# Date: March 12, 2019

# Author: Wei Li, Florence Yan, Ziyu Jin

Logit Model Results

Dependent Variable: approval on mortgage loan

Variable Parameter Estimates Odds Ratio

(Std. Error in parentheses)

Intercept 1.233. 3.431

(0.685)

Married 0.482\*\* 1.619

(0.185)

Credit History Meets Guidelines 3.766\*\*\* 43.227

(0.221)

Loan Amount -0.016\* 0.984

(0.007)

Other Obligations (percentage) -0.034\*\* 0.967

(0.011)

Black -0.869\*\*\* 0.419

(0.243)

Hispanic -0.860\*\* 0.423

(0.323)

Log-Likelihood -462.546

Sample Size 1937

.p < 0.10, \*p < 0.01, \*\*p < 0.001, \*\*\*p < 0.0001

Probit Model Results

Dependent Variable: approval on mortgage loan

Variable Parameter Estimates

(Std. Error in parentheses)

Intercept 0.435

(0.337)

Married 0.239\*\*

(0.092)

Credit History Meets Guidelines 2.169\*\*\*

(0.123)

Loan Amount -0.007\*

(0.003)

Other Obligations (percentage) -0.016\*\*

(0.005)

Black -0.450\*\*

(0.128)

Hispanic -0.444\*\*

(0.169)

Log-Likelihood -462.491

Sample Size 1937

.p < 0.10, \*p < 0.01, \*\*p < 0.001, \*\*\*p < 0.0001

|  |  |  |  |
| --- | --- | --- | --- |
| Predicted Probabilities for Logit model | | | |
|  | Mortgage Loan Application Approval | | |
| White | Black | Hispanic |
| Married  Meet guidelines | ***0.960*** | 0.909 | 0.910 |
| Unmarried  Meet guidelines | ***0.937*** | 0.861 | 0.862 |
| Married  Meet no guidelines | ***0.356*** | 0.188 | 0.190 |
| Unmarried  Meet no guidelines | ***0.255*** | 0.125 | 0.126 |

|  |  |  |  |
| --- | --- | --- | --- |
| Predicted Probabilities for Probit model | | | |
|  | Mortgage Loan Application Approval | | |
| White | Black | Hispanic |
| Married  Meet guidelines | ***0.961*** | 0.904 | 0.905 |
| Unmarried  Meet guidelines | ***0.936*** | 0.857 | 0.859 |
| Married  Meet no guidelines | ***0.340*** | 0.194 | 0.196 |
| Unmarried  Meet no guidelines | ***0.258*** | 0.135 | 0.137 |