The LOGISTIC Procedure

Model Information	
Data Set	WORK.ASSIGN6IN
Response Variable	death
Number of Response Levels	2
Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	148122
Number of Observations Used	148122

Response Profile		
Ordered Value	**death**	**Total Frequency**
1	1	1137
2	0	146985

Probability modeled is death=1.

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

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	13340.818	10326.668
SC	13350.724	10415.820
-2 Log L	13338.818	10308.668

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	3030.1498	8	<.0001
Score	5605.3054	8	<.0001
Wald	2331.2999	8	<.0001

The LOGISTIC Procedure

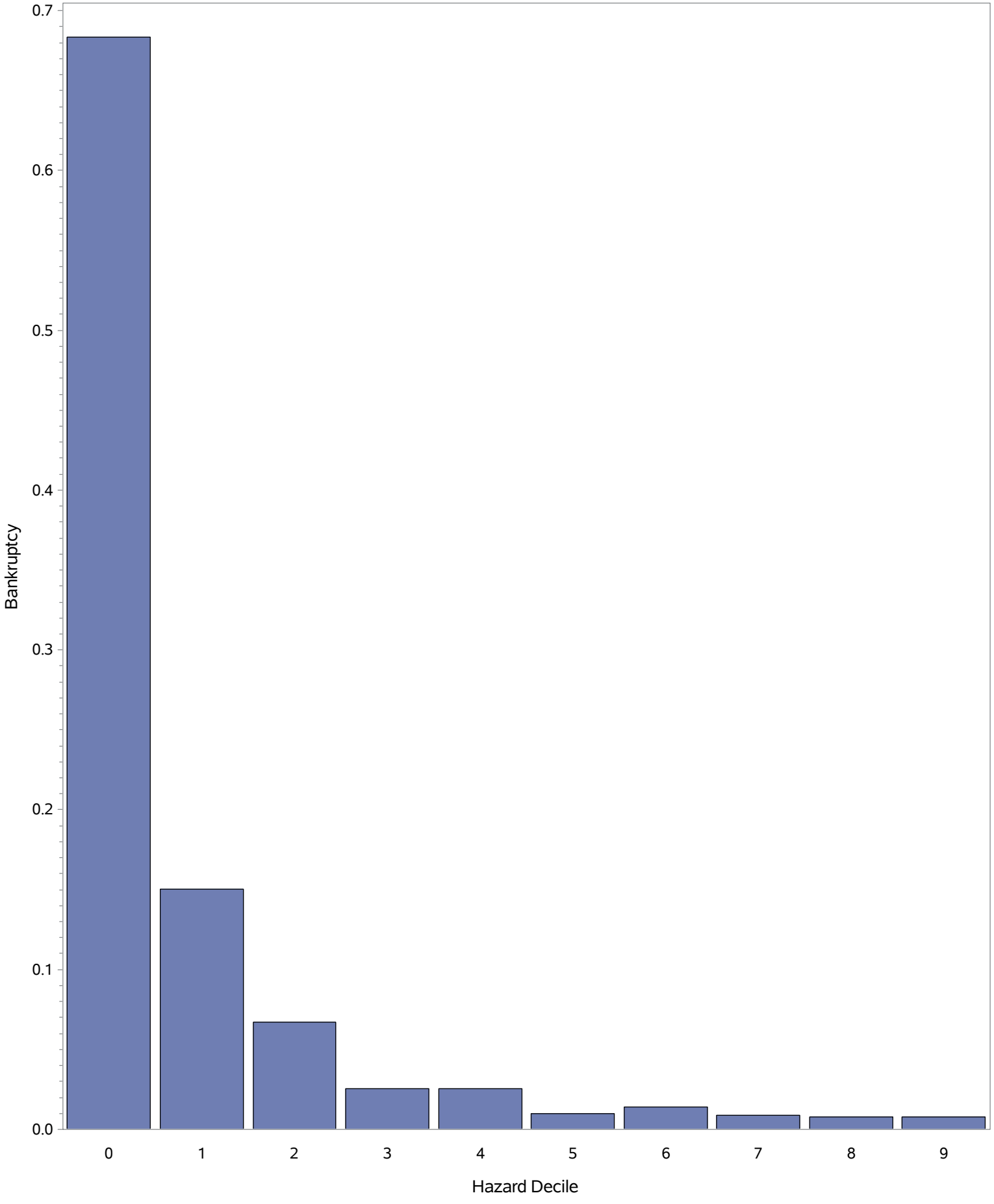
Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-7.3974	0.1470	2532.6557	<.0001
QUICK	1	-0.5534	0.0718	59.4824	<.0001
WCAP	1	0.1912	0.0455	17.6355	<.0001
ROTA	1	-0.0109	0.0134	0.6638	0.4152
DEBT_TA	1	0.1106	0.0499	4.9191	0.0266
O_SCORE	1	3.5140	0.1553	511.9857	<.0001
SALES	1	0.00107	0.0207	0.0027	0.9587
DD	1	-0.00002	0.000344	0.0046	0.9462
PD	1	2.4980	0.1006	616.6722	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
QUICK	0.575	0.500	0.662
WCAP	1.211	1.107	1.324
ROTA	0.989	0.963	1.015
DEBT_TA	1.117	1.013	1.232
O_SCORE	33.583	24.770	45.532
SALES	1.001	0.961	1.042
DD	1.000	0.999	1.001
PD	12.158	9.982	14.807

