

Matching

$$D_i = \begin{cases} 1 & \text{treated} \\ 0 & \text{untreated / control} \end{cases}$$

e.g.

college educ.

no college educ.

$Y_i(1)$: potential outcome of i w/ treatment e.g. pot. wage with coll. educ.

$Y_i(0)$: " w/o " e.g. pot. wage w/o coll. educ.

Treatment effect for obs. i $\Delta_i = Y_i(1) - Y_i(0)$

↳ never observed

Average treatment effect $\Delta^{ATE} = E[Y(1) - Y(0)]$