Supplemental Material for "Too Many Covariates and Too Few Cases? – A Comparative Study"

Due to limited number of figures allowed in the main text, this supplemental document presents (1) empirical standard errors of the log odds ratio estimates under perfect balance (Figure S.1); (2) biases, empirical standard errors, mean square errors, median absoulte errors, and the coverage probabilities for the log odds ratio estimates when the exposure is moderate imbalanced (about 20% exposure rate) (Figure S.2–S.6); (3) coefficient profile for the coefficient paths for vaccine Effectiveness study (Figure S.7). We refer readers to the main text for description of the methods and the four evaluation criteria, as well as discussion of the results.

Figure S.1: Empirical standard errors of the log odds ratio estimates under perfect balance were plotted for eight candidate approaches. The results were based on 1,000 simulations.
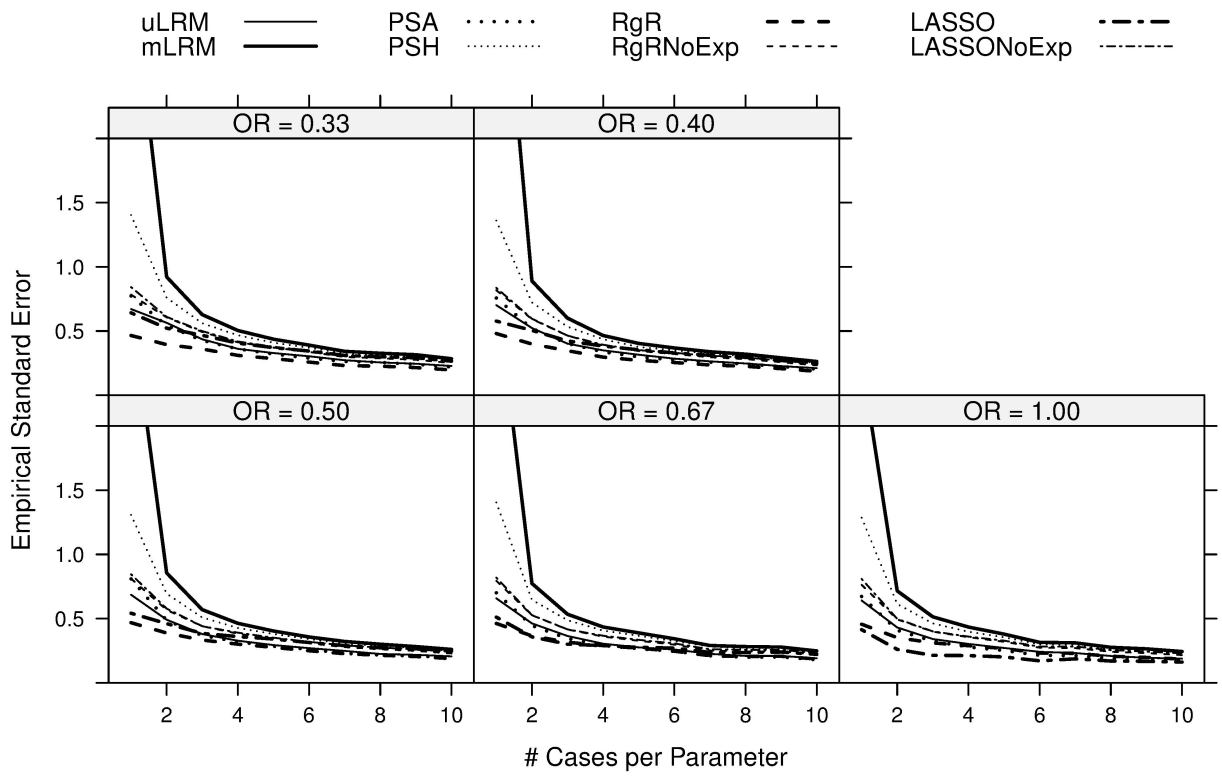
Figure S.2: Biases of the log odds ratio estimates under moderate exposure imbalance were plotted for eight candidate approaches. The results were based on 1,000 simulations.
