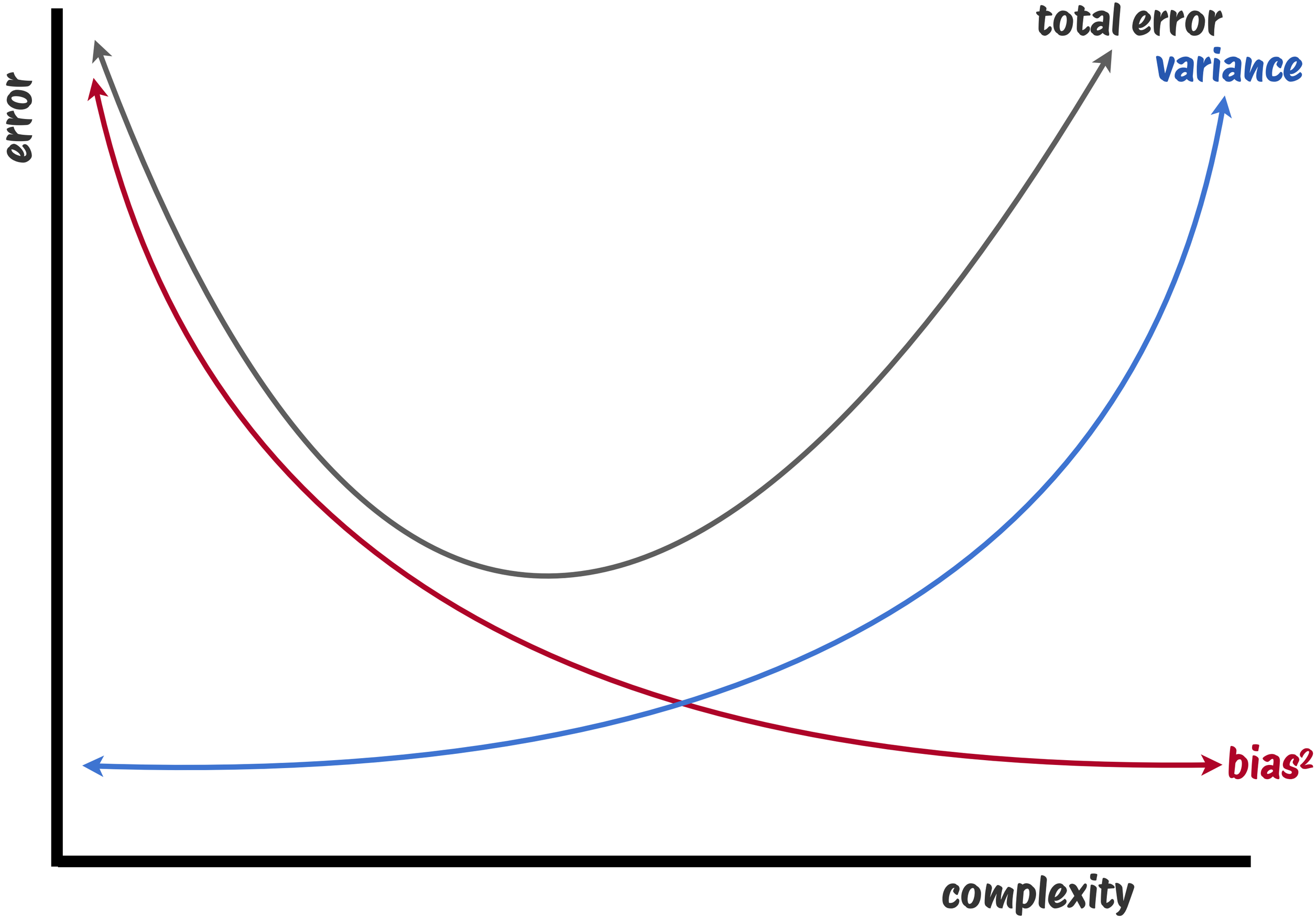
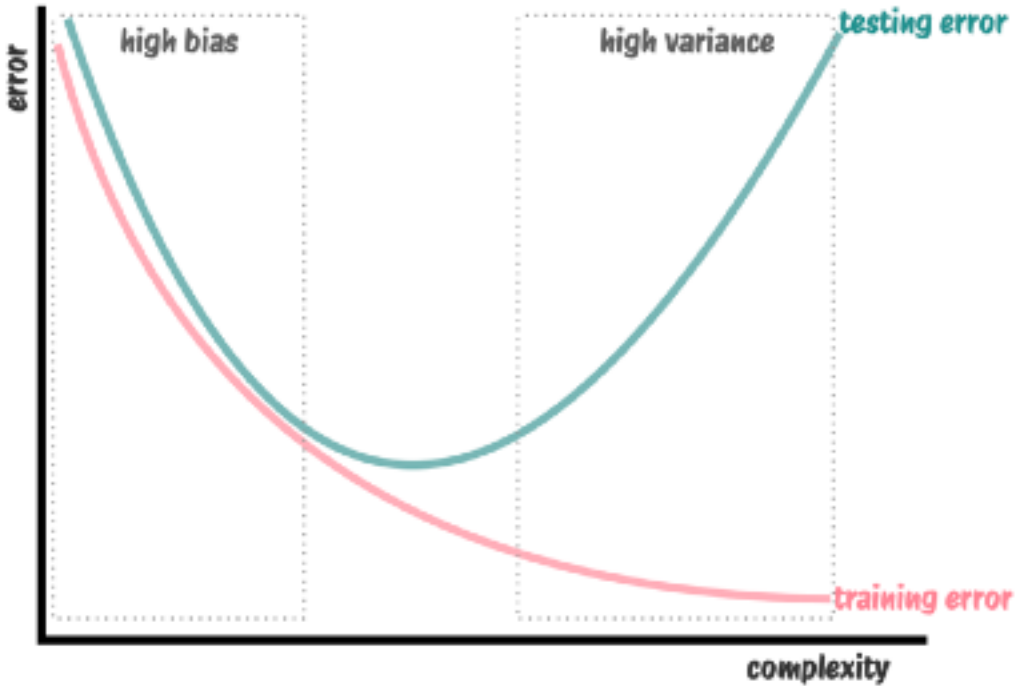
