

Supplement to Project 4 Paper by Fox et al.
 Variable Selection Using Minitab Mallow's Cp Technique
 April 28, 2013 K. Fisher

Mallow's Cp Criteria (see Devore 579-580) suggests TC+TC^2 or TC+TC^2+SAT*TC as the best candidate minimized models for stepwise analysis. Subsequent stepwise Akaike information criteria (AIC) analysis settled on TC+TC^2 as the best-fit-model.

Best Subsets Regression: Indebtedness versus Term, Type, ...

Response is Indebtedness

The following variables are included in all models: TotalCost

Vars	R-Sq	R-Sq(adj)	Mallows Cp	S	m	e	T	L	d	C	E	B	D
1	29.9	28.1	-0.1	3.7064									X
1	25.7	23.7	4.4	3.8162						X			
1	23.6	21.7	6.5	3.8680			X						
1	21.3	19.2	9.0	3.9276		X							
1	20.6	18.5	9.7	3.9446	X								
2	30.7	27.9	1.1	3.7101						X			X
2	30.6	27.9	1.2	3.7116		X							X
2	30.3	27.6	1.5	3.7192									X X
2	30.1	27.4	1.7	3.7241							X		X
2	29.9	27.2	1.9	3.7293					X				X
3	33.0	29.4	0.7	3.6714					X				X X X
3	31.2	27.5	2.5	3.7199		X					X		X X
3	30.8	27.2	2.9	3.7296						X			X X X
3	30.8	27.1	3.0	3.7308						X X			X
3	30.8	27.1	3.0	3.7312		X							X X
4	34.1	29.7	1.5	3.6652		X			X				X X
4	33.9	29.4	1.7	3.6708					X X				X X
4	33.2	28.7	2.4	3.6902					X		X X X		X
4	33.0	28.5	2.6	3.6946		X			X				X X
4	33.0	28.5	2.6	3.6953	X				X				X X
5	34.2	28.8	3.4	3.6875	X	X			X				X X
5	34.2	28.8	3.4	3.6884		X	X		X	X X X			X X
5	34.2	28.7	3.4	3.6887		X	X X		X				X X
5	34.2	28.7	3.4	3.6887		X X	X		X				X X
5	34.1	28.7	3.5	3.6902		X X X			X				X X
6	34.3	27.9	5.3	3.7112	X	X	X		X	X X X			X X X
6	34.3	27.9	5.3	3.7115	X X X		X		X				X X
6	34.3	27.9	5.3	3.7116	X	X	X X X		X				X X
6	34.2	27.8	5.4	3.7124		X	X X X X X X		X				X X
6	34.2	27.8	5.4	3.7130	X	X X X X			X				X X
7	34.5	27.1	7.1	3.7310		X X			X X X X X X				X X
7	34.3	26.9	7.3	3.7357	X	X	X X X X X X		X				X X
7	34.3	26.9	7.3	3.7364	X X X		X X		X X				X X
7	34.3	26.9	7.3	3.7365	X X X		X		X X X				X X
7	34.3	26.9	7.3	3.7371	X	X X X			X X X				X X
8	34.6	26.2	9.0	3.7553	X X X		X X X X X X		X				X X
8	34.5	26.1	9.1	3.7575		X X X X X X X X			X				X X
8	34.3	25.9	9.3	3.7623	X	X X X X X X X X			X				X X
8	34.3	25.9	9.3	3.7630	X X X X X X		X X X		X				X X
8	34.3	25.8	9.3	3.7630	X X X X X X X		X X X		X				X X
9	34.6	25.1	11.0	3.7824	X X X X X X X X X				X				X X

Interaction Variables: SATTC = SAT * Total Cost; SATTYPE= SAT * Type; TCRB = TotalCost * RoomBoard; TCSQRD = TC^2.