

APPENDIX A

Evaluate Perception Regarding Drought

Farmers' drought definition

1. Do you know drought? (*total 7 scores*)

- (Yes) 1 score for one correct answer (No) 0 score

If yes, what are its descriptions?

- Shortage of or no rainfall Low moisture in the air/soil
 High temperature Very strong sunshine
 Dryness last long days Soil is hard and difficult to till
 River and wells is lack of water

2. Do you know the effects of drought? (*total 6 scores*)

- (Yes) 1 score for one correct answer (No) 0 score

If yes, which are they?

- Crops burned Lack of water to drink/irrigate
 Declining land productivity Increased production costs
 Seeds don't germinate Food shortage/poor harvest

3. Do you know the causes of drought? (*total 8 scores*)

- (Yes) 1 score for one correct answer (No) 0 score

If yes, which factors are they?

- Climate change
 Deforestation

- Seeds cannot germinate
- Maize is withered
- Maize grows slowly
- Low productivity when drought occur on maize flowing time

9. Do you think which kind of crops will be influenced strongest by drought in Dakrong district? (1 score for correct answer)

- Rice
- Maize
- Cassava
- Beans
- Other crops

10. In your community, how do severe drought, moderate drought and mild drought impact on maize productivity? (1 score for correct answer)

| Productivity reduction | Severe drought | Moderate drought | Mild drought |
|--------------------------|------------------------------|------------------|--------------|
| <input type="checkbox"/> | 80-100% | 40-70% | <40% |
| <input type="checkbox"/> | It is not in these intervals | | |

11. Do you know the measures to cope with drought in maize cultivation? (total 10 scores)

- (Yes) 1 score for one correct answer
- (No) 0 score

If yes, what are they?

- Storing water for dry season
- Change amount of land
- Change sowing day
- Cultivate one season
- Water for maize
- Move to the different sites
- Change to another crops
- Intercropping
- Plant the drought resistance varieties
- Others(*specific*)

Farmers' drought memory

12. Have you ever been witnessed an extremely drought in Dakrong? (total 11 scores)

- (Yes) 1 score for one correct answer
- (No) 0 score

16. Do you remember which plots of maize in your field lost most at those years?

(Yes) 1 score

(No) 0 score

If yes, why that plot lost most? Why?

.....
.....

Farmers' expectation to drought

17. Do you think temperature will (continue) change?

(Yes) 1 score for correct answer

(No) 0 score

If yes, how does it change?

Increase

Decrease

18. Do you think drought continue influencing to agricultural production in your farm?

(Yes) 1 score

(No) 0 score

If yes, how will it influence?

Increase

Decrease

19. Do you think maize continue to be influenced by drought?

(Yes) 1 score for correct answer

(No) 0 score

If yes, how will it influence?

Increase

Decrease

20. In case of severe drought occurs next years, do you know the measure to cope with?

(Yes) 1 score

(No) 0 score

If yes, what will you do?

.....
.....

APPENDIX B

Results of Factor Analysis Using SPSS Version 22.

| Descriptive Statistics | | | |
|-------------------------------|---------|----------------|------------|
| | Mean | Std. Deviation | Analysis N |
| Age | 44.55 | 12.37 | 180 |
| Gender | 0.6 | 0.491 | 180 |
| Ethnic | 0.42 | 0.494 | 180 |
| Edu | 4.54 | 3.618 | 180 |
| MaiExp | 22.69 | 12.706 | 180 |
| HHTyp | 0.69 | 0.464 | 180 |
| HHSize | 5.38 | 1.75 | 180 |
| TtLab | 2.6 | 1.107 | 180 |
| Market | 3.76 | 4.651 | 180 |
| MaiLan | 3.57 | 2.636 | 180 |
| NFInc | 9629.33 | 11196.58 | 180 |
| MaInc | 1989.56 | 2185.265 | 180 |
| NorPro | 144.39 | 48.194 | 180 |
| DroPro | 65.94 | 41.047 | 180 |
| NumInf | 2.59 | 1.213 | 180 |
| Credit | 0.53 | 0.5 | 180 |
| PerLeve | 2.07 | 0.626 | 180 |

