

$$\hat{E}[Y | S, A] \stackrel{?}{=} \hat{E}[Y | S, \text{do}(A)]$$

No Control $A \in \emptyset$

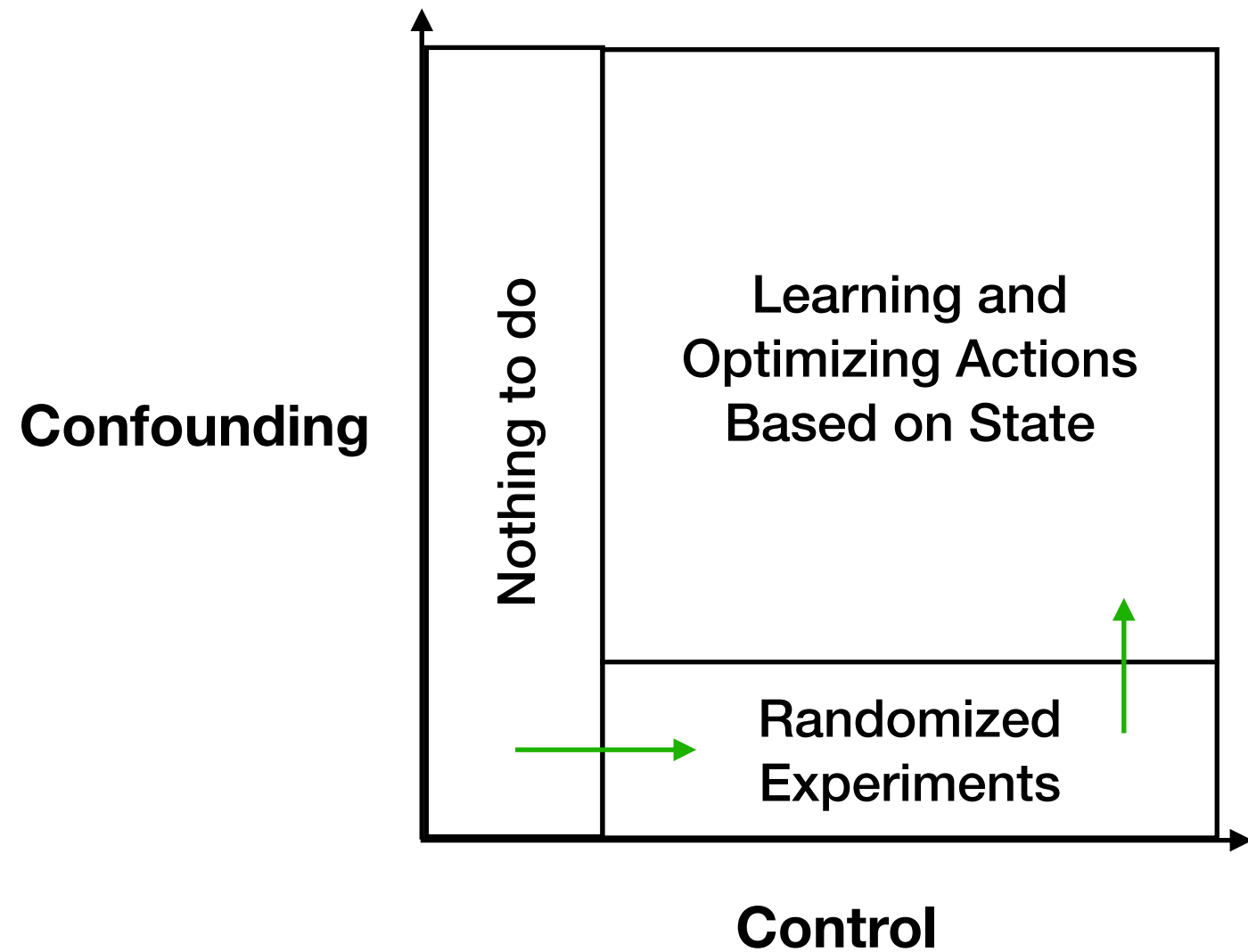
Equal in the special case that you have no actions you can take.

Not true if: we have any variables in the model that we will change.

No Confounding $A \perp S$

(Roughly) equal in the special case that A is independent of S .

Not true if: we use S to select A . We'll need to correct for this selection using $P(A | S)$.



$$| \mathbb{A} | \quad A \in \mathbb{A}$$