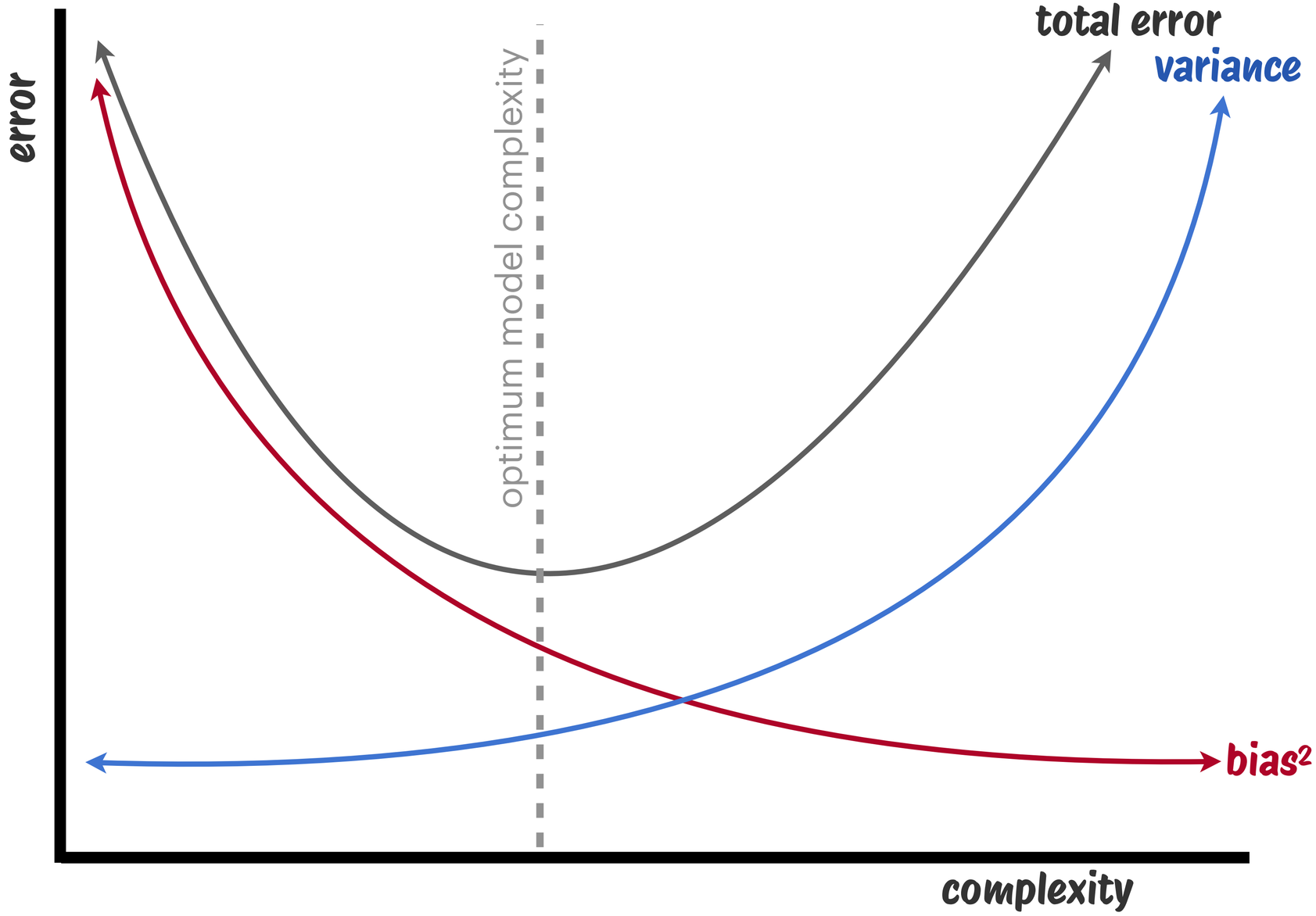
Bias Variance Trade-Off

