**Online Appendix**

**Table A1.** Summary statistics of the variables used in the estimates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pillar** | **Variable** | **Mean** | **St.Dev** | **Min** | **Max** |
| ABS |  |  |  |  |  |
|  | Improved drinking water (Dummy variable is equal to 1 for public and pip water types available in the household; otherwise it is for artesian, dam, lake, river, aryk-small aqueduct and pounder water sources).  | 0.861 | 0.345 | 0 | 1 |
|  | Improved heating (Dummy variable is equal to 1 for central and electric installed heating; otherwise it is for stove, transportable electric, gas and other types of heating).  | 0.269 | 0.443 | 0 | 1 |
|  | Improved cooking source(Dummy variable is equal to 1 for stove with pipe supply, balloons, electric stove and small electric plat; otherwise, it is for tandyr - tandoor and others).  | 0.521 | 0.499 | 0 | 1 |
|  | Next main road (in kilometers) | 0.559 | 0.779 | 0 | 7 |
|  | Next livestock market (in kilometers)  | 5.670 | 8.938 | 0 | 45 |
|  | Next school (in kilometers) | 0.984 | 1.587 | 0 | 45 |
|  | Next hospital (in kilometers) | 4.036 | 7.427 | 0 | 48 |
| IFA |  |  |  |  |  |
|  | Diet diversity index (Simpson index is based on more than 30 types of food diversities). | 0.873 | 0.062 | 0.262 | 0.959 |
|  | Food expenditure (It is total household spendings in Kyrgyz So’m - KGS on more than 30 items of food bought over the last 12 months).  | 105862.9 | 55359.65 | 0 | 893364.6 |
|  | Adequacy of fruits and vegetable(The score was constructed through summing the total weight in grams of fruit and vegetable consumption by the household. 400 grams/capita/day is recommended as an adequate consumption of fruit and vegetables).  | 391.4243 | 313.8495 | 11.77394 | 3892.857 |
|  | Income from agriculture  | .4036624 | .490729 | 0 | 1 |
|  | The number of pension types received for the last 12 months *(old-age pensions in Kyrgyzstan; old-age pensions in other countries; disability pensions; pensions on favorable terms of for special working conditions; and survivor’s pension)* | .7846338 | .8430112 | 0 | 4 |
|  | The number of allowance types received for the last 12 months (*unified monthly allowance to low-income families and individuals in cash; unified monthly allowance to low-income families and individuals in goods; insurance benefits; and other types of allowances)* | .5816083 | .5139512 | 0 | 2 |
|  | The number of benefit types received for the last 12 months *(trips to resort, sanatoriums, summer camps, etc; medicaments; health care including dental care; child care including child education; and other types of benefits)* | .1779459 | 4106595 | 0 | 3 |
|  | Remittance  | .1039937 | .3053127 | 0 | 1 |
| APT |  |  |  |  |  |
|  | Livestock production | 0.458 | 0.498 | 0 | 1 |
|  | Crop production  | 0.716 | 0.450 | 0 | 1 |
|  | Plot numbers | 1.147 | 0.884 | 0 | 5 |
|  | Harvest (It is a harvest quantity in kg over the last 12 months).  | 3567.958 | 11644.72 | 0 | 211600 |
|  | Own seed  | 0.789 | 0.407 | 0 | 1 |
|  | Hiring labour in agriculture | 0.078 | 0.268 | 0 | 1 |
|  | Plantation area (The area is in ha used for the cultivation over the last 12 months). | 0.517 | 2.400 | 0 | 77 |
| AC |  |  |  |  |  |
|  | Wealth Index (The index was created through PCA for assets owned by the household over the last 12 months). | 0.837 | 0.154 | 0 | 1 |
|  | Tropical Livestock Unit (TLU)(TLU was created through the conversation weights: 0.8 cows/horses; 0.5 donkeys; 0.2 pigs; 0.1 sheep; 0.02 rabbits; and 0.01 chicken).  | 0.783 | 2.107 | 0 | 56.05 |
|  | Weather Information | 0.555 | 0.497 | 0 | 1 |
|  | Extension Service(The score was measured by PCA for 11 types of extension services received by the household over the last 12 months). | 0.288 | 0.118 | 0 | 1 |
|  | Informal Networking Index(The index was constructed through PCA from corresponding variables representing both financial and non-financial aids over the last 12 months: 1. The number of people are able to give 2000 KGS urgently; 2. To how many people household gave any financial helps; 3. From how many people household received any financial helps; 4. To how many people household gave any non-financial help; and 5. From how many people household received any non-financial help).  | 0.013 | 0.029 | 0 | 1 |
|  | Average household education (It is average number of education in years achieved by HH members). | 7.900 | 4.248 | 0 | 54 |
|  | Household Stability (The index was created through PCA for variables representing subjective shocks experienced by the household during the last 12 months. Shock variables were rescaled assuming value 1 is for not experiencing shock) | 0.631 | 0.220 | 0 | 1 |
| Control |  |  |  |  |  |
|  | Head age | 53.977 | 13.451 | 21 | 90 |
|  | Head female | 0.280 | 0.449 | 0 | 1 |
|  | Head married | 0.694 | 0.460 | 0 | 1 |
|  | Head education | 10.324 | 3.735 | 0 | 19 |
|  | Household size | 5.253 | 2.537 | 1 | 17 |
|  | Community Stability(The index was created through PCA for variables representing subjective shocks experienced by the household during the last 12 months. Shock variables were rescaled assuming value 1 is for not experiencing shock)  | 0.716 | 0.165 | 0 | 1 |
|  |  |  |  |  |  |