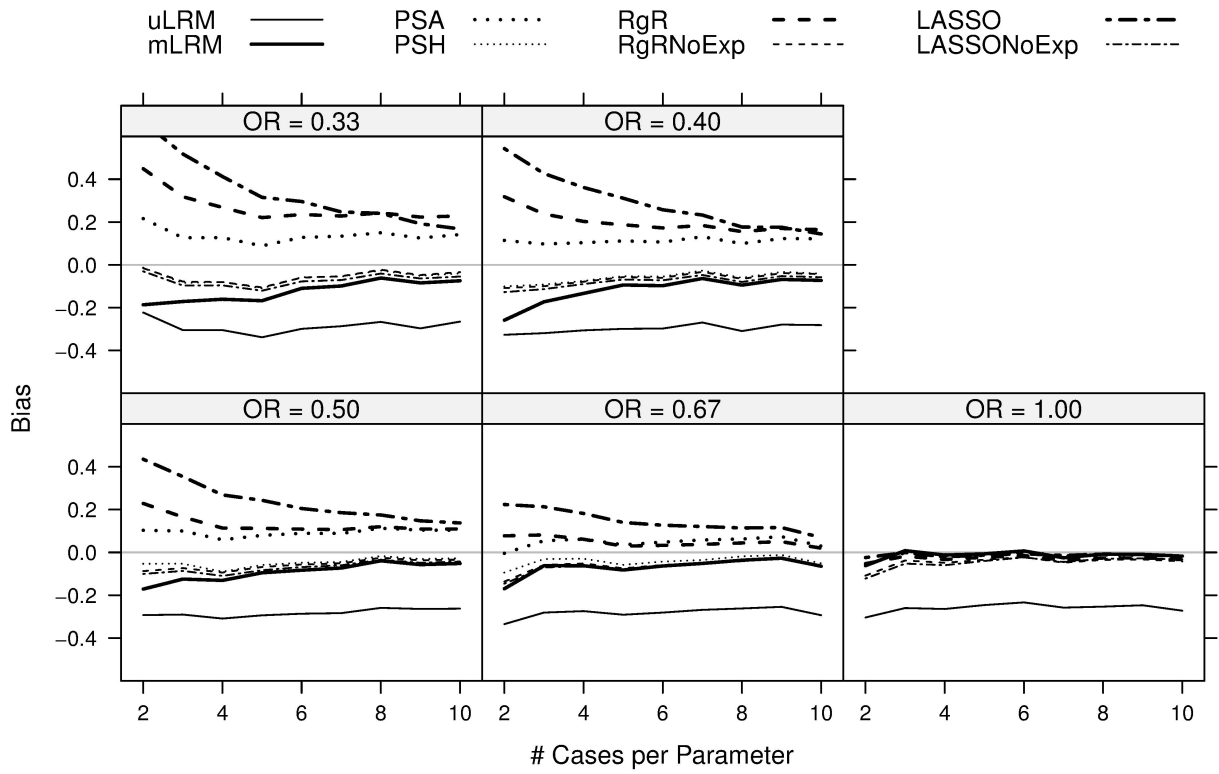
Figure S.3: Empirical standard errors of the log odds ratio estimates under moderate exposure imbalance were plotted for eight candidate approaches. The results were based on 1,000 simulations.
