The SAS System

The LOGISTIC Procedure

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

Number of Observations Read	142233
Number of Observations Used	142233

Response Profile		
Ordered Value	**DFT**	**Total Frequency**
1	1	1160
2	0	141073

Probability modeled is DFT=1.

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

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	13469.502	11092.437
SC	13479.367	11191.089
-2 Log L	13467.502	11072.437

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	2395.0647	9	<.0001
Score	3134.1127	9	<.0001
Wald	2078.9165	9	<.0001

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Analysis of Maximum Likelihood Estimates					
Parameter	**DF**	**Estimate**	**Standard Error**	**Wald Chi-Square**	**Pr > ChiSq**
Intercept	1	-5.1998	0.1541	1138.2113	<.0001
SigmAE	1	0.6512	0.0438	220.7116	<.0001
AnnRet	1	-2.1813	0.0889	601.8855	<.0001
CurrentRatio	1	-0.6338	0.0371	291.0915	<.0001
TAT_	1	0.0583	0.0235	6.1851	0.0129
ROA_	1	-0.3369	0.0725	21.6033	<.0001
r	1	0.0629	0.0119	28.2051	<.0001
NI_AT	1	0.0315	0.0303	1.0817	0.2983
LOG_AT	1	0.0570	0.0162	12.3984	0.0004
LT_AT	1	0.00981	0.0175	0.3145	0.5750

Odds Ratio Estimates			
Effect	**Point Estimate**	**95% Wald Confidence Limits**	
SigmAE	1.918	1.760	2.090
AnnRet	0.113	0.095	0.134
CurrentRatio	0.531	0.493	0.571
TAT_	1.060	1.012	1.110
ROA_	0.714	0.619	0.823
r	1.065	1.041	1.090
NI_AT	1.032	0.973	1.095
LOG_AT	1.059	1.026	1.093
LT_AT	1.010	0.976	1.045

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	83.4	**Somers' D**	0.713
Percent Discordant	12.1	**Gamma**	0.747
Percent Tied	4.5	**Tau-a**	0.012
Pairs	163644680	**c**	0.856

The SAS System

Obs	rank	count	percentage
1	0	457	0.63827
2	1	112	0.15642
3	2	44	0.06145
4	3	26	0.03631
5	4	17	0.02374
6	5	14	0.01955
7	6	14	0.01955
8	7	11	0.01536
9	8	13	0.01816
10	9	8	0.01117

Variables

SigmAE(+). The standard deviation of annual return. This describes the pretention annual change of a company. Higher SigmAE means the firm has higher “speed” to reach the default boundary.

AnnRet(-). The annually return of a company. Higher AnnRet means the company is doing well and is less likely to default.

CurrentRatio(-). Current ratio is current asset divided by current liability. So higher current ratio indicates either higher assets or lower liability, both of which are negative correlated with probability of default.

ReturnOnAsset(-). Net income divided by total asset. Higher ROA indicates higher net income. The companies with higher net income are less likely to default.

LT/AT(+). Total liability divided by total asset. Less liability means higher default boundary and higher probability of default.

R(-). Risk free rate. Higher risk free rate indicates better macro economy and lower default possibility. Risk free rate should be negatively correlated with default probability. However in the result of logistic regression they were positively correlated.

LogAT(-). Logarithm of total asset. Larger companies should be less likely to bankrupt. However the result showed a positive correlation between total asset and probability of default.

TotalAssetTurnover(-). Revenue divided by total asset. Higher TAT indicates revenue is good and less probability of bankrupt. But the result was on the contrary.

NI/AT(-). Net income divided by total asset. Companies with higher net income are less likely to default. But result indicated is had a positive correlation with default.