

- Using the sandwich standard error estimators does not make much difference.
- Did simulations with a simplified setting:
 - $X \sim N(0, 1)$; $\text{Logit}(P(Y=1)) = 1 + 2 * X$
 - External $X \sim N(0, 1)$; $\text{Logit}(P(\text{External } Y=1)) = 0.5 + 1.5 * X$
 - Fit the model using X and Y . With the fitted model, predict External Y based on External X .
 - Sample size = 10,000; replicate 1,000 times.
 - Extract the formula based and Monte-Carlo based standard errors of calibration slope and intercept.
 - Calibration slope:
 - Mean value of formula based SE = 0.01656
 - Median value of formula based SE = 0.01656
 - Mean value of sandwich formula based SE = 0.01657
 - MC based SE = 0.02337
 - Calibration intercept:
 - Mean value of formula based SE = 0.02603
 - Median value of formula based SE = 0.02602
 - Mean value of sandwich formula based SE = 0.02830
 - MC based SE = 0.03844