Correlation Matrix

| | Age | Gender | Ethnic | Edu | MaiExp | HHTyp | HHSIZE | TtLab | Market | MaiLan | NFInc | MaInc | NorPro | DroPro | NumInf | BorMon | PerLeve |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Age | 1 | 0.056 | 0.38 | -0.037 | 0.843 | 0.105 | 0.107 | 0.237 | -0.294 | -0.05 | 0.165 | -0.031 | -0.008 | -0.001 | 0.122 | -0.003 | 0.234 |
| Gender | 0.056 | 1 | 0.092 | 0.208 | 0.03 | 0.162 | 0.183 | 0.064 | -0.124 | 0.126 | 0.135 | 0.133 | 0.114 | 0.064 | 0.004 | 0.077 | 0.131 |
| Ethnic | 0.38 | 0.092 | 1 | 0.428 | 0.423 | 0.349 | 0.082 | 0.225 | -0.602 | -0.235 | 0.265 | -0.019 | 0.174 | 0.214 | 0.213 | 0.203 | 0.408 |
| Edu | -0.037 | 0.208 | 0.428 | 1 | 0.016 | 0.427 | -0.068 | 0.062 | -0.382 | 0.019 | 0.196 | 0.153 | 0.242 | 0.16 | 0.38 | 0.252 | 0.316 |
| MaiExp | 0.843 | 0.03 | 0.423 | 0.016 | 1 | 0.168 | 0.123 | 0.223 | -0.294 | -0.044 | 0.262 | 0.011 | -0.037 | -0.016 | 0.189 | 0.01 | 0.261 |
| HHTyp | 0.105 | 0.162 | 0.349 | 0.427 | 0.168 | 1 | 0.029 | 0.202 | -0.224 | 0.028 | 0.187 | 0.138 | 0.26 | 0.141 | 0.248 | 0.237 | 0.405 |
| HHSIZE | 0.107 | 0.183 | 0.082 | -0.068 | 0.123 | 0.029 | 1 | 0.439 | -0.006 | 0.126 | 0.066 | 0.149 | 0.057 | 0.066 | -0.053 | -0.021 | -0.01 |
| TtLab | 0.237 | 0.064 | 0.225 | 0.062 | 0.223 | 0.202 | 0.439 | 1 | -0.152 | 0.025 | 0.168 | 0.026 | 0.094 | 0.004 | 0.097 | 0.054 | 0.139 |
| Market | -0.294 | -0.124 | -0.602 | -0.382 | -0.294 | -0.224 | -0.006 | -0.152 | 1 | 0.334 | -0.22 | 0.156 | -0.026 | -0.039 | -0.183 | -0.133 | -0.149 |
| MaiLan | -0.05 | 0.126 | -0.235 | 0.019 | -0.044 | 0.028 | 0.126 | 0.025 | 0.334 | 1 | -0.09 | 0.775 | 0.082 | 0.098 | 0.13 | 0.017 | 0.161 |
| NonFInc | 0.165 | 0.135 | 0.265 | 0.196 | 0.262 | 0.187 | 0.066 | 0.168 | -0.22 | -0.09 | 1 | -0.042 | 0.009 | -0.02 | 0.135 | -0.017 | 0.261 |
| MaInc | -0.031 | 0.133 | -0.019 | 0.153 | 0.011 | 0.138 | 0.149 | 0.026 | 0.156 | 0.775 | -0.042 | 1 | 0.335 | 0.321 | 0.177 | 0.095 | 0.261 |
| NorPro | -0.008 | 0.114 | 0.174 | 0.242 | -0.037 | 0.26 | 0.057 | 0.094 | -0.026 | 0.082 | 0.009 | 0.335 | 1 | 0.476 | 0.064 | 0.129 | 0.233 |
| DroPro | -0.001 | 0.064 | 0.214 | 0.16 | -0.016 | 0.141 | 0.066 | 0.004 | -0.039 | 0.098 | -0.02 | 0.321 | 0.476 | 1 | 0 | 0.009 | 0.083 |
| NumInf | 0.122 | 0.004 | 0.213 | 0.38 | 0.189 | 0.248 | -0.053 | 0.097 | -0.183 | 0.13 | 0.135 | 0.177 | 0.064 | 0 | 1 | 0.29 | 0.466 |
| BorMon | -0.003 | 0.077 | 0.203 | 0.252 | 0.01 | 0.237 | -0.021 | 0.054 | -0.133 | 0.017 | -0.017 | 0.095 | 0.129 | 0.009 | 0.29 | 1 | 0.287 |
| PerLeve | 0.234 | 0.131 | 0.408 | 0.316 | 0.261 | 0.405 | -0.01 | 0.139 | -0.149 | 0.161 | 0.261 | 0.261 | 0.233 | 0.083 | 0.466 | 0.287 | 1 |

