

### ANOVA for (complete) model with X1, X2, X3, and X4

Model		Sum of Squares	df	Mean Square	F	Sig.
C	Regression	5646.052	4	1411.513	17.035	.000
	Residual	1242.898	15	82.860		
	Total	6888.950	19			

Global usefulness F-statistic and p-value  
(Ho: all b's are zero)

Predictors: (Constant), X4, X2, X3, X1

Dependent Variable: Y

### Coefficients for model with X1, X2, X3, and X4

Model		B	Std. Error	t	Sig.
C	(Constant)	95.415	30.036	3.177	.006
	X1	6.074	2.662	2.281	.038
	X2	.084	.089	.951	.357
	X3	-1.746	.760	-2.297	.036
	X4	-.124	.380	-.328	.748

What do large p-values in this table tell you?

Dependent Variable: Y

### ANOVA for (reduced) model with X1 and X3 only

Model		Sum of Squares	df	Mean Square	F	Sig.
R	Regression	5567.889	2	2783.945	35.825	.000
	Residual	1321.061	17	77.709		
	Total	6888.950	19			

Predictors: (Constant), X3, X1

Dependent Variable: Y

### Model Summary comparing model C with X1, X2, X3, and X4 to model R with X1 and X3 only

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
R	.899	.808	.786	8.815					
C	.905	.820	.771	9.103	.011	.472	2	15	.633

R Predictors: (Constant), X3, X1

C Predictors: (Constant), X3, X1, X2, X4

Nested model F-statistic and p-value  
(Ho: b's for X2 and X4 are zero)

$$F\text{-statistic} = \frac{(1321.061 - 1242.898)/2}{1242.898/15} = \frac{39.0815}{82.85987} = 0.472 < F_{2,15,.05} = 3.68$$

Rejection region: F-statistic larger than 95<sup>th</sup> percentile of  $F_{2,15}$

### Coefficients for model with X1 and X3 only

Model		B	Std. Error	t	Sig.	Lower Bound	Upper Bound
R	(Constant)	110.431	24.856	4.443	.000	57.990	162.872
	X1	5.001	2.261	2.212	.041	.231	9.770
	X3	-2.012	.668	-3.014	.008	-3.420	-.604

Dependent Variable: Y

### Model Summary for model with X1 and X3 only

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.899	.808	.786	8.815

Predictors: (Constant), X3, X1

Individual t-test p-values (e.g. Ho: b for X1 is zero) and regression parameter confidence intervals