Plots

Soft Thresholding Operator: Sparsity in statistical model
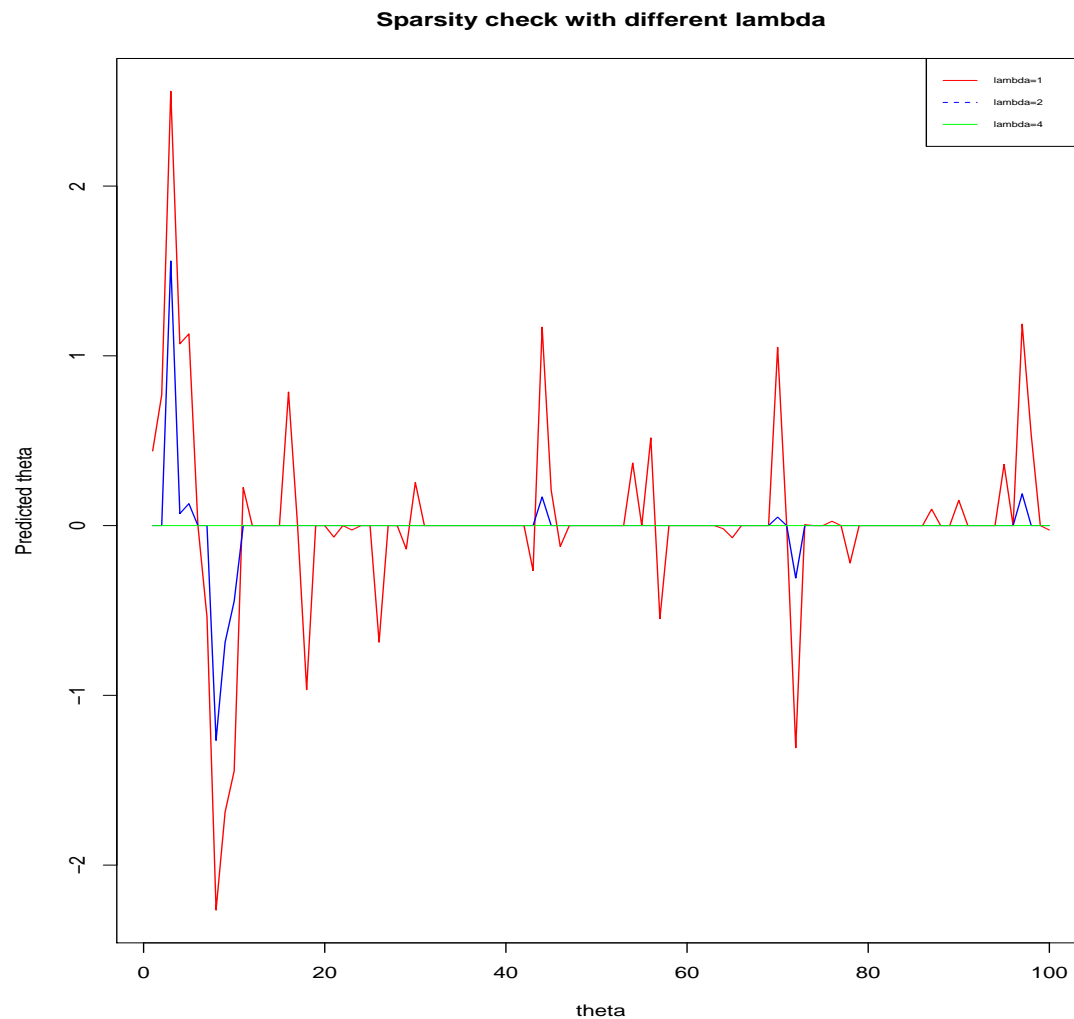

Figure 1: Sparsity check with different lambda

Figure 3 displays MSE of the lasso across λ. Clearly it seems that as λ increases, the variance decreases and the bias increases.

It seems from Figure 6 that all three criteria don't lead same λ. As we can see from the plot that In-Sample and Mallow's CP become similar and pick almost the same model. However, Mallow's CP shows fast approximations to the more fundamental quantity.
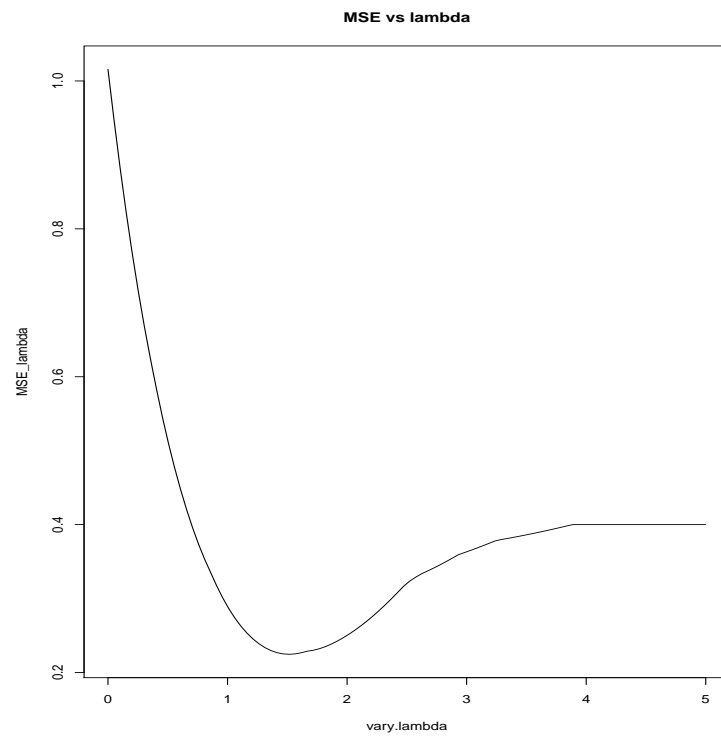
MSE vs lambda