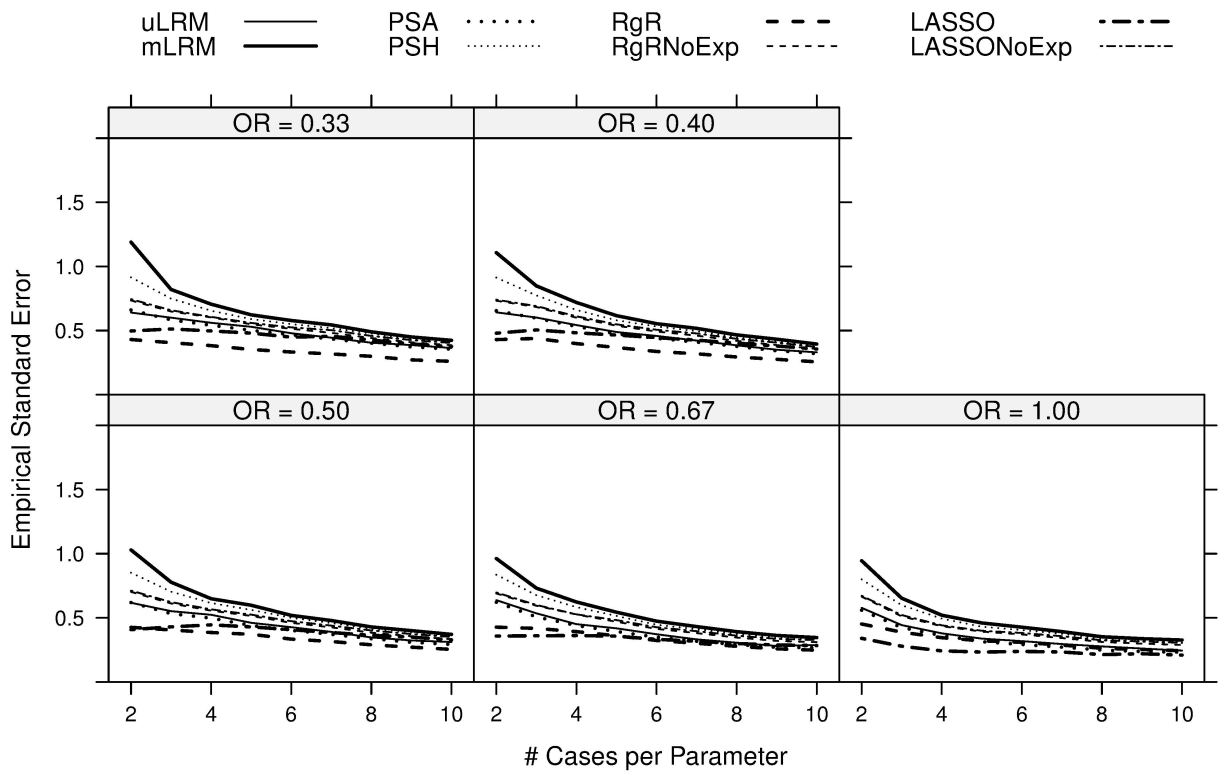
Figure S.4: Square Root of Mean square errors of the log odds ratio estimates under moderate exposure imbalance were plotted for eight candidate approaches. The results were based on 1,000 simulations.
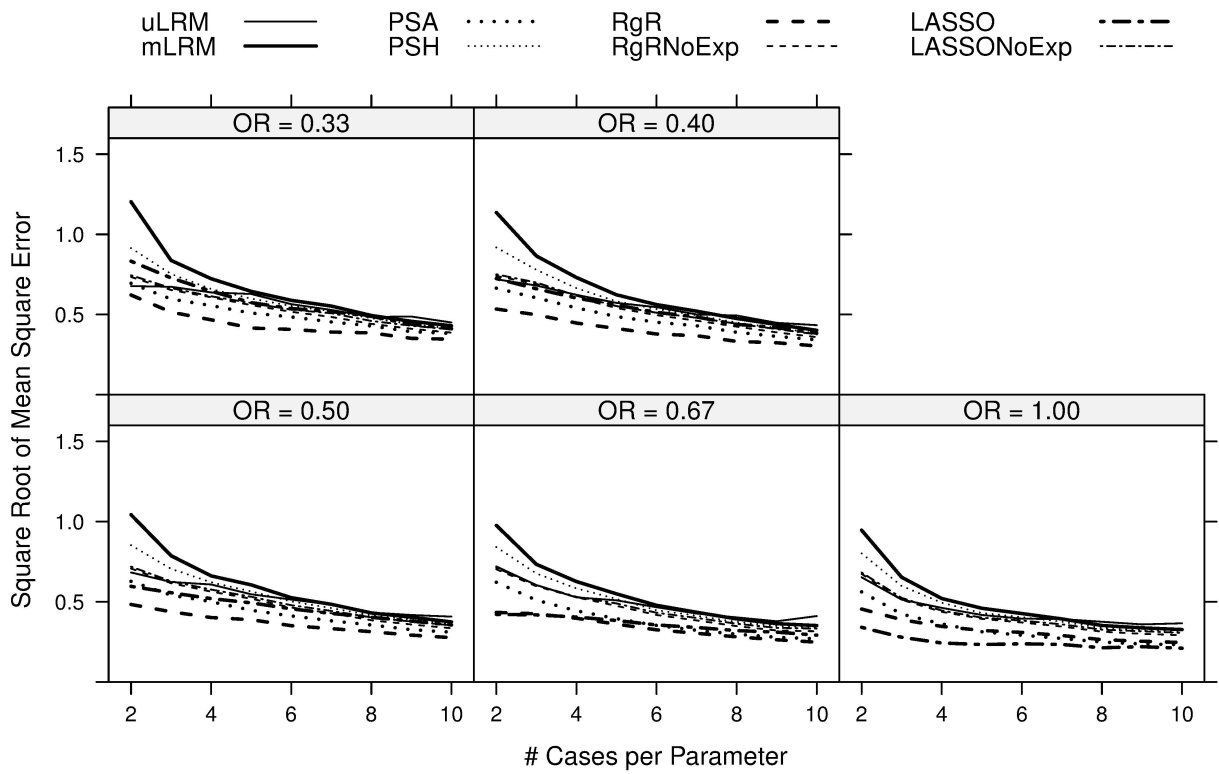
Figure S.5: Median absolute errors of the log odds ratio estimates under moderate