**Table A2.** Factorability analysis (IFA, ABS, APT, AC, RCI, Trust, and Group Membership)

|  |  |  |  |
| --- | --- | --- | --- |
| **Index** | **Component** | **Cumulative Variance** |  |
| **IFA (Income and Food Access)** |  |  |  |
|  | 1 | 0.227 |  |
|  | 2 | 0.410 |  |
|  | 3 | 0.550 |  |
|  |  |  |  |
| Bartlett’s Test of Sphericity (p-value) |  |  | < 0001 |
| KMO |  |  | 0.540 |
| determinant of R-matrix |  |  | 0.340 |
| **Access to Basic Services (ABS)** |  |  |  |
|  | 1 | 0.2545 |  |
|  | 2 | 0.4741 |  |
|  | 3 | 0.6348 |  |
|  |  |  |  |
| Bartlett’s Test of Sphericity (p-value) |  |  | < 0001 |
| KMO |  |  | 0.546 |
| determinant of R-matrix |  |  | 0.316 |
| **APT (Agricultural Practices and Technologies)** |  |  |  |
|  | 1 | 0.340 |  |
|  | 2 | 0.557 |  |
|  |  |  |  |
| Bartlett’s Test of Sphericity (p-value) |  |  | < 0001 |
| KMO |  |  | 0.690 |
| determinant of R-matrix |  |  | 0.150 |
| **Adaptive Capacity (AC)** |  |  |  |
|  | 1 | 0.220 |  |
|  | 2 | 0.382 |  |
|  |  |  |  |
|  |  |  |  |
| Bartlett’s Test of Sphericity (p-value) |  |  | < 0001 |
| KMO |  |  | 0.585 |
| determinant of R-matrix |  |  | 0.810 |
| **Resilience Capacity Index (RCI)** |  |  |  |
|  | 1 | 0.340 |  |
|  | 2 | 0.561 |  |
|  |  |  |  |
|  |  |  |  |
| Bartlett’s Test of Sphericity (p-value) |  |  | < 0001 |
| KMO |  |  | 0.703 |
| determinant of R-matrix |  |  | 0.357 |
| **Trust**  |  |  |  |
|  | 1 | 0.3650 |  |
|  | 2 | 0.6184 |  |
|  |  |  |  |
| Bartlett’s Test of Sphericity (p-value) |  |  | < 0001 |
| KMO |  |  | 0.725 |
| determinant of R-matrix |  |  | 0.321 |
| **Group Membership** |  |  |  |
|  | 1 | 0.1232 |  |
|  | 2 | 0.2214 |  |
|  | 3 | 0.3141 |  |
|  | 4 | 0.4066 |  |
|  | 5 | 0.4957 |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Bartlett’s Test of Sphericity (p-value) |  |  | < 0001 |
| KMO |  |  | 0.613 |
| determinant of R-matrix |  |  | 0.774 |

