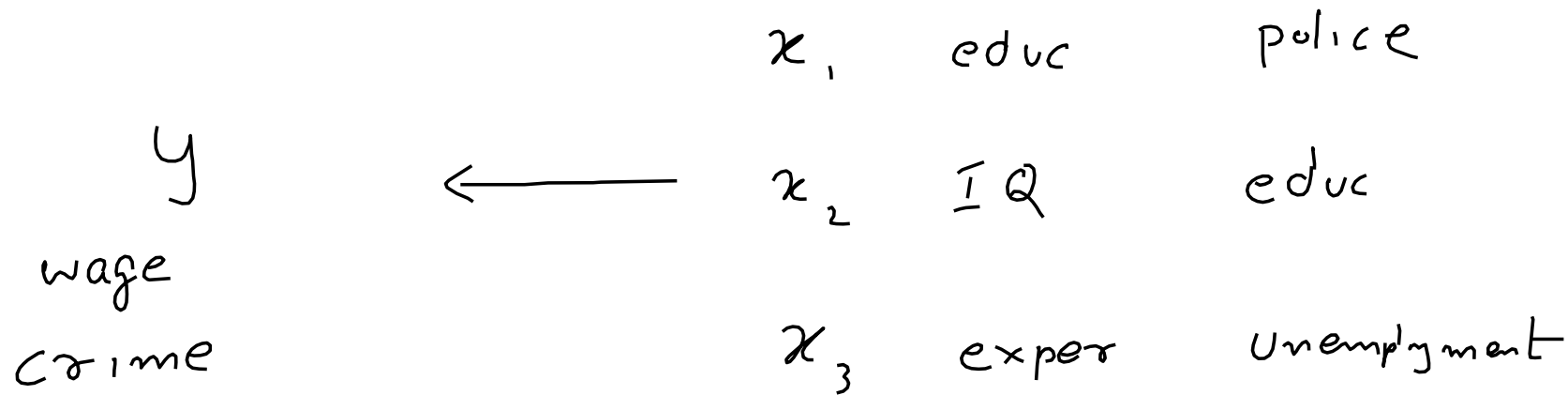


Effect of  $x$  on  $y$



If we control for such factors



$u \rightarrow$  more likely to not be related to the  $x$ 's

Estimate ceteris paribus effects ~~is~~ more likely  
with MLR (multiple linear regression)

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + u$$

$$\Delta y = \beta_1 \Delta x_1 + \beta_2 \Delta x_2 + \beta_3 \Delta x_3 + \Delta u$$

$$= \beta_1 \Delta x_1 \quad \text{when } \Delta x_2, \Delta x_3, \text{ \& } \Delta u = 0$$