

Selecting the Best Model using Honest Assessment

The GLMSELECT Procedure

Data Set	STAT1.AMESHOUSING3
Validation Data Set	STAT1.AMESHOUSING4
Dependent Variable	SalePrice
Selection Method	Backward
Select Criterion	SBC
Stop Criterion	SBC
Choose Criterion	Validation ASE
Effect Hierarchy Enforced	None

Observation Profile for Analysis Data	
Number of Observations Read	300
Number of Observations Used	294
Number of Observations Used for Training	294

Observation Profile for Validation Data	
Number of Observations Read	300
Number of Observations Used	293

Class Level Information		
Class	Levels	Values
House_Style2	5	1Story 2Story SFoyer SLvl 1.5Fin
Overall_Qual2	3	5 6 4
Overall_Cond2	3	5 6 4
Fireplaces	3	1 2 0
Season_Sold	4	2 3 4 1
Garage_Type_2	3	Detached NA Attached
Foundation_2	3	Cinder Block Concrete/Slab Brick/Tile/Stone
Heating_QC	4	Fa Gd TA Ex
Masonry_Veneer	2	Y N
Lot_Shape_2	2	Regular Irregular
Central_Air	2	Y N

Dimensions	
Number of Effects	20
Number of Parameters	43

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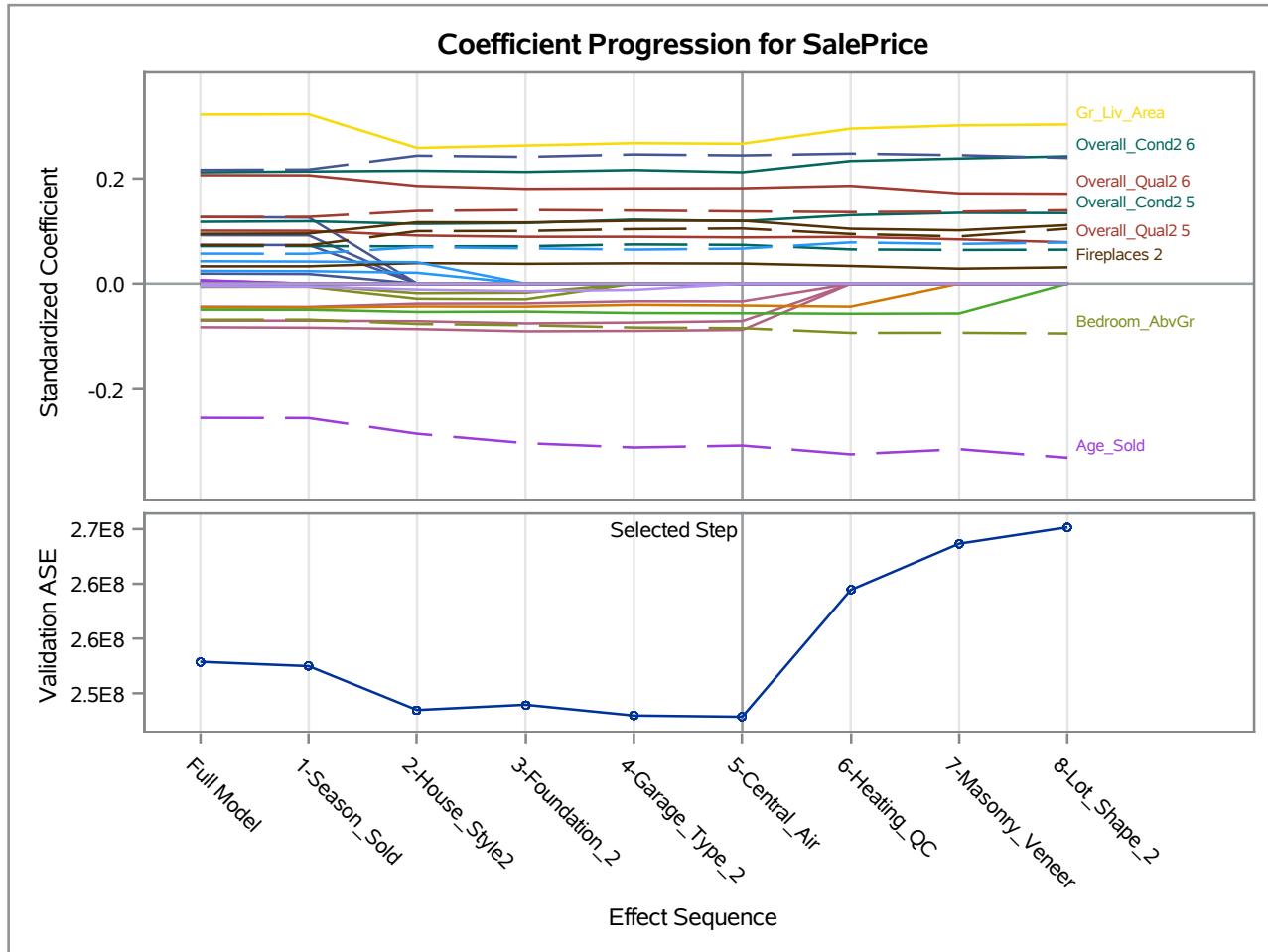
Backward Selection Summary						
Step	Effect Removed	Number Effects In	NumberParms In	SBC	ASE	Validation ASE
0		20	32	5779.6460	185773538	252878776
1	Season_Sold	19	29	5762.6753	185824120	252480746
2	House_Style2	18	25	5750.8247	192832172	248469026
3	Foundation_2	17	23	5740.3830	193440101	248951925
4	Garage_Type_2	16	21	5730.0735	194137231	247966687
5	Central_Air	15	20	5724.5490	194242334	247854963*
6	Heating_QC	14	17	5721.3123	203586891	259432895
7	Masonry_Veneer	13	16	5718.5873	205646000	263660934
8	Lot_Shape_2	12	15	5717.9317*	209193215	265159474
* Optimal Value of Criterion						