**Table A3.** Trust and Group Membership Statements

|  |  |
| --- | --- |
| **Index**  | **Statement**  |
| **Trust**  |  |
| **1** | In general, you can trust people. |
| **2** | Nowadays, you cannot rely on anybody. |
| **3** | Most people who live in this community can be trusted. |
| **4** | In this community, you have to be cautious, otherwise someone is likely to take advantage of you. |
| **5** | Most people in this community are willing to help if you need it |
| **6** | In this community, people generally trust each other in matters of lending and borrowing money. |
| **Membership** |  |
| **1** | Professional union or work-related group |
| **2** | Neighborhood/ village committee |
| **3** | Religious or spiritual group |
| **4** | Political party |
| **5** | Sherine |
| **6** | Cultural club or association |
| **7** | Festival society (yntymak) |
| **8** | Credit or savings group (credit union/chernaya kassa) |
| **9** | Sports group |
| **10** | NGO or civic group |
| **11** | Local self-defense unit |
| **12** | Other |

**Table A4.** Summary statistics of shocks for Household and Community Stability Index

|  |
| --- |
| **Household Stability** |
| **Variable** | **Mean** | **St.Dev** | **Min** | **Max** |
| Too much rain or flood | 0.670 | 0.470 | 0 | 1 |
| Very cold winter | 0.751 | 0.432 | 0 | 1 |
| Frosts | 0.769 | 0.421 | 0 | 1 |
| Landslides | 0.906 | 0.290 | 0 | 1 |
| Pest or diseases (crops or livestock) | 0.836 | 0.369 | 0 | 1 |
| Fire | 0.976 | 0.150 | 0 | 1 |
| Insufficient water supply for farming or gardening | 0.846 | 0.360 | 0 | 1 |
| Political riots | 0.946 | 0.225 | 0 | 1 |
| Theft of assets (cash, crops, livestock) | 0.991 | 0.093 | 0 | 1 |
| Destruction of assets (housing, car) | 0.994 | 0.076 | 0 | 1 |
| Inability to sell agricultural and other products | 0.924 | 0.263 | 0 | 1 |
| Loss of job | 0.943 | 0.230 | 0 | 1 |
| Sharp fall of remittances from abroad | 0.957 | 0.200 | 0 | 1 |
| Death of a major breadwinner | 0.985 | 0.120 | 0 | 1 |
| Death of other HH member | 0.974 | 0.157 | 0 | 1 |
| Death of close relative, non-member of HH | 0.938 | 0.239 | 0 | 1 |
| Illness of a major breadwinner | 0.960 | 0.195 | 0 | 1 |
| Illness of other HH member | 0.960 | 0.195 | 0 | 1 |
| Divorce | 0.984 | 0.121 | 0 | 1 |
| Disputes on land issues | 0.985 | 0.120 | 0 | 1 |
| Accident | 0.984 | 0.123 | 0 | 1 |
| Insufficient energy supply | 0.946 | 0.225 | 0 | 1 |
| Increased violence in the neighborhood | 0.986 | 0.117 | 0 | 1 |
| Border closure for people and goods | 0.947 | 0.222 | 0 | 1 |
| Displacement | 0.997 | 0.052 | 0 | 1 |
| **Community Stability** |
| **Variable** | **Mean** | **St.Dev** | **Min** | **Max** |
| Drought | 0.811 | 0.390 | 0 | 1 |
| Too much rain or flood | 0.580 | 0.493 | 0 | 1 |
| Very cold winter | 0.779 | 0.414 | 0 | 1 |
| Frost | 0.786 | 0.409 | 0 | 1 |
| Earthquake | 0.965 | 0.183 | 0 | 1 |
| Landslides | 0.952 | 0.212 | 0 | 1 |
| Pest or diseases (crops or livestock) | 0.790 | 0.407 | 0 | 1 |
| Fire | 0.762 | 0.425 | 0 | 1 |
| Insufficient water supply for farming | 0.960 | 0.195 | 0 | 1 |
| Political riots | 0.915 | 0.278 | 0 | 1 |
| Theft of assets (cash, livestock) | 0.877 | 0.328 | 0 | 1 |
| Destruction of property (housing, car) | 0.918 | 0.274 | 0 | 1 |
| Inability to sell agricultural and other products | 0.961 | 0.193 | 0 | 1 |
| Debates on land issues | 0.898 | 0.301 | 0 | 1 |

