Linear Probability Model (cont.)

Slope coeffients (contin. x_j): $\dfrac{\Delta P(y=1 \mid x_1 \ldots x_k)}{\Delta x_j} = \beta_j$

MROZ

$$inlf = \beta_0 + \beta_1 educ + \beta_2 age + \beta_3 kids1.t.6 + u$$

lab. force participation status

$\#$ kids <6

$$\hat{\beta}_3 = -0.303$$

One addl. child $\downarrow$ prob. of being in LF by 0.303

4 " children " 0.303×4

$= 1.212$

Shortcomings of the LPM

- Fitted / predicted values can be outside $[0, 1]$

- constant $\hat{\beta}$ may $\Rightarrow$ unrealistic interpret^{n} :

- May perform well near avg. values in data

- Heteroskedasticity

$$Var(y|x) = P(y=1|x)\,[1 - P(y=1|x)]$$