

Number of training samples	n	50
Number of predictor variables	p	15 and 40
Population coefficient of determination	ρ^2	0.5 and 0.9
Position of relevant components	\mathcal{P}	$\triangleright 1, 2$ $\triangleright 1, 3$ $\triangleright 2, 3$ and $\triangleright 1, 2, 3$
Decay factor of eigenvalues of X	η	0.5 and 0.9

Table 1: Parameters used for simulating calibration sets

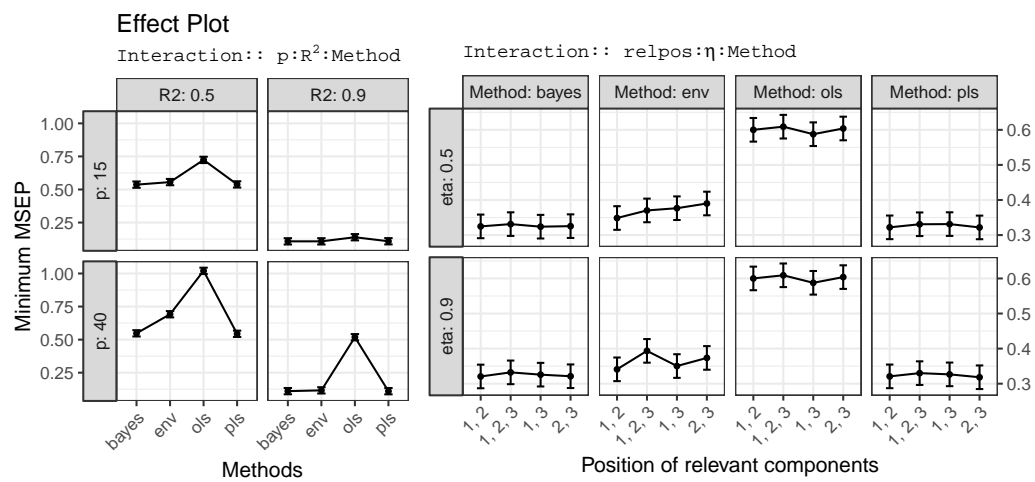


Figure 1: Third order interaction effects

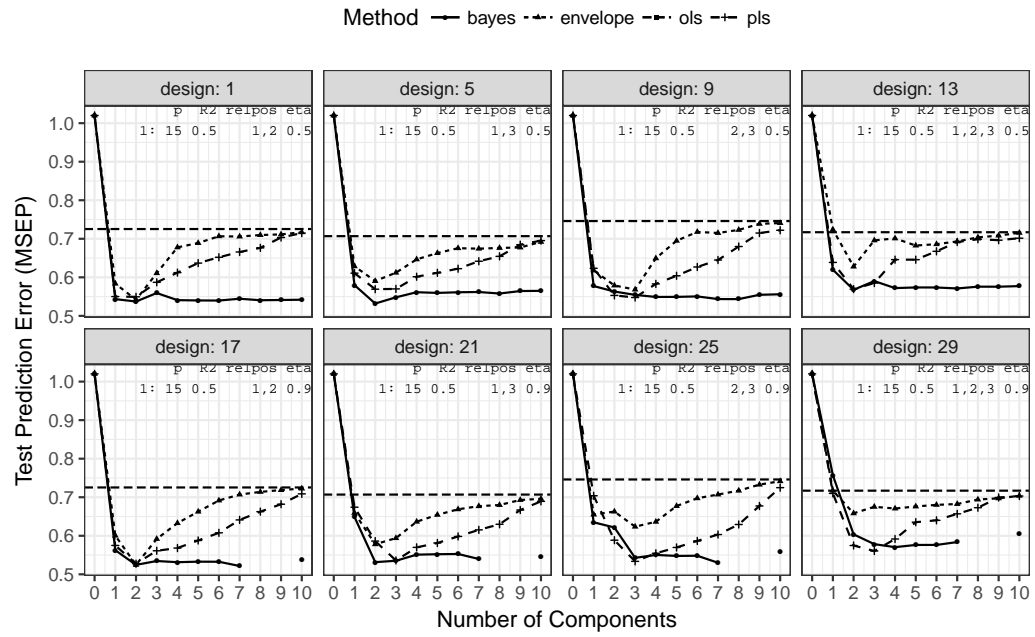


Figure 2: Average Prediction Error for designs with 15 predictor variables where Coefficient of determination is 0.5