Anti-image Matrices

| | Age | Gender | Ethnic | Edu | MaiExp | HHTyp | HHSIZE | TtLab | Market | MaiLan | NFInc | MaInc | NorPro | DroPro | NumInf | BorMon | PerLev |
|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Age | 0.262 | -0.037 | -0.009 | 0.043 | -0.205 | 0.036 | 0.022 | -0.046 | 0.043 | -0.029 | 0.06 | 0.034 | -0.03 | -0.014 | 0.023 | 0.008 | -0.038 |
| Gender | -0.037 | 0.858 | 0.043 | -0.104 | 0.03 | -0.045 | -0.152 | 0.058 | 0.071 | -0.049 | -0.082 | 0.014 | -0.029 | 0.001 | 0.092 | -0.034 | -0.043 |
| Ethnic | -0.009 | 0.043 | 0.405 | -0.115 | -0.052 | -0.019 | -0.041 | -0.034 | 0.178 | 0.058 | -0.009 | -0.013 | 0.013 | -0.108 | 0.065 | -0.043 | -0.136 |
| Edu | 0.043 | -0.104 | -0.115 | 0.546 | 0.023 | -0.144 | 0.068 | 0.014 | 0.094 | -0.027 | -0.059 | -0.008 | -0.056 | -0.001 | -0.158 | -0.034 | 0.026 |
| MaiExp | -0.205 | 0.03 | -0.052 | 0.023 | 0.249 | -0.044 | -0.025 | 0.017 | -0.015 | 0.017 | -0.085 | -0.031 | 0.04 | 0.025 | -0.05 | 0.018 | 0.017 |
| HHTyp | 0.036 | -0.045 | -0.019 | -0.144 | -0.044 | 0.684 | 0.028 | -0.096 | 0.002 | -0.001 | -0.014 | 0.005 | -0.068 | -0.016 | 0.021 | -0.065 | -0.122 |
| HHSIZE | 0.022 | -0.152 | -0.041 | 0.068 | -0.025 | 0.028 | 0.726 | -0.31 | -0.029 | -0.002 | -0.011 | -0.046 | 0.013 | -0.017 | 0.029 | 0.001 | 0.052 |
| TtLab | -0.046 | 0.058 | -0.034 | 0.014 | 0.017 | -0.096 | -0.31 | 0.697 | 0.041 | -0.035 | -0.061 | 0.043 | -0.071 | 0.044 | -0.044 | 0.002 | 0.013 |
| Market | 0.043 | 0.071 | 0.178 | 0.094 | -0.015 | 0.002 | -0.029 | 0.041 | 0.5 | -0.078 | 0.037 | 0.035 | -0.058 | -0.036 | 0.041 | 0.018 | -0.069 |
| MaiLan | -0.029 | -0.049 | 0.058 | -0.027 | 0.017 | -0.001 | -0.002 | -0.035 | -0.078 | 0.296 | 0.02 | -0.222 | 0.095 | 0.041 | -0.021 | 0.023 | -0.019 |
| NonFInc | 0.06 | -0.082 | -0.009 | -0.059 | -0.085 | -0.014 | -0.011 | -0.061 | 0.037 | 0.02 | 0.809 | 0.015 | 0.019 | 0.018 | 0.009 | 0.105 | -0.114 |
| MaInc | 0.034 | 0.014 | -0.013 | -0.008 | -0.031 | 0.005 | -0.046 | 0.043 | 0.035 | -0.222 | 0.015 | 0.283 | -0.118 | -0.096 | -0.011 | -0.016 | -0.031 |
| NorPro | -0.03 | -0.029 | 0.013 | -0.056 | 0.04 | -0.068 | 0.013 | -0.071 | -0.058 | 0.095 | 0.019 | -0.118 | 0.626 | -0.227 | 0.051 | -0.037 | -0.074 |
| DroPro | -0.014 | 0.001 | -0.108 | -0.001 | 0.025 | -0.016 | -0.017 | 0.044 | -0.036 | 0.041 | 0.018 | -0.096 | -0.227 | 0.681 | 0.011 | 0.062 | 0.063 |
| NumInf | 0.023 | 0.092 | 0.065 | -0.158 | -0.05 | 0.021 | 0.029 | -0.044 | 0.041 | -0.021 | 0.009 | -0.011 | 0.051 | 0.011 | 0.649 | -0.122 | -0.203 |
| BorMon | 0.008 | -0.034 | -0.043 | -0.034 | 0.018 | -0.065 | 0.001 | 0.002 | 0.018 | 0.023 | 0.105 | -0.016 | -0.037 | 0.062 | -0.122 | 0.824 | -0.072 |
| PerLeve | -0.038 | -0.043 | -0.136 | 0.026 | 0.017 | -0.122 | 0.052 | 0.013 | -0.069 | -0.019 | -0.114 | -0.031 | -0.074 | 0.063 | -0.203 | -0.072 | 0.536 |

