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

No Control $A \in \emptyset$

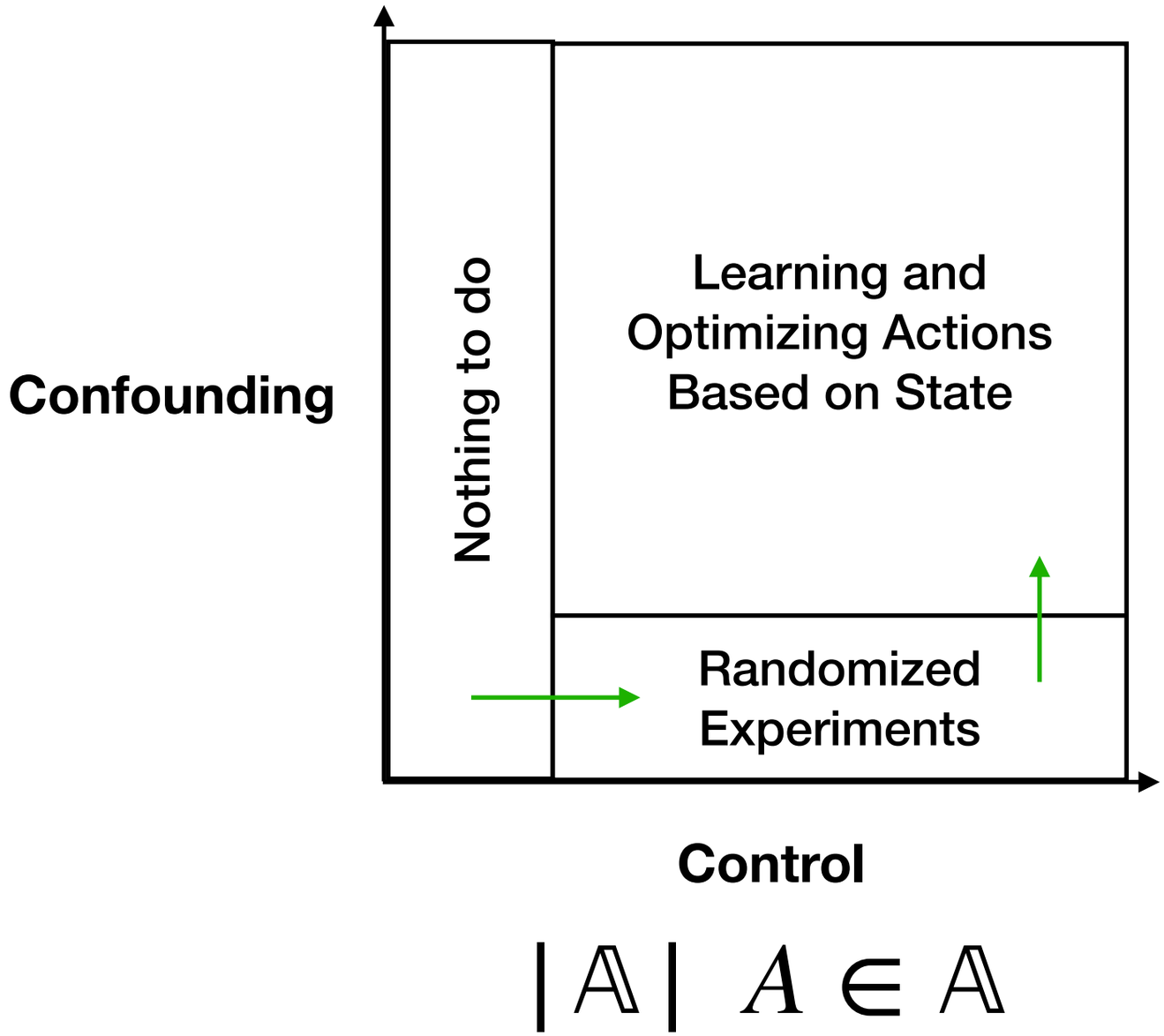
Equal in the special case that you have no actions you can take.

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 $P(A \mid S)$.



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