The LOGISTIC Procedure

Model Information	
Data Set	WORK.ADULT
Response Variable	income_bin
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring
Likelihood Penalty	Firth's bias correction

Number of Observations Read	30162
Number of Observations Used	30162

Response Profile		
Ordered Value	income_bin	Total Frequency
1	0	22654
2	1	7508

Probability modeled is income_bin=1.

Class Level Information									
Class	Value	Design Variables							
WorkingClass_clean	Governemnt	1	0	0					
	Others	0	1	0					
	Private	0	0	1					
	SelfEmployed	0	0	0					
EducationLevel_clean	Elementary	1	0	0	0				
	HighSchool	0	1	0	0				
	HigherEducation	0	0	1	0				
	MiddleSchool	0	0	0	1				
	Post-High_School	0	0	0	0				
Sex	Female	1							
	Male	0							
Race	Amer-In	1	0	0	0				
	Asian-P	0	1	0	0				
	Black	0	0	1	0				
	Other	0	0	0	1				
	White	0	0	0	0				
Marital_Status	Divorced	1	0	0	0	0	0		
	Married-AF-spouse	0	1	0	0	0	0		
	Married-civ-spouse	0	0	1	0	0	0		
	Married-spouse-absen	0	0	0	1	0	0		
	Never-married	0	0	0	0	1	0		
	Separated	0	0	0	0	0	1		
	Widowed	0	0	0	0	0	0		
Occupation_clean	Domestic	1	0	0	0	0	0	0	
	ManualLabor	0	1	0	0	0	0	0	
	Professional	0	0	1	0	0	0	0	
	Protective Ser	0	0	0	1	0	0	0	
	Sales	0	0	0	0	1	0	0	
	Services	0	0	0	0	0	1	0	
	SkilledLabor	0	0	0	0	0	0	1	
	Specialized	0	0	0	0	0	0	0	

Intercept-Only Model Convergence Status

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

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	33659.624	20920.265
SC	33667.938	21161.381
-2 Log L	33657.624	20862.265

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	12795.3585	28	<.0001
Score	10339.3093	28	<.0001
Wald	6062.6905	28	<.0001

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
Age	1	304.3733	<.0001
WorkingClass_clean	3	43.4090	<.0001
Net_Capital	1	803.1012	<.0001
Race	4	22.3072	0.0002
EducationLevel_clean	4	1000.2862	<.0001
Sex	1	10.7148	0.0011
Hrs_per_Week	1	352.6052	<.0001
Marital_Status	6	2616.4222	<.0001
Occupation_clean	7	450.7708	<.0001

Analysis of Penalized Maximum Likelihood Estimates						
Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept		1	-5.4880	0.2084	693.6576	<.0001
Age		1	0.0279	0.00160	304.3733	<.0001
WorkingClass_clean	Governemnt	1	0.3179	0.0661	23.1022	<.0001
WorkingClass_clean	Others	1	-1.9377	1.5799	1.5042	0.2200
WorkingClass_clean	Private	1	0.3281	0.0515	40.6720	<.0001
Net_Capital		1	0.000245	8.638E-6	803.1012	<.0001
Race	Amer-In	1	-0.6790	0.2193	9.5863	0.0020
Race	Asian-P	1	-0.1146	0.1006	1.2961	0.2549
Race	Black	1	-0.1540	0.0729	4.4594	0.0347
Race	Other	1	-0.7899	0.2809	7.9105	0.0049
EducationLevel_clean	Elementary	1	-2.1163	0.2564	68.1085	<.0001
EducationLevel_clean	HighSchool	1	-0.5298	0.0442	143.6988	<.0001
EducationLevel_clean	HigherEducation	1	0.8685	0.0471	339.5380	<.0001
EducationLevel_clean	MiddleSchool	1	-1.8588	0.1462	161.7114	<.0001
Sex	Female	1	-0.1691	0.0517	10.7148	0.0011
Hrs_per_Week		1	0.0298	0.00158	352.6052	<.0001
Marital_Status	Divorced	1	0.00982	0.1485	0.0044	0.9473
Marital_Status	Married-AF-spouse	1	2.9743	0.5130	33.6142	<.0001
Marital_Status	Married-civ-spouse	1	2.1275	0.1428	221.8993	<.0001
Marital_Status	Married-spouse-absen	1	-0.0792	0.2580	0.0943	0.7588
Marital_Status	Never-married	1	-0.5231	0.1515	11.9142	0.0006
Marital_Status	Separated	1	-0.0887	0.2004	0.1961	0.6579