Figure 2: Plot of soft thresholding function for different lambda
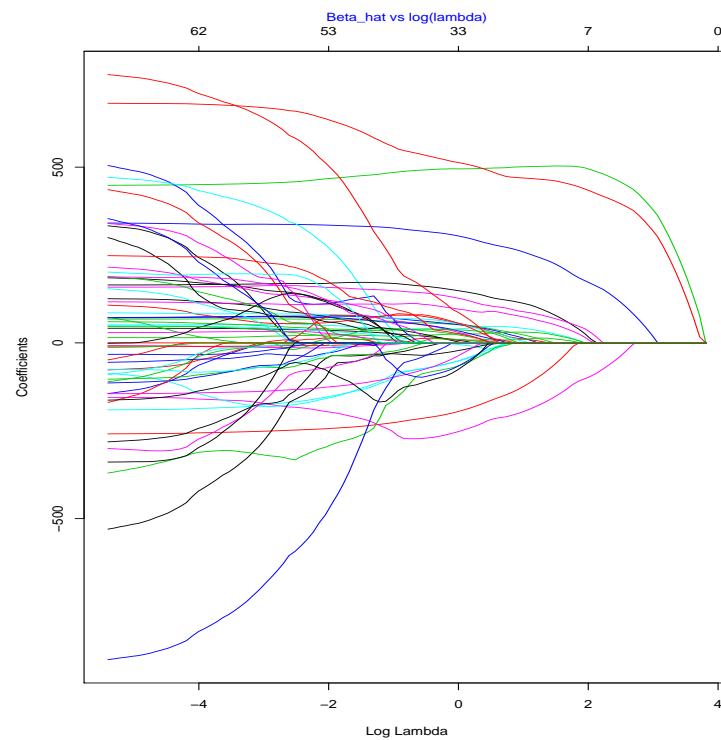
Beta_hat vs log(lambda)
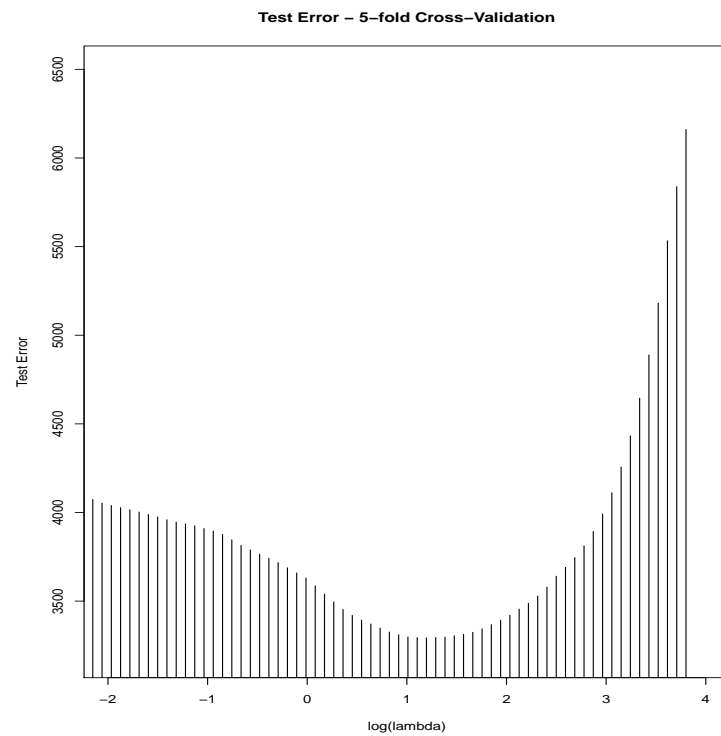