exposure imbalance were plotted for eight candidate approaches. The results were based on 1,000 simulations.
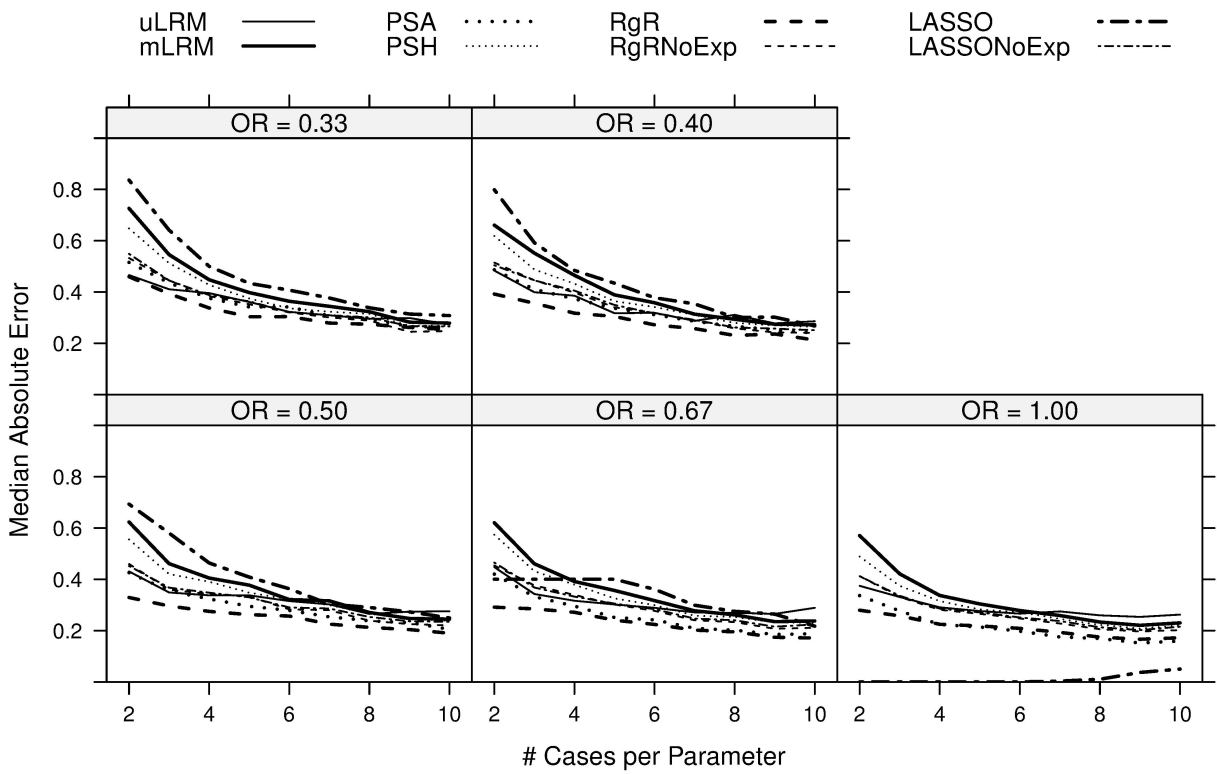
Figure S.6: Coverage probabilities (for 95% confidence intervals) of the log odds ratio estimates under moderate exposure imbalance were plotted for eight candidate approaches. The results were based on 1,000 simulations.