Analysis of Penalized Maximum Likelihood Estimates

Parameter		DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Occupation_clean	Domestic	1	-3.4447	1.2394	7.7244	0.0054
Occupation_clean	ManualLabor	1	-0.1809	0.0932	3.7640	0.0524
Occupation_clean	Professional	1	0.8786	0.0762	133.0843	<.0001
Occupation_clean	Protective Ser	1	0.5492	0.1260	18.9848	<.0001
Occupation_clean	Sales	1	0.4277	0.0837	26.1002	<.0001
Occupation_clean	Services	1	-0.1114	0.0861	1.6754	0.1955
Occupation_clean	SkilledLabor	1	0.0739	0.0790	0.8769	0.3490

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Age	1.028	1.025	1.031
WorkingClass_clean Governemnt vs SelfEmployed	1.374	1.207	1.564
WorkingClass_clean Others vs SelfEmployed	0.144	0.007	3.186
WorkingClass_clean Private vs SelfEmployed	1.388	1.255	1.536
Net_Capital	1.000	1.000	1.000
Race Amer-In vs White	0.507	0.330	0.779
Race Asian-P vs White	0.892	0.732	1.086
Race Black vs White	0.857	0.743	0.989
Race Other vs White	0.454	0.262	0.787
EducationLevel_clean Elementary vs Post-High_School	0.120	0.073	0.199
EducationLevel_clean HighSchool vs Post-High_School	0.589	0.540	0.642
EducationLevel_clean HigherEducation vs Post-High_School	2.383	2.173	2.614
EducationLevel_clean MiddleSchool vs Post-High_School	0.156	0.117	0.208
Sex Female vs Male	0.844	0.763	0.934
Hrs_per_Week	1.030	1.027	1.033
Marital_Status Divorced vs Widowed	1.010	0.755	1.351
Marital_Status Married-AF-spouse vs Widowed	19.577	7.162	53.508
Marital_Status Married-civ-spouse vs Widowed	8.394	6.345	11.106
Marital_Status Married-spouse-absen vs Widowed	0.924	0.557	1.532
Marital_Status Never-married vs Widowed	0.593	0.440	0.798
Marital_Status Separated vs Widowed	0.915	0.618	1.355
Occupation_clean Domestic vs Specialized	0.032	0.003	0.362
Occupation_clean ManualLabor vs Specialized	0.835	0.695	1.002
Occupation_clean Professional vs Specialized	2.408	2.074	2.795
Occupation_clean Protective Ser vs Specialized	1.732	1.353	2.217
Occupation_clean Sales vs Specialized	1.534	1.302	1.807
Occupation_clean Services vs Specialized	0.895	0.756	1.059
Occupation_clean SkilledLabor vs Specialized	1.077	0.922	1.257

Association of Predicted Probabilities and Observed Responses

Percent Concordant	89.0	Somers' D	0.780
Percent Discordant	11.0	Gamma	0.780
Percent Tied	0.0	Tau-a	0.292
Pairs	170086232	c	0.890

Parameter Estimates and Profile-Likelihood Confidence Intervals

Parameter		Estimate	95% Confidence Limits	
Intercept		-5.4880	-5.9005	-5.0835
Age		0.0279	0.0247	0.0310
WorkingClass_clean	Governemnt	0.3179	0.1883	0.4475
WorkingClass_clean	Others	-1.9377	-6.8130	0.2051
WorkingClass_clean	Private	0.3281	0.2275	0.4292