Note: Shock variables were rescaled assuming value 1 is for not experiencing shock

**Table A5.** First-stage regression results

|  |  |  |
| --- | --- | --- |
|  | Trust | Group Membership |
| The existence of mosques/churches  | 0.036\*\*\*(0.010) |  |
| The number of groups in the community  |  | 0.037\*\*\*(0.000) |
| Head age | -0.000(0.000) | 0.000(0.000) |
| Head female | 0.009(0.015) | -0.000(0.003) |
| Head married | 0.009(0.015) | 0.004(0.003) |
| Head education | -0.002\*(0.001) | 0.001\*\*\*(0.000) |
| Household size | 0.003\*\*(0.001) | 0.000(0.000) |
| Community stability index | -0.192\*\*\*(0.025) | -0.005(0.006) |
| Issyk-Kul and the Tian Shan | 0.016(0.013) | 0.014\*\*\*(0.003) |
| Ferghana Valley | 0.096(0.010) | -0.000(0.002) |
| Constant  | 0.707\*\*\*(0.038) | 0.125\*\*\*(0.009) |
|  |  |  |
| Observations  | 1785 | 2162 |
| R-squared | 0.120 | 0.043 |
| Cragg-Donald F Stat. | 11.846 | 34.426 |
| Sanderson-Windmeijer F Sta.  | 14.930 | 20.790 |

Standard errors in parentheses. \*\*\*p<0.01, \*\*p<0.05, \*p<0.1.

The excluded regional dummy is Bishkek and the Northwest.

**Table A6.** Impact of trust and group membership on IFA and ABS: IV-SEM and 2SLS second-stage results

|  |  |  |
| --- | --- | --- |
|  | Income & Food Access (IFA) | Access to Basic Services (ABS) |
|  | (1)IV-SEM | (2)2SLS Bootstrap | (3)2SLS | (4)IV-SEM | (5)2SLS Bootstrap | (6)2SLS |
| Trust  | 1.359\*\*(0.532) | 1.198\*\*\*(0.282) | 1.146\*\*(0.474) | 0.541\*(0.298) | 0.666\*\*\*(0.188) | 0.423(0.377) |
| Group membership | 1.525\*(0.833) | 1.610\*\*(0.787) | 3.436\*\*\*(1.289) | -4.491\*\*\*(1.053) | -4.626\*\*\*(0.561) | -3.724\*\*\*(1.061) |
| Head age | 0.000(0.000) | 0.000\*\*(0.000) | 0.000(0.000) | 0.000(0.000) | 0.000(0.000) | 0.000(0.000) |
| Head female | -0.068\*\*(0.029) | -0.069\*\*\*(0.014) | -0.064\*\*(0.029) | -0.054\*\*(0.026) | -0.055\*\*\*\*(0.011) | -0.053\*\*(0.023) |
| Head married | -0.019(0.029) | -0.026\*\*\*(0.014) | -0.028(0.030) | -0.004(0.026) | -0.014(0.012) | -0.008(0.024) |
| Head education | -0.004(0.003) | -0.003\*(0.002) | -0.007\*\*(0.003) | 0.006\*\*(0.003) | 0.006\*\*\*(0.001) | 0.004\*(0.002) |
| Household size | 0.016\*\*\*(0.004) | 0.016\*\*\*(0.002) | 0.016\*\*\*(0.004) | 0.005(0.003) | 0.003\*\*(0.001) | 0.005(0.003) |
| Community stability index | 0.139(0.118) | 0.123\*(0.066) | 0.112(0.113) | -0.001(0.073) | 0.037(0.043) | -0.019(0.089) |
| Issyk-Kul and the Tian Shan | 0.003(0.031) | 0.031(0.024) | -0.029(0.041) | 0.157\*\*\*(0.031) | 0.166\*\*\*(0.020) | 0.145\*\*\*(0.033) |
| Ferghana Valley | -0.048(0.053) | -0.008(0.029) | -0.029(0.048) | -0.045(0.031) | -0.040 (0.016) | -0.035(0.037) |
| Constant  | -0.859\*\*(0.402) | -0.797\*\*\*(0.206) | -0.955\*\*\*(0.456) | 0.392(0.258) | 0.315\*\*(0.129) | 0.379(0.369) |
|  |  |  |  |  |  |  |
| Observations | 1782 | 2218 | 1782 | 1814 | 2259 | 1814 |
| R squared |  | 0.213 |  |  | 0.077 |  |
| Chi-square | 15.073 |  |  | 16.150 |  |  |
| p-value  | 0.002 |  |  | 0.001 |  |  |
| RMSEA | 0.048 |  |  | 0.049 |  |  |
| CFI | 0.982 |  |  | 0.971 |  |  |
| SRMR | 0.009 |  |  | 0.010 |  |  |

