

The LOGISTIC Procedure

Model Information	
Data Set	WORK.LOAN_IN
Response Variable	default
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	313647
Number of Observations Used	313647

Response Profile		
Ordered Value	default	Total Frequency
1	1	60516
2	0	253131

Probability modeled is default=1.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	307666.09	16404.391
SC	307676.74	16500.295
-2 Log L	307664.09	16386.391

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	291277.697	8	<.0001
Score	280893.137	8	<.0001
Wald	11807.0065	8	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	9.8214	0.5093	371.8285	<.0001
util	1	0.0117	0.000754	238.7725	<.0001
int	1	0.2798	0.0166	284.7421	<.0001
delinq	1	0.2416	0.0459	27.7395	<.0001
dti	1	0.00392	0.00268	2.1326	0.1442
total_paid	1	-16.6715	0.1614	10663.6358	<.0001
rec_paid	1	-9.2492	0.2233	1715.1887	<.0001
grade_value	1	0.4002	0.0575	48.4419	<.0001
total_acc	1	-0.0239	0.00211	128.8059	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
util	1.012	1.010	1.013
int	1.323	1.281	1.367
delinq	1.273	1.164	1.393
dti	1.004	0.999	1.009
total_paid	<0.001	<0.001	<0.001
rec_paid	<0.001	<0.001	<0.001
grade_value	1.492	1.333	1.670
total_acc	0.976	0.972	0.980

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	99.9	Somers' D	0.997
Percent Discordant	0.1	Gamma	0.997
Percent Tied	0.0	Tau-a	0.311
Pairs	15318475596	c	0.999

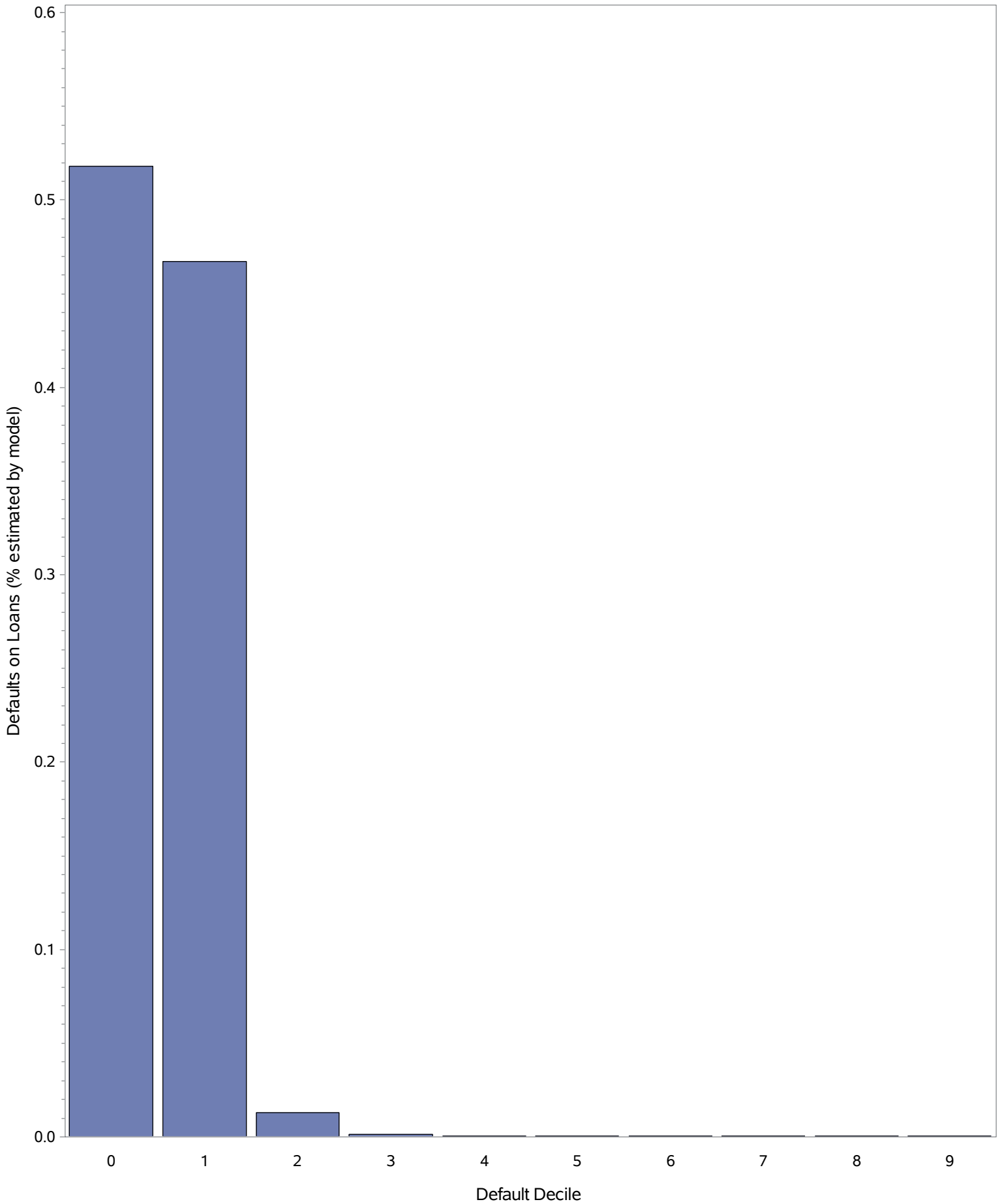
In-Sample Logistics
Out-Sample Decile Percentages