| | | | | | | | | | | | | | | | | | |
|---------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Age | .597 ^a | -0.079 | -0.027 | 0.113 | -0.8 | 0.085 | 0.051 | -0.108 | 0.118 | -0.105 | 0.131 | 0.126 | -0.075 | -0.033 | 0.056 | 0.018 | -0.102 |
| Gender | -0.079 | .620 ^a | 0.073 | -0.153 | 0.064 | -0.059 | -0.192 | 0.075 | 0.109 | -0.097 | -0.098 | 0.028 | -0.04 | 0.001 | 0.124 | -0.041 | -0.063 |
| Ethnic | -0.027 | 0.073 | .777 ^a | -0.245 | -0.164 | -0.035 | -0.076 | -0.064 | 0.396 | 0.167 | -0.015 | -0.04 | 0.025 | -0.206 | 0.126 | -0.075 | -0.291 |
| Edu | 0.113 | -0.153 | -0.245 | .776 ^a | 0.063 | -0.235 | 0.108 | 0.023 | 0.181 | -0.067 | -0.089 | -0.02 | -0.097 | -0.002 | -0.265 | -0.05 | 0.049 |
| MaiExp | -0.8 | 0.064 | -0.164 | 0.063 | .616 ^a | -0.107 | -0.058 | 0.041 | -0.043 | 0.062 | -0.19 | -0.116 | 0.102 | 0.062 | -0.123 | 0.039 | 0.047 |
| HHTyp | 0.085 | -0.059 | -0.035 | -0.235 | -0.107 | .847 ^a | 0.04 | -0.139 | 0.003 | -0.003 | -0.018 | 0.01 | -0.103 | -0.023 | 0.031 | -0.087 | -0.201 |
| HHSize | 0.051 | -0.192 | -0.076 | 0.108 | -0.058 | 0.04 | .537 ^a | -0.435 | -0.047 | -0.005 | -0.014 | -0.101 | 0.019 | -0.024 | 0.043 | 0.002 | 0.084 |
| TtLab | -0.108 | 0.075 | -0.064 | 0.023 | 0.041 | -0.139 | -0.435 | .626 ^a | 0.069 | -0.077 | -0.082 | 0.097 | -0.107 | 0.064 | -0.065 | 0.003 | 0.022 |
| Market | 0.118 | 0.109 | 0.396 | 0.181 | -0.043 | 0.003 | -0.047 | 0.069 | .756 ^a | -0.203 | 0.058 | 0.094 | -0.105 | -0.062 | 0.072 | 0.028 | -0.134 |
| MaiLan | -0.105 | -0.097 | 0.167 | -0.067 | 0.062 | -0.003 | -0.005 | -0.077 | -0.203 | .548 ^a | 0.041 | -0.769 | 0.221 | 0.091 | -0.047 | 0.047 | -0.048 |
| NonFInc | 0.131 | -0.098 | -0.015 | -0.089 | -0.19 | -0.018 | -0.014 | -0.082 | 0.058 | 0.041 | .765 ^a | 0.032 | 0.026 | 0.024 | 0.012 | 0.129 | -0.174 |
| MaInc | 0.126 | 0.028 | -0.04 | -0.02 | -0.116 | 0.01 | -0.101 | 0.097 | 0.094 | -0.769 | 0.032 | .573 ^a | -0.281 | -0.219 | -0.025 | -0.034 | -0.08 |
| NorPro | -0.075 | -0.04 | 0.025 | -0.097 | 0.102 | -0.103 | 0.019 | -0.107 | -0.105 | 0.221 | 0.026 | -0.281 | .636 ^a | -0.347 | 0.08 | -0.051 | -0.128 |
| DroPro | -0.033 | 0.001 | -0.206 | -0.002 | 0.062 | -0.023 | -0.024 | 0.064 | -0.062 | 0.091 | 0.024 | -0.219 | -0.347 | .642 ^a | 0.016 | 0.082 | 0.104 |
| NumInf | 0.056 | 0.124 | 0.126 | -0.265 | -0.123 | 0.031 | 0.043 | -0.065 | 0.072 | -0.047 | 0.012 | -0.025 | 0.08 | 0.016 | .710 ^a | -0.166 | -0.344 |
| BorMon | 0.018 | -0.041 | -0.075 | -0.05 | 0.039 | -0.087 | 0.002 | 0.003 | 0.028 | 0.047 | 0.129 | -0.034 | -0.051 | 0.082 | -0.166 | .799 ^a | -0.108 |
| PerLeve | -0.102 | -0.063 | -0.291 | 0.049 | 0.047 | -0.201 | 0.084 | 0.022 | -0.134 | -0.048 | -0.174 | -0.08 | -0.128 | 0.104 | -0.344 | -0.108 | .753 ^a |

Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 3.707 | 20.594 | 20.594 | 3.707 | 20.594 | 20.594 | 2.576 | 14.31 | 14.31 |
| 2 | 2.472 | 13.734 | 34.328 | 2.472 | 13.734 | 34.328 | 2.237 | 12.426 | 26.736 |
| 3 | 1.842 | 10.234 | 44.561 | 1.842 | 10.234 | 44.561 | 2.23 | 12.39 | 39.126 |
| 4 | 1.454 | 8.078 | 52.639 | 1.454 | 8.078 | 52.639 | 1.825 | 10.139 | 49.265 |
| 5 | 1.257 | 6.982 | 59.621 | 1.257 | 6.982 | 59.621 | 1.483 | 8.241 | 57.506 |
| 6 | 1.022 | 5.677 | 65.298 | 1.022 | 5.677 | 65.298 | 1.403 | 7.792 | 65.298 |
| 7 | 0.943 | 5.24 | 70.538 | | | | | | |
| 8 | 0.868 | 4.824 | 75.362 | | | | | | |
| 9 | 0.732 | 4.069 | 79.431 | | | | | | |
| 10 | 0.686 | 3.813 | 83.244 | | | | | | |
| 11 | 0.592 | 3.29 | 86.534 | | | | | | |
| 12 | 0.525 | 2.914 | 89.448 | | | | | | |
| 13 | 0.443 | 2.459 | 94.746 | | | | | | |
| 14 | 0.383 | 2.128 | 96.874 | | | | | | |
| 15 | 0.266 | 1.479 | 98.353 | | | | | | |
| 16 | 0.167 | 0.927 | 99.279 | | | | | | |
| 17 | 0.13 | 0.721 | 100 | | | | | | |

Extraction Method: Principal Component Analysis.

Communalities

| | Initial | Extraction |
|---------|---------|------------|
| Age | 1 | 0.859 |
| Gender | 1 | 0.646 |
| Ethnic | 1 | 0.688 |
| Edu | 1 | 0.662 |
| MaiExp | 1 | 0.879 |
| HHTyp | 1 | 0.46 |
| HHSize | 1 | 0.696 |
| TtLab | 1 | 0.725 |
| Market | 1 | 0.628 |
| MaiLan | 1 | 0.821 |
| NonFInc | 1 | 0.419 |
| MaInc | 1 | 0.819 |
| NorPro | 1 | 0.654 |
| DroPro | 1 | 0.696 |
| NumInf | 1 | 0.564 |
| BorMon | 1 | 0.518 |
| PerLeve | 1 | 0.616 |

Extraction Method: Principal Component Analysis.



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Component Matrix^a

| | Component | | | | | |
|---------|-----------|--------|--------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Age | 0.511 | -0.371 | 0.554 | 0.045 | -0.389 | -0.015 |
| Gender | 0.265 | 0.184 | 0.044 | -0.195 | 0.364 | -0.607 |
| Ethnic | 0.764 | -0.257 | -0.098 | -0.139 | -0.059 | 0.079 |
| Edu | 0.598 | 0.162 | -0.475 | 0.034 | 0.158 | -0.162 |
| MaiExp | 0.563 | -0.356 | 0.543 | 0.108 | -0.357 | -0.042 |
| HHTyp | 0.606 | 0.163 | -0.187 | 0.021 | 0.163 | 0.061 |
| HHSize | 0.157 | 0.109 | 0.517 | -0.405 | 0.459 | 0.132 |
| TtLab | 0.373 | -0.035 | 0.439 | -0.207 | 0.465 | 0.365 |
| Market | -0.589 | 0.444 | 0.227 | 0.146 | -0.033 | 0.101 |
| MaiLan | -0.005 | 0.776 | 0.36 | 0.19 | -0.103 | -0.204 |
| NonFInc | 0.416 | -0.177 | 0.101 | 0.069 | 0.228 | -0.384 |
| MaInc | 0.212 | 0.816 | 0.218 | -0.005 | -0.209 | -0.129 |
| NorPro | 0.347 | 0.437 | -0.206 | -0.474 | -0.201 | 0.19 |
| DroPro | 0.25 | 0.379 | -0.139 | -0.575 | -0.355 | 0.115 |
| NumInf | 0.509 | 0.163 | -0.139 | 0.5 | -0.024 | 0.093 |
| BorMon | 0.354 | 0.176 | -0.266 | 0.313 | 0.193 | 0.394 |
| PerLeve | 0.657 | 0.242 | -0.005 | 0.35 | -0.039 | 0.041 |

