Assignment 13, MECO 6315

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Param	estimate	STD ERR	t-value	p-value
alpha	-2.6639	0.827717092	-3.218342553	0.0013
beta	0.1094	0.030226715	3.617700091	0.0003
df	48			

Table 1: The Binary Logit Discrimination Result

	Pred. 0	Pred. 1
Actual 0	17	7
Actual 1	7	19

Table 2: Confusion Matrix for Binary Logit

1 Part 2

The result of running the binary logit model for discrimination is presented in table 1. Table 2 presents the confustion matrix for the binary logit model. Table 3 presents evaluation criteria to evaluate discrimination power of method based on Kappa and Goodman Kruskal tests. The results of both tests indicate significance.

κ	0.4391
var(κ)	0.02
zscore	3.1049
λ	0.4167
var(λ)	0.0243
zscore	2.6726

Table 3: Evaluation Criteria For Binary Logit Discr.

	0	1	Total
0	18	6	24
	75	25	100
1	7	19	26
	26.92	73.08	100
Total	25	25	50
	50	50	100
Priors	0.5	0.5	

Table 5: Conventional Discriminant Analysis Result (SAS)

2 Part 3

Table 4 presents result of discrimination based on both logit and traditional model. MATLAB is used for logit model. 'R' is used for traditional discrimination procedure, as well as SAS. Interestingly R's confusition matrix on the traditional logit was the same as logit's confustion matrix of MATLAB, but SAS's confusion matrix had minor difference. All three codes are attached. Therefore, here I will only present SAS's traditional discrimination results. Table 5 presents both Kappa and Goodman Kruskal tests' results. Based on the result for .95% confidence interval test results are significant. The only comment that could be relevant here is that z-score of the conventional discriminant analysis is greater than z-score of binary logit. This means for a greater confidence interval this method is more relevant. In other word conventional discriminant analysis provides better prediction.

xi	delta	logit	discrim	xi	delta	logit	discrim
1	0	0	0	26	0	1	1
2	0	0	0	27	0	1	1
3	0	0	0	28	1	1	1
4	0	0	0	29	1	1	1
5	0	0	0	30	1	1	1
6	1	0	0	31	1	1	1
7	0	0	0	32	0	1	1
8	0	0	0	33	0	1	1
9	0	0	0	34	1	1	1
10	0	0	0	35	1	1	1
11	0	0	0	36	0	1	1
12	0	0	0	37	0	1	1
13	0	0	0	38	1	1	1
14	1	0	0	39	1	1	1
15	0	0	0	40	1	1	1
16	0	0	0	41	1	1	1
17	1	0	0	42	1	1	1
18	1	0	0	43	1	1	1
19	1	0	0	44	1	1	1
20	0	0	0	45	1	1	1
21	1	0	0	46	1	1	1
22	0	0	0	47	1	1	1
23	1	0	0	48	1	1	1
24	0	0	0	49	1	1	1
25	0	1	1	50	1	1	1

Table 4: Discrimination of Data Based on Two Models

κ	0.48
var(κ)	0.02
zscore	3.3968
λ	0.4167
var(λ)	0.0235
zscore	2.9892

Table 6: Evaluation Criteria For Conventional Disc. Analysis