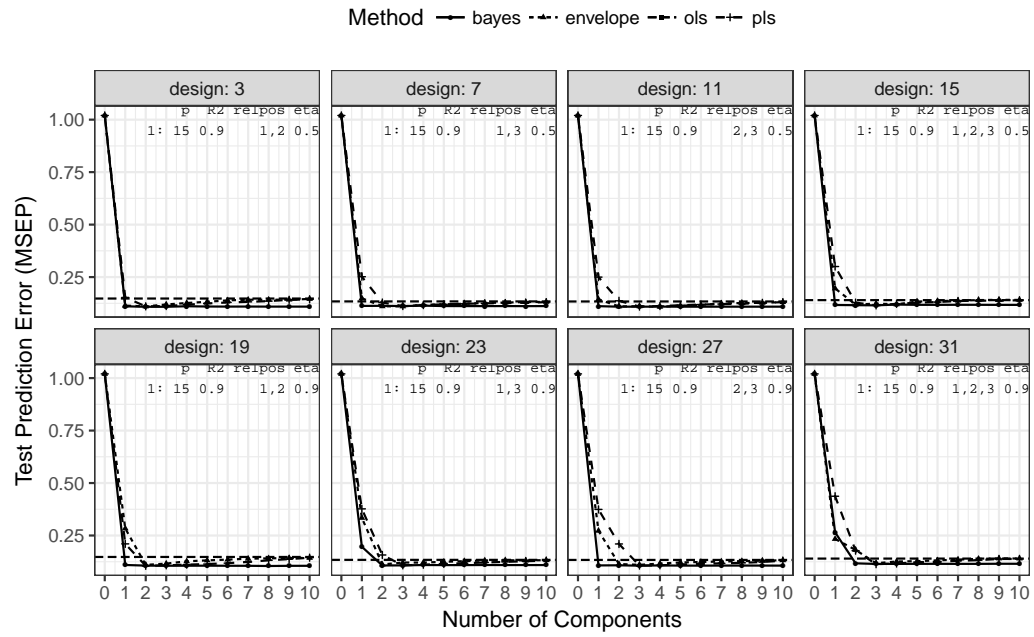


Figure 3: Average Prediction Error for designs with 15 predictor variables where Coefficient of determination is 0.9

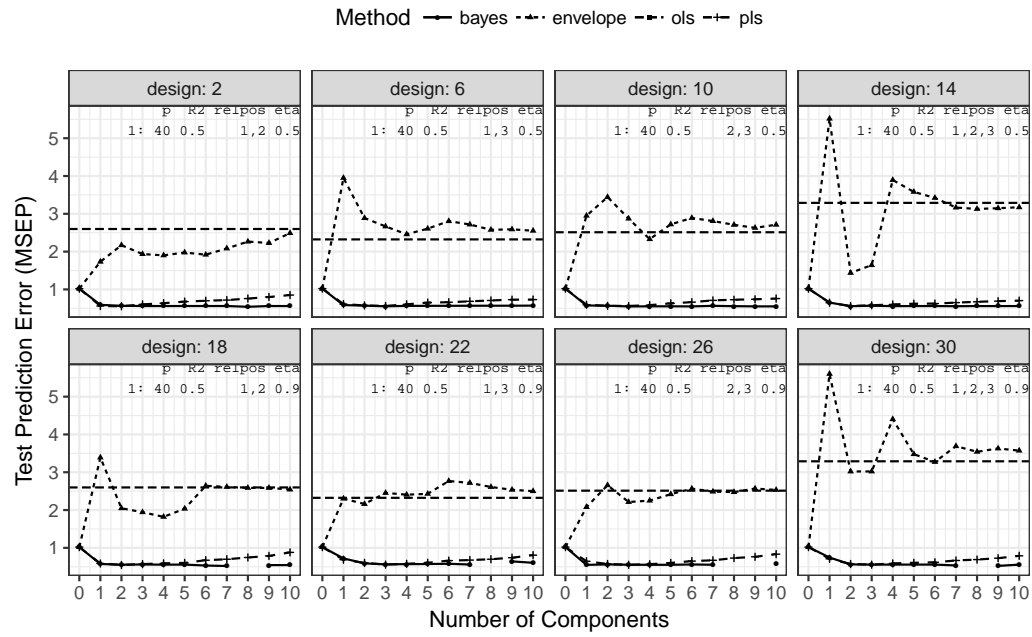


Figure 4: Average Prediction Error for designs with 40 predictor variables where Coefficient of determination is 0.5