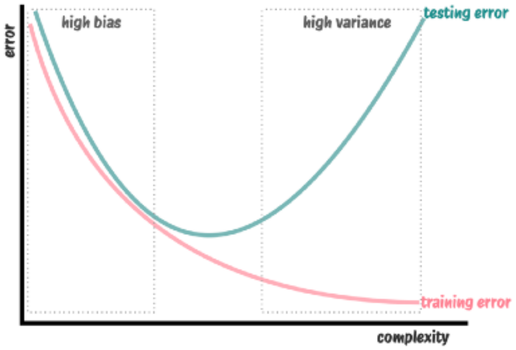

error
total error
variance
bias²
complexity


error
high bias
high variance
testing error
training error
complexity

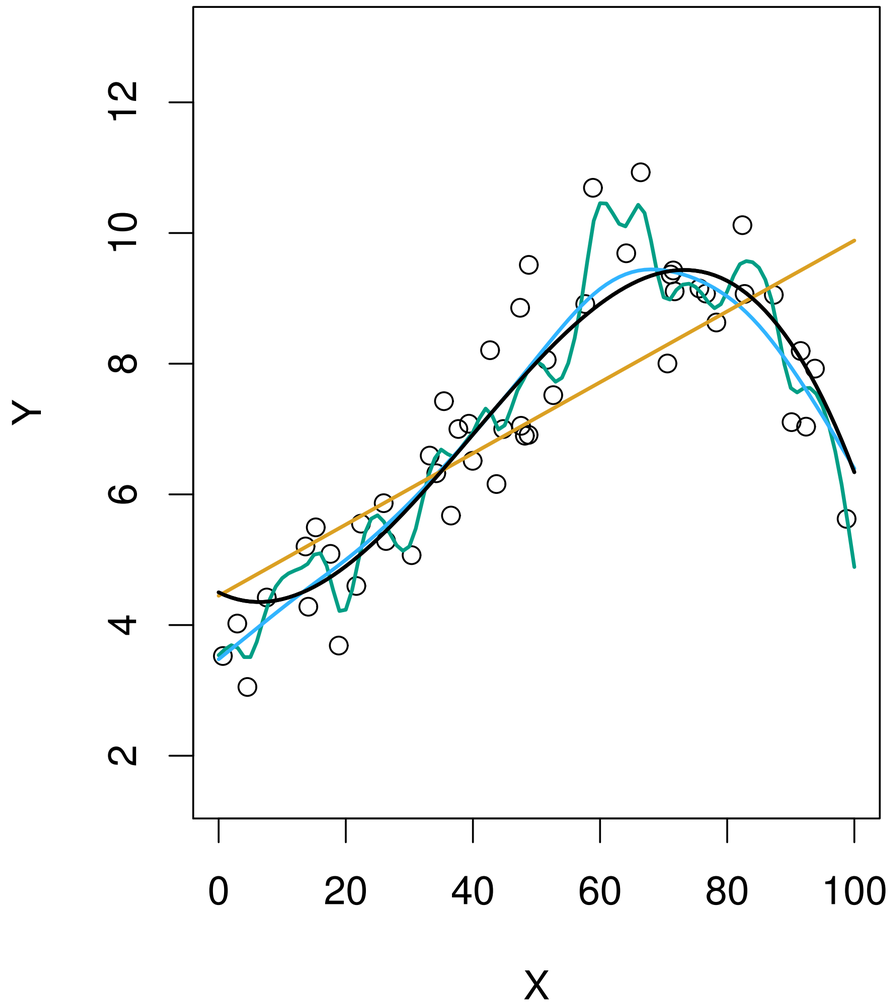
optimum model complexity