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	88.8	Somers' D	0.776
Percent Discordant	11.2	Gamma	0.776
Percent Tied	0.0	Tau-a	0.012
Pairs	167121945	c	0.888

In-Sample Logistics

Bankrupcties per Decile in In-sample, 1962 to 2014



The LOGISTIC Procedure

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

Number of Observations Read	84595
Number of Observations Used	84595

Response Profile		
Ordered Value	**death**	**Total Frequency**
1	1	718
2	0	83877

Probability modeled is death=1.

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

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	8280.404	6336.982
SC	8289.749	6421.093
-2 Log L	8278.404	6318.982

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	1959.4218	8	<.0001
Score	3913.4080	8	<.0001
Wald	1605.1576	8	<.0001

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-6.9960	0.1714	1665.5940	<.0001
QUICK	1	-0.5801	0.0809	51.4710	<.0001
WCAP	1	0.2298	0.0442	27.0854	<.0001
ROTA	1	-0.00874	0.0148	0.3502	0.5540
DEBT_TA	1	0.1297	0.0547	5.6150	0.0178
O_SCORE	1	2.8420	0.1853	235.1244	<.0001
SALES	1	-0.00693	0.0265	0.0683	0.7939
DD	1	-0.00087	0.00713	0.0148	0.9033
PD	1	2.9050	0.1369	450.5398	<.0001

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
QUICK	0.560	0.478	0.656
WCAP	1.258	1.154	1.372
ROTA	0.991	0.963	1.020
DEBT_TA	1.138	1.023	1.267
O_SCORE	17.150	11.926	24.662
SALES	0.993	0.943	1.046
DD	0.999	0.985	1.013
PD	18.265	13.967	23.884

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	88.9	Somers' D	0.778
Percent Discordant	11.1	Gamma	0.778
Percent Tied	0.0	Tau-a	0.013
Pairs	60223686	c	0.889

The MEANS Procedure

Variable	Mean
beta_quick	-0.5948455
beta_wcap	0.1803830
beta_rota	-0.0194338
beta_debt_ta	0.0792740
beta_o_score	3.5269716
beta_sales	0.0075469
beta_dd	-0.000017509
beta_pd	2.2603635