Parameter Estimates and Profile-Likelihood Confidence Intervals

Parameter		Estimate	95% Confidence Limits	
Net_Capital		0.000245	0.000228	0.000262
Race	Amer-In	-0.6790	-1.1239	-0.2634
Race	Asian-P	-0.1146	-0.3130	0.0817
Race	Black	-0.1540	-0.2980	-0.0121
Race	Other	-0.7899	-1.3679	-0.2642
EducationLevel_clean	Elementary	-2.1163	-2.6546	-1.6442
EducationLevel_clean	HighSchool	-0.5298	-0.6164	-0.4432
EducationLevel_clean	HigherEducation	0.8685	0.7762	0.9610
EducationLevel_clean	MiddleSchool	-1.8588	-2.1545	-1.5807
Sex	Female	-0.1691	-0.2705	-0.0679
Hrs_per_Week		0.0298	0.0267	0.0329
Marital_Status	Divorced	0.00982	-0.2757	0.3070
Marital_Status	Married-AF-spouse	2.9743	1.9630	3.9605
Marital_Status	Married-civ-spouse	2.1275	1.8539	2.4143
Marital_Status	Married-spouse-absen	-0.0792	-0.5977	0.4161
Marital_Status	Never-married	-0.5231	-0.8148	-0.2202
Marital_Status	Separated	-0.0887	-0.4838	0.3030
Occupation_clean	Domestic	-3.4447	-6.1056	-1.2830
Occupation_clean	ManualLabor	-0.1809	-0.3635	0.00198
Occupation_clean	Professional	0.8786	0.7301	1.0287
Occupation_clean	Protective Ser	0.5492	0.3019	0.7959
Occupation_clean	Sales	0.4277	0.2641	0.5924
Occupation_clean	Services	-0.1114	-0.2798	0.0578
Occupation_clean	SkilledLabor	0.0739	-0.0802	0.2294

Parameter Estimates and Wald Confidence Intervals

Parameter		Estimate	95% Confidence Limits	
Intercept		-5.4880	-5.8964	-5.0796
Age		0.0279	0.0247	0.0310
WorkingClass_clean	Governemnt	0.3179	0.1883	0.4475
WorkingClass_clean	Others	-1.9377	-5.0342	1.1589
WorkingClass_clean	Private	0.3281	0.2273	0.4290
Net_Capital		0.000245	0.000228	0.000262
Race	Amer-In	-0.6790	-1.1088	-0.2492
Race	Asian-P	-0.1146	-0.3118	0.0827
Race	Black	-0.1540	-0.2968	-0.0111
Race	Other	-0.7899	-1.3404	-0.2395
EducationLevel_clean	Elementary	-2.1163	-2.6189	-1.6137
EducationLevel_clean	HighSchool	-0.5298	-0.6164	-0.4431
EducationLevel_clean	HigherEducation	0.8685	0.7761	0.9608
EducationLevel_clean	MiddleSchool	-1.8588	-2.1453	-1.5723
Sex	Female	-0.1691	-0.2704	-0.0678
Hrs_per_Week		0.0298	0.0267	0.0329
Marital_Status	Divorced	0.00982	-0.2813	0.3009
Marital_Status	Married-AF-spouse	2.9743	1.9689	3.9798
Marital_Status	Married-civ-spouse	2.1275	1.8476	2.4074
Marital_Status	Married-spouse-absen	-0.0792	-0.5850	0.4265
Marital_Status	Never-married	-0.5231	-0.8201	-0.2261
Marital_Status	Separated	-0.0887	-0.4815	0.3040
Occupation_clean	Domestic	-3.4447	-5.8740	-1.0155
Occupation_clean	ManualLabor	-0.1809	-0.3636	0.00185
Occupation_clean	Professional	0.8786	0.7294	1.0279
Occupation_clean	Protective Ser	0.5492	0.3022	0.7963
Occupation_clean	Sales	0.4277	0.2636	0.5918

Parameter Estimates and Wald Confidence Intervals				
Parameter		**Estimate**	**95% Confidence Limits**	
Occupation_clean	**Services**	-0.1114	-0.2801	0.0573
Occupation_clean	**SkilledLabor**	0.0739	-0.0808	0.2287