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

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Rotated Component Matrix^a

| | Component | | | | | |
|---------|-----------|--------|--------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Age | 0.025 | 0.919 | -0.056 | -0.003 | 0.107 | 0.009 |
| Gender | 0.001 | -0.069 | 0.115 | 0.065 | 0.119 | 0.781 |
| Ethnic | 0.443 | 0.433 | -0.412 | 0.283 | 0.128 | 0.194 |
| Edu | 0.612 | -0.1 | -0.167 | 0.252 | -0.111 | 0.417 |
| MaiExp | 0.097 | 0.925 | -0.039 | -0.039 | 0.097 | 0.053 |
| HHTyp | 0.573 | 0.051 | -0.069 | 0.225 | 0.141 | 0.231 |
| HHSize | -0.138 | 0.057 | 0.112 | 0.098 | 0.787 | 0.181 |
| TtLab | 0.169 | 0.171 | -0.049 | 0.008 | 0.815 | 0.025 |
| Market | -0.288 | -0.303 | 0.582 | -0.126 | -0.007 | -0.313 |
| MaiLan | 0.066 | 0.009 | 0.887 | 0.119 | -0.008 | 0.126 |
| NonFInc | 0.175 | 0.25 | -0.109 | -0.157 | 0.083 | 0.532 |
| MaInc | 0.18 | 0.053 | 0.764 | 0.425 | -0.008 | 0.138 |
| NorPro | 0.193 | -0.058 | 0.059 | 0.776 | 0.088 | -0.007 |
| DroPro | -0.007 | 0.028 | 0.058 | 0.831 | 0.009 | -0.023 |
| NumInf | 0.706 | 0.168 | 0.125 | -0.079 | -0.122 | 0.016 |
| BorMon | 0.674 | -0.139 | -0.024 | -0.007 | 0.112 | -0.174 |
| PerLeve | 0.687 | 0.29 | 0.193 | 0.075 | -0.001 | 0.132 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

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Component Transformation Matrix

| Component | 1 | 2 | 3 | 4 | 5 | 6 |
|-----------|--------|--------|--------|--------|--------|--------|
| 1 | 0.686 | 0.504 | -0.151 | 0.307 | 0.186 | 0.351 |
| 2 | 0.226 | -0.364 | 0.801 | 0.416 | 0.029 | 0.046 |
| 3 | -0.352 | 0.581 | 0.464 | -0.229 | 0.52 | -0.02 |
| 4 | 0.498 | 0.092 | 0.293 | -0.712 | -0.347 | -0.173 |
| 5 | 0.165 | -0.513 | -0.118 | -0.397 | 0.63 | 0.376 |
| 6 | 0.28 | -0.072 | -0.144 | 0.126 | 0.421 | -0.838 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.



Component Score Coefficient Matrix

| | Component | | | | | |
|---------|-----------|--------|--------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Age | -0.085 | 0.461 | 0.046 | 0.01 | -0.033 | -0.074 |
| Gender | -0.128 | -0.095 | 0.072 | -0.047 | 0.007 | 0.659 |
| Ethnic | 0.103 | 0.12 | -0.173 | 0.129 | 0.044 | 0.003 |
| Edu | 0.204 | -0.143 | -0.077 | 0.049 | -0.098 | 0.241 |
| MaiExp | -0.054 | 0.456 | 0.06 | -0.026 | -0.045 | -0.044 |
| HHTyp | 0.208 | -0.07 | -0.039 | 0.047 | 0.081 | 0.059 |
| HHSize | -0.102 | -0.054 | 0.016 | 0.037 | 0.536 | 0.088 |
| TtLab | 0.072 | -0.035 | -0.053 | -0.03 | 0.575 | -0.106 |
| Market | -0.038 | -0.058 | 0.243 | -0.051 | 0.031 | -0.16 |
| MaiLan | -0.003 | 0.067 | 0.419 | 0 | -0.071 | 0.124 |
| NonFInc | -0.01 | 0.053 | -0.002 | -0.161 | -0.013 | 0.41 |
| MaInc | 0.007 | 0.072 | 0.347 | 0.18 | -0.075 | 0.077 |
| NorPro | 0.007 | -0.043 | -0.028 | 0.447 | 0.055 | -0.117 |
| DroPro | -0.105 | 0.035 | -0.022 | 0.51 | -0.016 | -0.1 |
| NumInf | 0.329 | 0.037 | 0.087 | -0.139 | -0.105 | -0.09 |
| BorMon | 0.373 | -0.148 | -0.035 | -0.074 | 0.129 | -0.263 |
| PerLeve | 0.271 | 0.087 | 0.119 | -0.058 | -0.051 | -0.02 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

APPENDIX C

Result of Mutinomial Logit Model Using Limdep Software (2003)