The MEANS Procedure

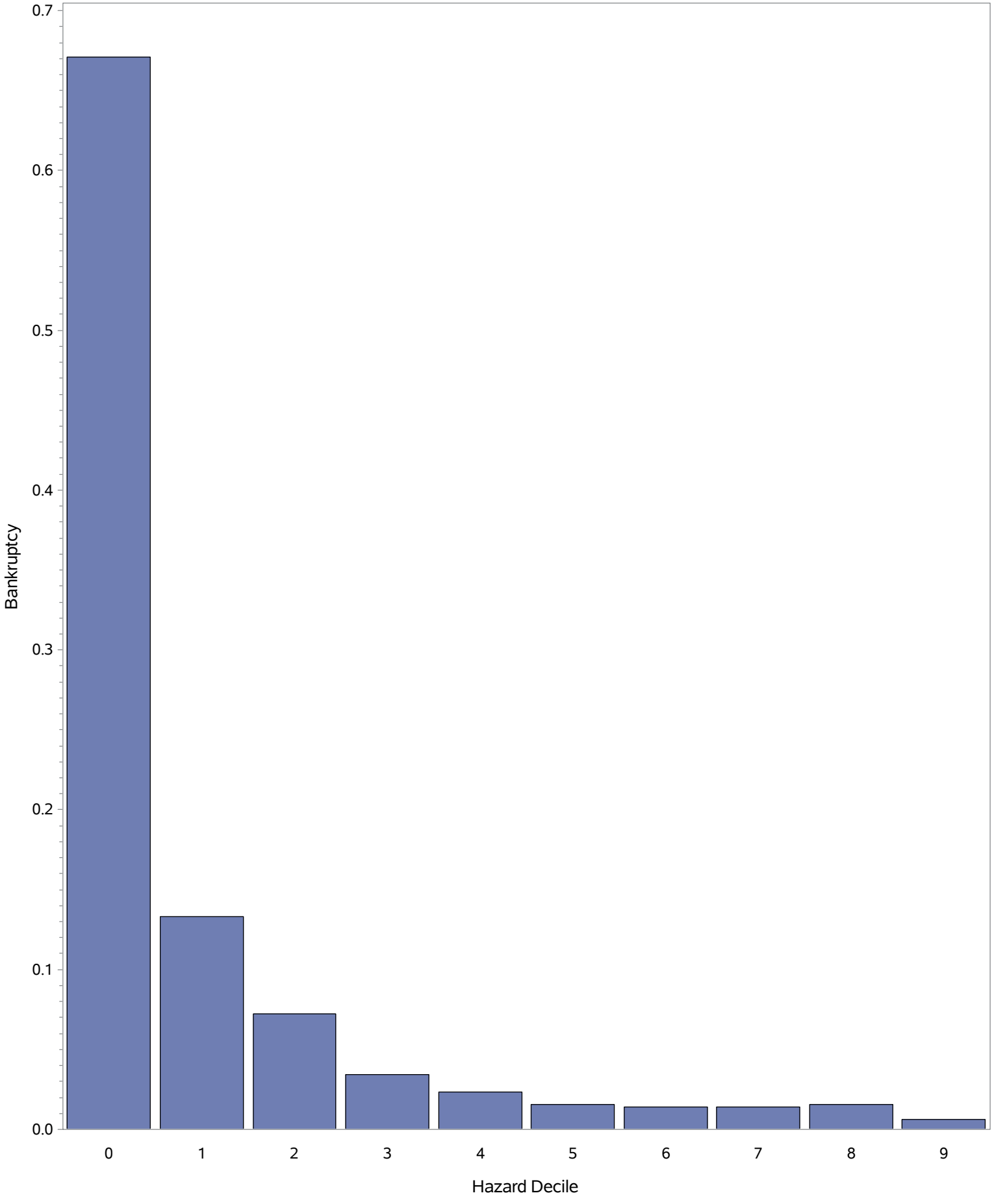
Variable	Mean
beta_quick	-0.5999864
beta_wcap	0.1703866
beta_rota	-0.0204681
beta_debt_ta	0.0708535
beta_o_score	3.7438076
beta_sales	0.0130422
beta_dd	-0.000017954
beta_pd	2.2211646

The MEANS Procedure

Variable	Mean
beta_quick	-0.5800668
beta_wcap	0.2297906
beta_rota	-0.0087413
beta_debt_ta	0.1296677
beta_o_score	2.8420113
beta_sales	-0.0069332
beta_dd	-0.000865898
beta_pd	2.9049683