Selection stopped at a local minimum of the SBC criterion.

Stop Details				
Candidate For	Effect	Candidate SBC		Compare SBC
Removal	Deck_Porch_Area	5718.6683	>	5717.9317

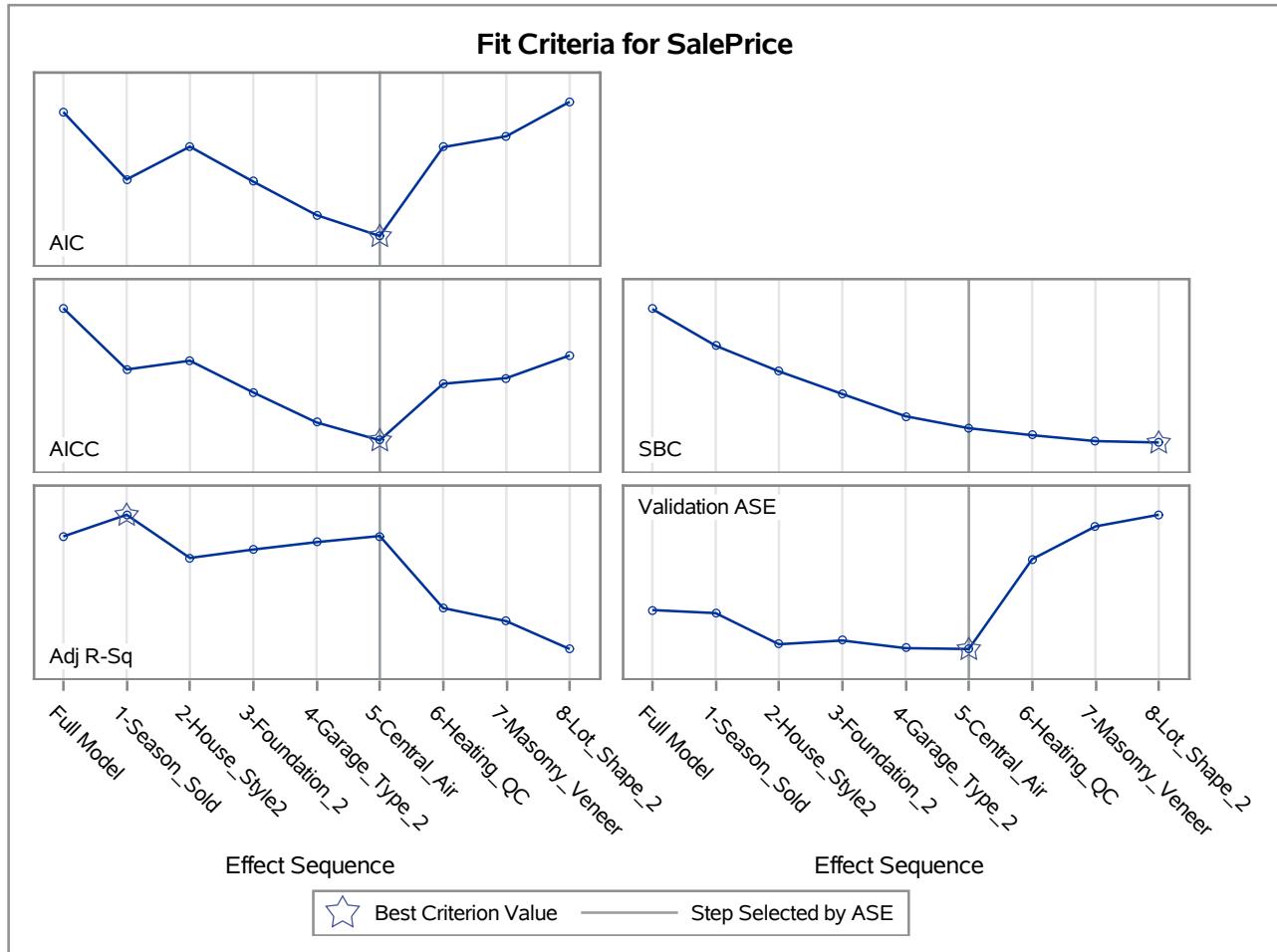