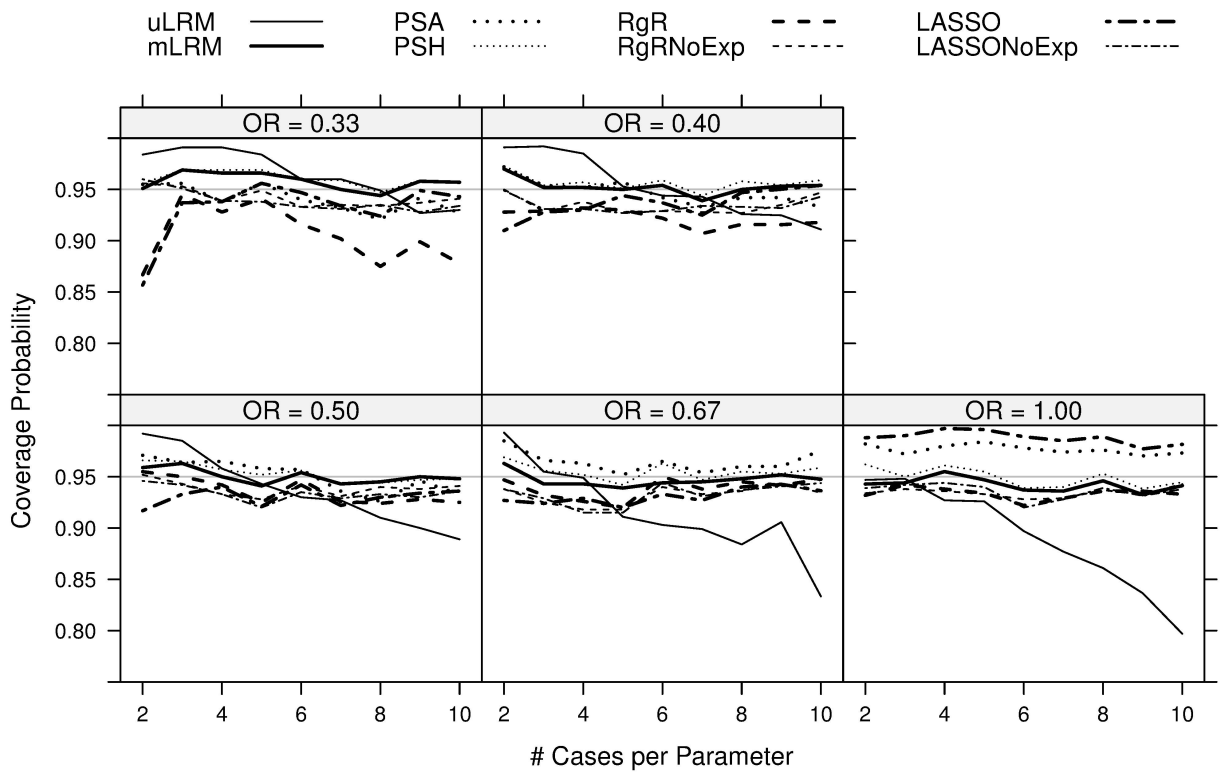
Figure S.7: Coefficient profile for the coefficient paths were plotted for Vaccine Effectiveness Study. The black line was the coefficient of vaccine status and gray lines were coefficients of confounding covariates.