**Table A7.** Impact of trust and group membership on APT and AC: IV-SEM and 2SLS second-stage results

|  |  |  |
| --- | --- | --- |
|  | Agricultural Practices and Technologies (APT) | Adaptive Capacity (AC) |
|  | (1)IV-SEM | (2)2SLS Bootstrap | (3)2SLS | (4)IV-SEM | (5)2SLS Bootstrap | (6)2SLS |
| Trust  | 1.222\*\*(0.486) | 1.028\*\*\*(0.310) | 1.038\*\*(0.466) | 0.529\*\*\*(0.198) | 0.475\*\*\*(0.105) | 0.443\*\*(0.187) |
| Group membership | 2.362\*\*\*(0.904) | 3.116\*\*\*(0.832) | 4.196\*\*\*(1.344) | 0.886\*\*\*(0.319) | 0.898\*\*\*(0.294) | 1.696\*\*\*(0.530) |
| Head age | 0.001\*(0.000) | 0.001\*\*\*(0.000) | 0.000(0.000) | 0.000(0.000) | 0.000(0.000) | 0.000(0.000) |
| Head female | -0.046(0.028) | -0.057\*\*\*(0.018) | -0.042(0.029) | -0.007(0.011) | -0.006(0.005) | -0.005(0.011) |
| Head married | -0.003(0.028) | -0.013(0.018) | -0.012(0.030) | 0.013(0.011) | 0.012\*\*(0.005) | 0.009(0.012) |
| Head education | -0.009\*\*\*(0.003) | -0.009\*\*\*(0.001) | -0.012\*\*\*(0.003) | -0.003\*\*\*(0.001) | -0.003\*\*\*(0.000) | -0.004\*\*\*(0.001) |
| Household size | 0.010\*\*\*(0.003) | 0.011\*\*\*(0.002) | 0.010\*\*(0.004) | 0.005\*\*\*(0.001) | 0.005\*\*\*(0.000) | 0.005\*\*\*(0.001) |
| Community stability index | 0.085(0.108) | 0.049(0.065) | 0.062(0.110) | 0.109\*\*(0.044) | 0.106\*\*\*(0.025) | 0.098\*\*(0.044) |
| Issyk-Kul and the Tian Shan | 0.111\*\*\*(0.031) | 0.123\*\*\*(0.021) | 0.079\*(0.041) | 0.065\*\*\*(0.012) | 0.074\*\*\*\*(0.009) | 0.051\*\*\*(0.016) |
| Ferghana Valley | 0.063(0.047) | 0.102\*\*\*(0.032) | 0.078\*(0.046) | -0.012(0.019) | 0.000(0.011) | -0.005(0.018) |
| Constant  | -0.847\*\*(0.371) | -0.828\*\*\*(0.234) | -0.954\*\*(0.458) | -0.306\*\*(0.152) | -0.280\*\*\*(0.080) | -0.349\*(0.184) |
|  |  |  |  |  |  |  |
| Observations | 1821 | 2269 | 1821 | 1813 | 2257 | 1813 |
| R squared |  | 0.317 |  |  | 0.277 |  |
| Chi-square | 16.579 |  |  | 16.094 |  |  |
| p-value  | 0.001 |  |  | 0.001 |  |  |
| RMSEA | 0.050 |  |  | 0.049 |  |  |
| CFI | 0.984 |  |  | 0.984 |  |  |
| SRMR | 0.010 |  |  | 0.010 |  |  |