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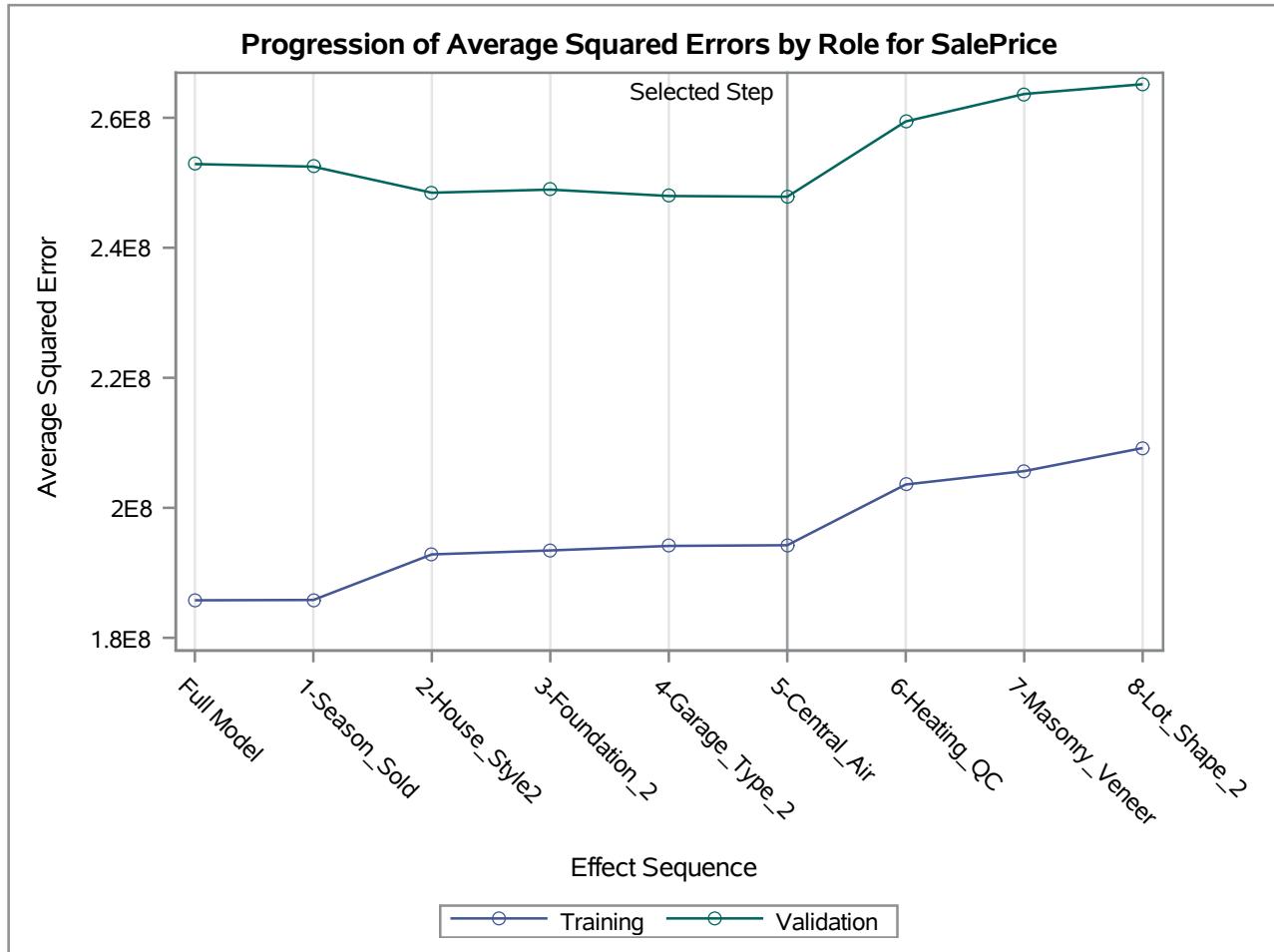
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The GLMSELECT Procedure Selected Model