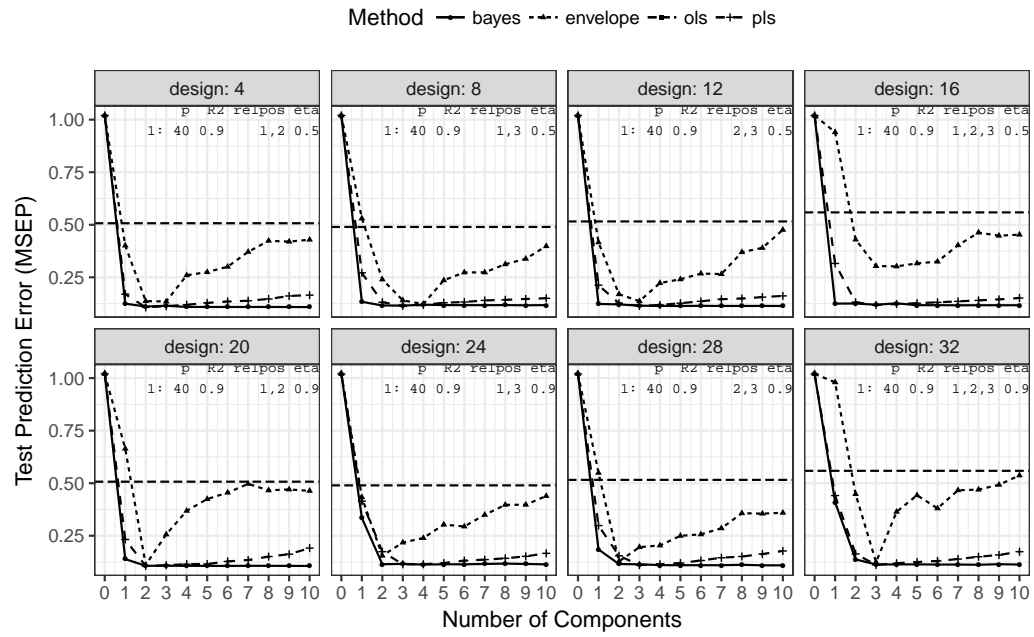


Figure 5: Average Prediction Error for designs with 40 predictor variables where Coefficient of determination is 0.9

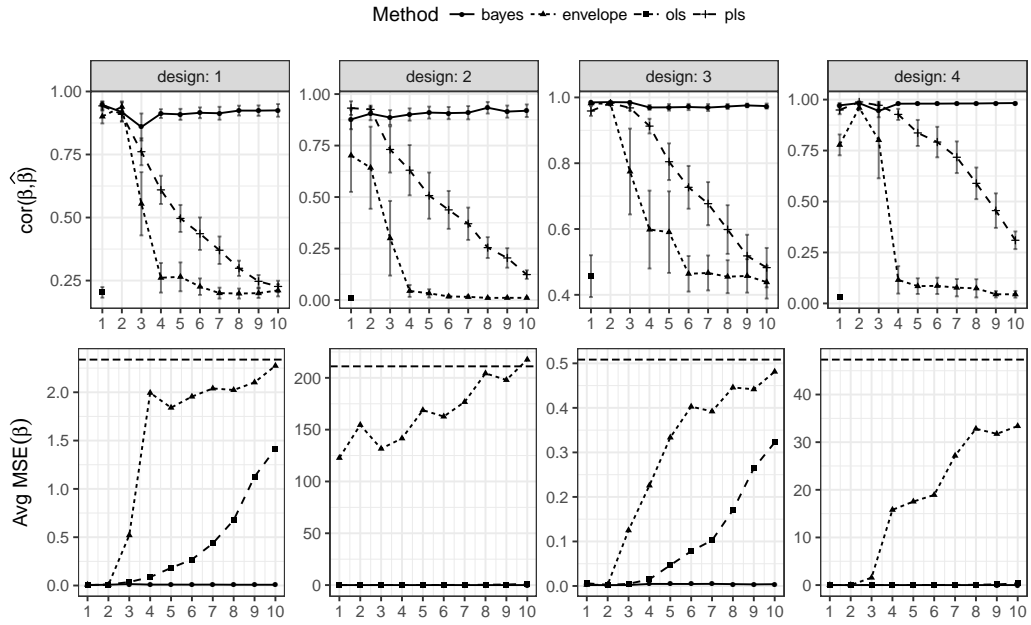


Figure 6: Correlation between true and estimated beta coefficient and Beta Estimation Error