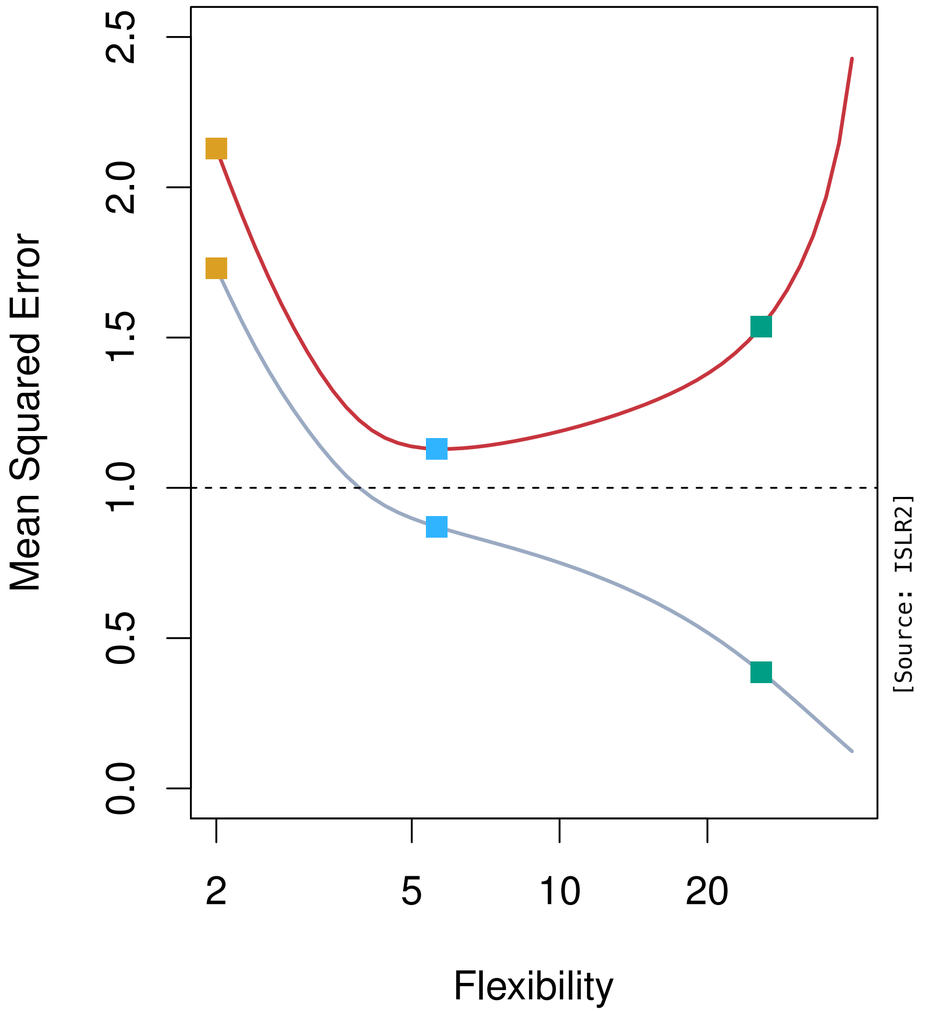
Bias Variance Trade-Off





Example (a)


Y
X
2
4
6
8
10
12
0
20
40
60
80
100


Mean Squared Error
Flexibility
0.0
0.5
1.0
1.5
2.0
2.5
2
5
10
20
[Source: ISLR2]