Data_Set=1

Obs	hazard	default
1	0	0.51803
2	1	0.46718
3	2	0.01274
4	3	0.00139
5	4	0.00026
6	5	0.00015
7	6	0.00007
8	7	0.00002
9	8	0.00007
10	9	0.00010

In-Sample Logistics

Defaults per Decile in In-sample, 2007 to 2016



The LOGISTIC Procedure

Model Information	
Data Set	WORK.OUT_LEFT
Response Variable	default
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	189178
Number of Observations Used	189178

Response Profile		
Ordered Value	default	Total Frequency
1	1	34992
2	0	154186

Probability modeled is default=1.

Model Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	181175.75	13520.720
SC	181185.90	13612.074
-2 Log L	181173.75	13502.720

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	167671.028	8	<.0001
Score	162824.017	8	<.0001
Wald	9944.1390	8	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	7.4216	0.5559	178.2493	<.0001
util	1	0.00670	0.000873	58.7928	<.0001
int	1	0.4022	0.0197	415.3867	<.0001
delinq	1	0.3188	0.0515	38.3695	<.0001
dti	1	0.0228	0.00340	45.0605	<.0001
total_paid	1	-16.2108	0.1697	9122.4187	<.0001
rec_paid	1	-10.8818	0.2883	1424.2990	<.0001
grade_value	1	0.5686	0.0626	82.3726	<.0001
total_acc	1	-0.0296	0.00236	157.6097	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
util	1.007	1.005	1.008
int	1.495	1.438	1.554
delinq	1.376	1.244	1.522
dti	1.023	1.016	1.030
total_paid	<0.001	<0.001	<0.001
rec_paid	<0.001	<0.001	<0.001
grade_value	1.766	1.562	1.996
total_acc	0.971	0.966	0.975

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	99.8	Somers' D	0.996
Percent Discordant	0.2	Gamma	0.996
Percent Tied	0.0	Tau-a	0.300
Pairs	5395276512	c	0.998

Out-Sample Logistics
Out-Sample Decile Percentages

Data_Set=1

Obs	hazard	default
1	0	0.48762
2	1	0.48762
3	2	0.02421
4	3	0.00020
5	4	0.00012
6	5	0.00008
7	7	0.00008
8	8	0.00004
9	9	0.00004

Out-Sample Logistics

Defaults per Decile in Out-sample, 2015 to 2016

