

3.) ✓ Increasing s from 0 imposes less of a constraint, thus uses more flexible model approaching OLS .

(a) (iv) \rightarrow more flex as $s \uparrow$

(b) (ii) \rightarrow at first bias \downarrow outweighs var \uparrow , but then opposite occurs.

(c) (iii) \rightarrow As add more flex, var \uparrow

(d) (iv) \rightarrow " " , bias² \downarrow

(e) (v) \rightarrow IE unaffected by our actions.

4.) Increasing λ results in more shrinkage, thus:

(a) (iii) as more shrink \Rightarrow less flex \Rightarrow more bias

(b) (ii) init bias² increase outweighed by var \downarrow , but then opposite

(c) (iv) as more shrinkage, variance will decrease

(d) (iii) \rightarrow " " , bias² will increase

(e) (v) \rightarrow IE unaffected by our actions.