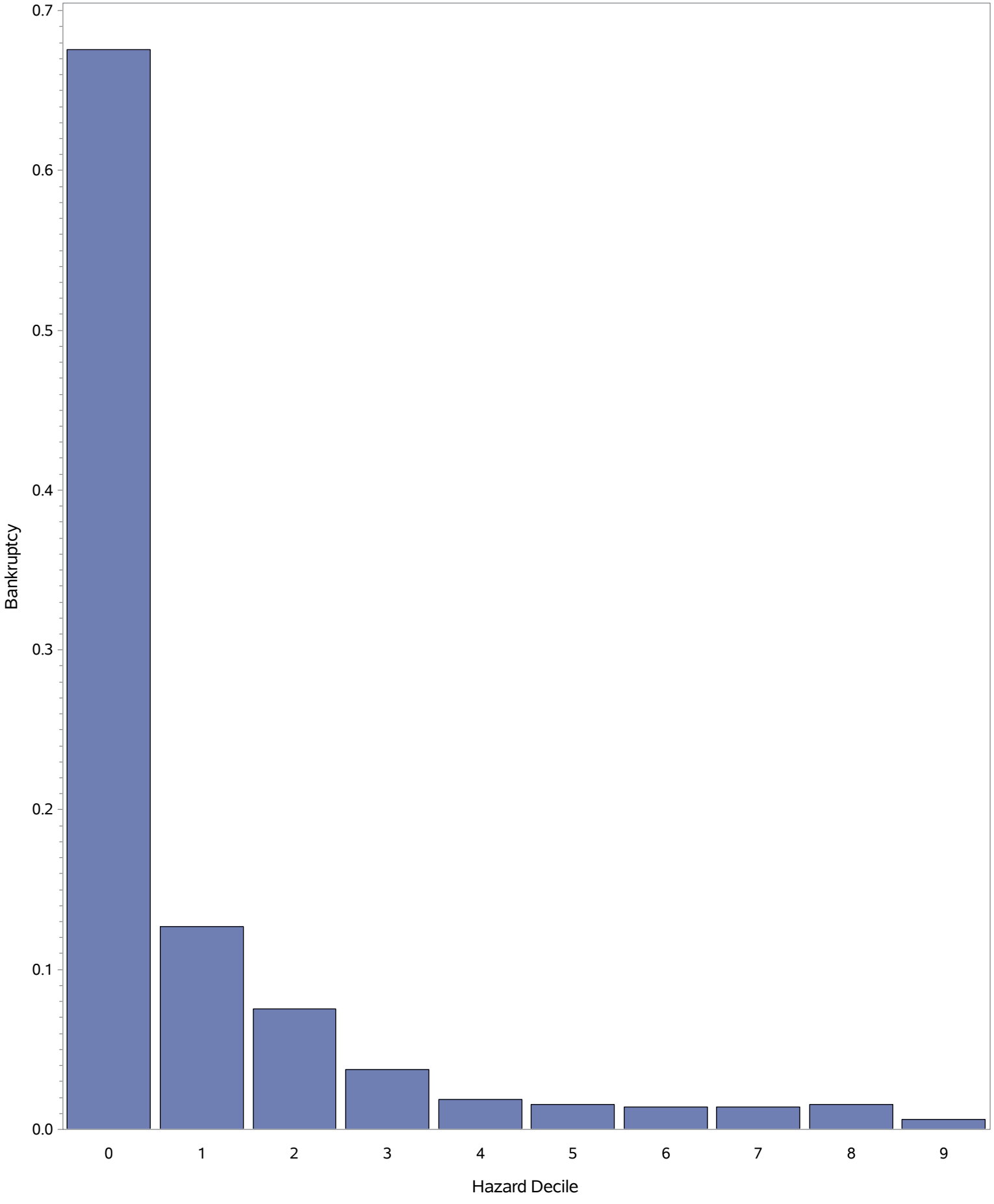
Out-Sample Logistics

Bankruptcies per Decile in Rolling Out-sample, 1991 to 2014



Out-Sample Logistics

Bankruptcies per Decile in Fixed Window Out-sample, 1991 to 2014



Out-Sample Logistics

Bankruptcies per Decile in Standard Out-sample, 1991 to 2014