**Table A8.** Impact of trust and group membership on APT and AC: IV-SEM and 2SLS second-stage results

|  |  |
| --- | --- |
|  | RCI |
|  | (1)IV-SEM | (2)2SLS Bootstrp | (3)2SLS |
| Trust  | 1.026\*\*\*(0.356) | 0.878\*\*\*(0.156) | 0.862\*\*\*(0.315) |
| Group membership | 0.965\*\*(0.459) | 1.157\*\*\*(0.389) | 2.372\*\*\*(0.841) |
| Head age | 0.000(0.000) | 0.000\*\*\*(0.000) | 0.000(0.000) |
| Head female | -0.036\*(0.019) | -0.035\*\*\*(0.008) | -0.033\*(0.019) |
| Head married | 0.002(0.019) | -0.000(0.007) | -0.003(0.020) |
| Head education | -0.004\*(0.002) | -0.004\*\*\*(0.001) | -0.006\*\*\*(0.002) |
| Household size | 0.009\*\*\*(0.002) | 0.009\*\*\*(0.001) | 0.009\*\*\*(0.002) |
| Community stability index  | 0.139\*(0.079) | 0.116\*\*\*(0.037) | 0.117(0.074) |
| Issyk-Kul and the Tian Shan | 0.080\*\*\*(0.020) | 0.097\*\*\*(0.012) | 0.056\*\*(0.027) |
| Ferghana Valley | -0.016(0.035) | 0.015(0.016) | -0.002(0.032) |
| Constant  | -0.593\*\*(0.270) | -0.533\*\*\*(0.125) | -0.659\*\*(0.300) |
| R squared |  | 0.352 |  |
| Observations | 1777 | 2210 | 1777 |
|  |  |  |  |
| Chi-square | 14.622 |  |  |
| p-value  | 0.002 |  |  |
| RMSEA | 0.047 |  |  |
| CFI | 0.988 |  |  |
| SRMR | 0.009 |  |  |



**Figure A1.** SEM-IV Modelling

Note: Z1 (existence of mosques/churches in the community) and Z2 (number of groups in the community) are instrumental variables for X1 (trust) and X2 (group membership) endogenous variables respectively. Y is pillar (IFA, ABS, APT, and AC) or RCI. Covariates include head age, head female, head married, head education, household size, community stability index, Issyk-Kul and the Tian Shan region, Ferghana Valley region, and Bishkek and the Northwest. The random disturbances or errors are included in the model. Their relationships are also considered in SEM model.



**Figure A2.** IFA

Note: 1-Diet diversity (Simpson index); 2-Food expenditure; 3-Adequacy of fruit and vegetable; 4-Income from agriculture; 5-Pensions; 6-Allowances; 7-Benefits; and 8-Remmitance



**Figure A3.** ABS

Note: 1-Improved drinking water; 2-Improved heating; 3-Improved cooking source; 4-Next main road; 5-Next livestock market; 6-Next school; and 7-Next hospital



**Figure A4.** APT pillar

Note: 1-Livestock production; 2-Crop production; 3-Plot numbers; 4-Harvest; 5-Own seed; 6-Labour; and 7-Plantation area



**Figure A5.** AC Pillar

Note: 1-Wealth index; 2-Weather information; 3-Extension service; 4-Informal networking index; 5-Education; and 6-Household Stability Index



**Figure A6.** RCI