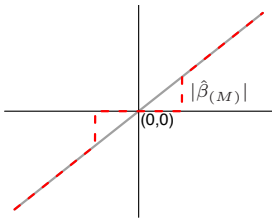


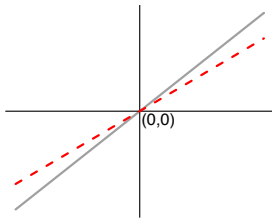
**TABLE 3.4.** Estimators of  $\beta_j$  in the case of orthonormal columns of  $\mathbf{X}$ .  $M$  and  $\lambda$  are constants chosen by the corresponding techniques;  $\text{sign}$  denotes the sign of its argument ( $\pm 1$ ), and  $x_+$  denotes “positive part” of  $x$ . Below the table, estimators are shown by broken red lines. The  $45^\circ$  line in gray shows the unrestricted estimate for reference.

Estimator	Formula
Best subset (size $M$ )	$\hat{\beta}_j \cdot I( \hat{\beta}_j  \geq  \hat{\beta}_{(M)} )$
Ridge	$\hat{\beta}_j / (1 + \lambda)$
Lasso	$\text{sign}(\hat{\beta}_j)( \hat{\beta}_j  - \lambda)_+$

Best Subset



Ridge



Lasso