Figure 3: Plot of solution path across lambda

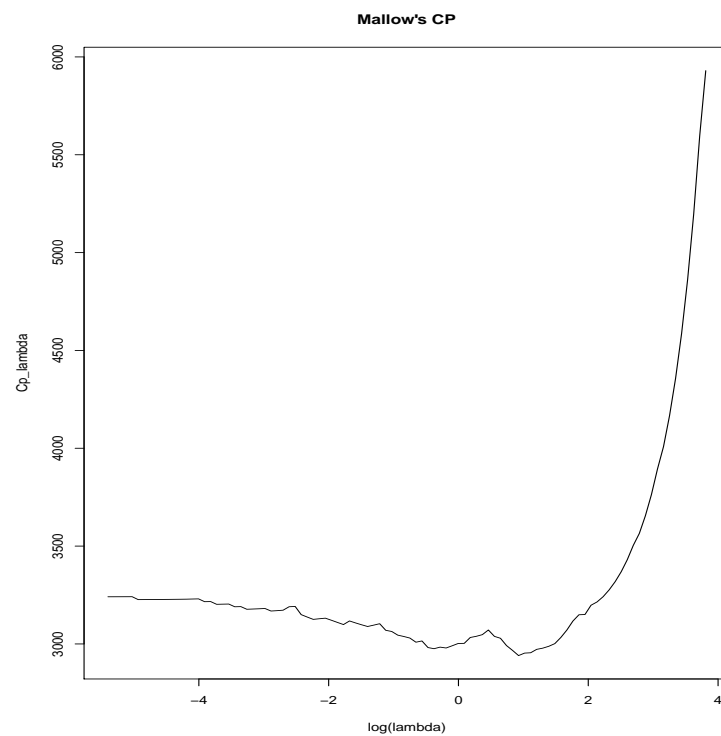Figure 4: Plot of Test Error from 5-fold Cross Validation
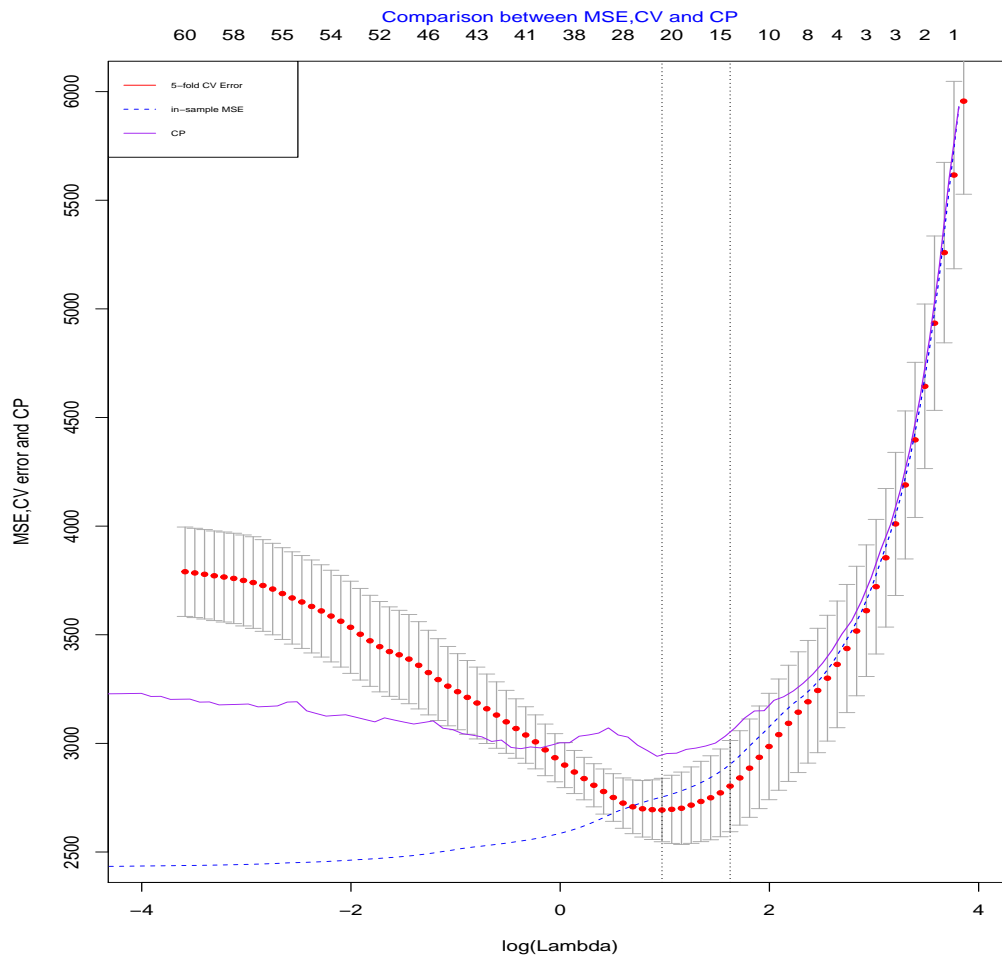

Figure 5: Plot of Mallow's CP

Figure 6: Comparison between In-sample Error, Mallow's CP and CV Error