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+-----+
| Multinomial Logit Model |
| Maximum Likelihood Estimates |
| Model estimated: Nov 08, 2014 at 05:33:49PM. |
| Dependent variable      ADAP |
| Weighting variable      None |
| Number of observations   180 |
| Iterations completed    8 |
| Log likelihood function  -144.1456 |
| Number of parameters    21 |
| Info. Criterion: AIC =  1.83495 |
|   Finite Sample: AIC =  1.86744 |
| Info. Criterion: BIC =  2.20746 |
| Info. Criterion:HQIC =  1.98599 |
| Restricted log likelihood -244.4621 |
| McFadden Pseudo R-squared .4103559 |
| Chi squared             200.6329 |
| Degrees of freedom      18 |
| Prob[ChiSq> value] =    .0000000 |
+-----+

```

```

+-----+-----+-----+-----+-----+-----+
|Variable| Coefficient | Standard Error|b/St.Er.|P[|Z|>z]| Mean of X|
+-----+-----+-----+-----+-----+-----+
-----+Characteristics in numerator of Prob[Y = 1]
Constant|  1.98703717 | .70990888 | 2.799 | .0051 |
FACT1   |  4.20416945 | .93550211 | 4.494 | .0000 | .166667D-06
FACT2   |  1.56821240 | .40520882 | 1.402 | .1608 | .222222D-06
FACT3   |  2.47774976 | .64329154 | 3.852 | .0001 | -.111111D-06
FACT4   |  .38686034 | .38112929 | 1.015 | .3101 | .333333D-06
FACT5   | -.71797667 | .46815168 | -1.534 | .1251 | -.555556D-07
FACT6   |  1.23883991 | .43284118 | 2.862 | .0042 | -.333333D-06
-----+Characteristics in numerator of Prob[Y = 2]
Constant|  2.54567987 | .69885455 | 3.643 | .0003 |
FACT1   |  4.54344664 | .92311685 | 4.922 | .0000 | .166667D-06
FACT2   |  .89941159 | .38222230 | 2.353 | .0186 | .222222D-06
FACT3   |  .86699443 | .64461328 | 1.345 | .1786 | -.111111D-06

```

```

FACT4 | .53443306 .35282466 1.515 .1298 .333333D-06
FACT5 | -.83422798 .43422986 -1.921 .0547 -.555556D-07
FACT6 | 1.32157617 .40691339 3.248 .0012 -.333333D-06

```

-----+Characteristics in numerator of Prob[Y = 3]

```

Constant| 2.15880894 .70722969 3.052 .0023
FACT1 | 5.80514904 .95955368 6.050 .0000 .166667D-06
FACT2 | 1.19404802 .40566397 2.943 .0032 .222222D-06
FACT3 | 2.15720602 .64695314 3.334 .0009 -.111111D-06
FACT4 | .61205261 .38138936 1.605 .1085 .333333D-06
FACT5 | -.59552765 .45141158 -1.319 .1871 -.555556D-07
FACT6 | 1.65953952 .43066503 3.853 .0001 -.333333D-06

```

```

+-----+
| Information Statistics for Discrete Choice Model. |
| M=Model MC=Constants Only M0=No Model |
| Criterion F (log L) -144.14562 -244.46206 -249.53299 |
| LR Statistic vs. MC 200.63288 .00000 .00000 |
| Degrees of Freedom 18.00000 .00000 .00000 |
| Prob. Value for LR .00000 .00000 .00000 |
| Entropy for probs. 144.14562 244.46206 249.53299 |
| Normalized Entropy .57766 .97968 1.00000 |
| Entropy Ratio Stat. 210.77473 10.14185 .00000 |
| Bayes Info Criterion 2.12091 3.23554 3.29188 |
| BIC(no model) - BIC 1.17097 .05634 .00000 |
| Pseudo R-squared .41036 .00000 .00000 |
| Pct. Correct Pred. 66.66667 .00000 25.00000 |
| Means: y=0 y=1 y=2 y=3 y=4 y=5 y=6 y>=7 |
| Outcome .2556 .1556 .2944 .2944 .0000 .0000 .0000 .0000 |
| Pred.Pr .2556 .1556 .2944 .2944 .0000 .0000 .0000 .0000 |
| Notes: Entropy computed as Sum(i)Sum(j)Pfit(i,j)*logPfit(i,j). |
| Normalized entropy is computed against M0. |
| Entropy ratio statistic is computed against M0. |
| BIC = 2*criterion - log(N)*degrees of freedom. |
| If the model has only constants or if it has no constants, |
| the statistics reported here are not useable. |

```

```

+-----+
| Partial derivatives of probabilities with |
| respect to the vector of characteristics. |
| They are computed at the means of the Xs. |
| Observations used for means are All Obs. |
| A full set is given for the entire set of |

```


| outcomes, ADAP = 0 to ADAP = 3. |
 | Probabilities at the mean vector are |
 | 0= .034 1= .246 2= .429 3= .292 |