The selected model, based on Validation ASE, is the model at Step 5.

Effects:	Intercept Overall_Qual2 Overall_Cond2 Fireplaces Heating_QC Masonry_Veneer Lot_Shape_2 Gr_Liv_Area Basement_Area Garage_Area Deck_Porch_Area Lot_Area Age_Sold Bedroom_AbvGr Total_Bathroom
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Analysis of Variance				
Source	DF	Sum of Squares	Mean Square	F Value
Model	19	3.566452E11	18770797693	90.06
Error	274	57107246191	208420607	
Corrected Total	293	4.137524E11		

Root MSE	14437
Dependent Mean	137179
R-Square	0.8620
Adj R-Sq	0.8524
AIC	5946.87742
AICC	5950.27448
SBC	5724.54902
ASE (Train)	194242334
ASE (Validate)	247854963

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The GLMSELECT Procedure Selected Model

Parameter Estimates				
Parameter	DF	Estimate	Standard Error	t Value
Intercept	1	51207	7079.121457	7.23
Overall_Qual2 5	1	6782.080263	3104.469941	2.18
Overall_Qual2 6	1	13659	3414.565419	4.00
Overall_Qual2 4	0	0	.	.
Overall_Cond2 5	1	8996.618020	4137.937302	2.17
Overall_Cond2 6	1	15909	4025.283609	3.95
Overall_Cond2 4	0	0	.	.
Fireplaces 1	1	9716.205925	2044.560791	4.75
Fireplaces 2	1	7235.661619	4540.159269	1.59
Fireplaces 0	0	0	.	.
Heating_QC Fa	1	-11668	4315.812370	-2.70
Heating_QC Gd	1	-3178.918390	2496.841385	-1.27
Heating_QC TA	1	-6689.247126	2133.424223	-3.14
Heating_QC Ex	0	0	.	.
Masonry_Veneer Y	1	-3369.652622	2079.343731	-1.62
Masonry_Veneer N	0	0	.	.
Lot_Shape_2 Regular	1	-4507.715447	2036.544994	-2.21
Lot_Shape_2 Irregular	0	0	.	.
Gr_Liv_Area	1	42.972194	5.709351	7.53
Basement_Area	1	25.491273	3.170869	8.04
Garage_Area	1	29.698556	5.913131	5.02
Deck_Porch_Area	1	20.952561	7.235245	2.90
Lot_Area	1	1.199858	0.307660	3.90
Age_Sold	1	-422.187733	47.675825	-8.86
Bedroom_AbvGr	1	-4541.124997	1523.500120	-2.98
Total_Bathroom	1	3806.351237	1714.333548	2.22