```

+-----+
+-----+-----+-----+-----+-----+-----+
|Variable| Coefficient |Standard Error |b/St.Er.|P[|Z|>z]|Elasticity|
+-----+-----+-----+-----+-----+-----+
-----+Marginal effects on Prob[Y = 0]
Constant| -.07439525 .02514298 -2.959 .0031
FACT1 | -.15737378 .07596574 -2.072 .0383 -.779174D-06
FACT2 | -.02941147 .01927841 -1.526 .1271 -.194159D-06
FACT3 | -.05417831 .02641319 -2.051 .0402 .178828D-06
FACT4 | -.01692682 .01175805 -1.440 .1500 -.167613D-06
FACT5 | .02383343 .01468016 1.624 .1045 -.393339D-07
FACT6 | -.04562303 .02394964 -1.905 .0568 .451769D-06
-----+Marginal effects on Prob[Y = 1]
Constant| -.05475198 .04539912 -1.206 .2278
FACT1 | -.11561401 .07385642 -1.565 .1175 -.784789D-07
FACT2 | -.07501041 .04849000 -1.547 .1219 -.678895D-07
FACT3 | .21319335 .05036387 4.233 .0000 -.964773D-07
FACT4 | -.02847626 .04475237 -.636 .5246 -.386594D-07
FACT5 | -.00244700 .04779112 -.051 .9592 .553675D-09
FACT6 | -.02859599 .04847624 -.590 .5553 .388220D-07
-----+Marginal effects on Prob[Y = 2]
Constant| .14408090 .06889169 2.091 .0365
FACT1 | -.05648921 .08493471 -.665 .5060 -.219327D-07
FACT2 | .01103042 .05012680 .220 .8258 .571028D-08
FACT3 | -.31870938 .07521556 -4.237 .0000 .824956D-07
FACT4 | .01356227 .05287976 .256 .7976 .105315D-07
FACT5 | -.05418027 .05312259 -1.020 .3078 .701208D-08
FACT6 | -.01447885 .05120637 -.283 .7774 .112432D-07
-----+Marginal effects on Prob[Y = 3]
Constant| -.01493367 .05752323 -.260 .7952
FACT1 | .32947700 .05691341 5.789 .0000 .188351D-06
FACT2 | .09339146 .04161965 2.244 .0248 .711850D-07
FACT3 | .15969434 .05305476 3.010 .0026 -.608613D-07
FACT4 | .03184081 .04321422 .737 .4612 .364047D-07
FACT5 | .03279384 .04043570 .811 .4174 -.624905D-08
FACT6 | .08869787 .04213385 2.105 .0353 -.101411D-06

```

Marginal Effects Averaged Over Individuals

| Variable | Y=00 | Y=01 | Y=02 | Y=03 |
|----------|--------|--------|--------|--------|
| ONE | -.1318 | .0117 | .1271 | -.0070 |
| FACT1 | -.2650 | -.0026 | .0348 | .2328 |
| FACT2 | -.0475 | -.0298 | .0126 | .0648 |
| FACT3 | -.0932 | .1233 | -.1445 | .1145 |
| FACT4 | -.0284 | -.0081 | .0141 | .0224 |
| FACT5 | .0436 | -.0160 | -.0489 | .0212 |
| FACT6 | -.0771 | .0023 | .0120 | .0629 |

Averages of Individual Elasticities of Probabilities

| Variable | Y=00 | Y=01 | Y=02 | Y=03 |
|----------|---------|---------|---------|---------|
| ONE | -1.6943 | .2927 | .8514 | .4645 |
| FACT1 | -1.6186 | -1.6186 | -1.6186 | -1.6186 |
| FACT2 | -.0761 | -.0761 | -.0761 | -.0761 |
| FACT3 | -.3005 | -.3005 | -.3005 | -.3005 |
| FACT4 | -.0111 | -.0111 | -.0111 | -.0111 |
| FACT5 | -.0061 | -.0061 | -.0061 | -.0061 |
| FACT6 | -.1199 | -.1199 | -.1199 | -.1199 |

Frequencies of actual & predicted outcomes

Predicted outcome has maximum probability.

| Actual | Predicted | | | | Total |
|--------|-----------|----|----|----|-------|
| | 0 | 1 | 2 | 3 | |
| 0 | 39 | 3 | 4 | 0 | 46 |
| 1 | 4 | 13 | 4 | 7 | 28 |
| 2 | 4 | 1 | 34 | 14 | 53 |
| 3 | 1 | 2 | 16 | 34 | 53 |
| Total | 48 | 19 | 58 | 55 | 180 |

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