**Supporting Information for “When the Money Stops: Fluctuations in Financial Remittances and Incumbent Approval in Central Eastern Europe, the Caucasus**

**and Central Asia”**

**A1. Descriptions of the Surveys**

**Life in Transition Surveys (LiTS) I and II**

The Life in Transition Survey (LiTS I) was conducted jointly by the EBRD and the World Bank in 2006. Almost 29,000 individuals across 29 countries were interviewed between August and October 2009. Interviews were conducted face-to-face, in respondents’ homes. Face-to-face interviews are the norm in the post-Soviet region, where telephone and internet penetration are low, and generally insufficient in order to achieve a nationally representative sample.

In the analysis we present in the manuscript, we include 26 countries. Due to local sensitivities, questions about trust in the presidency were not asked in Belarus.[[1]](#footnote-1) This leaves us with a total of 28 countries. Of these 28 countries, neither Mongolia, nor Turkey are in Central Eastern Europe (CEE), or the Commonwealth of Independent States (CIS). For this reason, these countries are not part of the analysis. Yet, as we show below, the results remain consistent when both Mongolia and Turkey are included in the sample. The 26 countries included in the analysis are the following: Albania, Armenia, Azerbaijan, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Montenegro, FYR Macedonia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Tajikistan, Ukraine and Uzbekistan.

The 2010 Life in Transition Survey (LiTS II) was conducted jointly by the EBRD and the World Bank in late 2010. In addition to repeating the survey in the same 29 countries covered initially by LITS I, LITS II surveyed respondents in Kosovo, and along with five Western European comparator countries. Altogether, almost 39,000 households in 35 countries were surveyed. Of the countries included in the survey, we exclude those that do not geographically belong in the Commonwealth of Independent States (CIS) and/or in Central Eastern Europe (CEE). Just like with the 2006 survey, we drop Mongolia and Turkey, as well as Great Britain, France, Germany, Italy and Sweden. This leaves us with a sample of 28 countries. The countries included in the analysis are the following: Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kosovo, Kyrgyzstan, Latvia, Lithuania, Moldova, Montenegro, FYR Macedonia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Tajikistan, Ukraine and Uzbekistan.

**The Life in Kyrgyzstan Surveys**

The Life in Kyrgyzstan Study (LIK) is an open-access, multi-topic longitudinal survey of individuals and households in Kyrgyzstan. The survey, which was established by Professor Tilman Bruck, tracks the same 3,000 households in all seven Kyrgyz oblasts (regions) and the two cities of Bishkek and Osh across the four-time points, 2010, 2011, 2012 and 2013. Interviews are conducted once a year, around October-November. The original 3,000 households were drawn through a stratified two-stage random sampling process. Interviews were conducted face-to-face, in respondents’ homes. Questionnaires were first developed in English and later translated into Kyrgyz and Russian. The survey has been implemented by the data collection company Sotseconik, which is based in Bishkek, Kyrgyzstan. The data are representative at both the national and regional level. 81.6 percent of all 3000 households identified in the original sample in 2010 participated in all four waves (LiK, Updated July 2017).

From 2010 to 2012, the Life in Kyrgyzstan study was funded by the German Volksagen Foundation, as part of a multilateral project with the participation of several institutions in Central Asia and Europe. From 2013 to 2015, the survey was funded by the Department for International Development, as part of the Growth and Labour Market Low Income Country Programme. A description of the studies is available here: <https://lifeinkyrgyzstan.org>.

**A2 Descriptive Statistics**

**Table A.1** Descriptive Statistics, LiTS I 2006

|  |  |  |
| --- | --- | --- |
|  | Range | Mean (SD) |
| President Trust | 1-5 | 3.17 (1.4) |
| Satisfaction with National Economic Conditions | 1-5 | 2.62 (1.1) |
| Household Economic Assessments (1-10 poorer to richer households) | 1-10 | 4.25 (1.7) |
| Has Remittances | 0-1 | .07 (.25) |
| Employed: Worked for income in the last week | 0-1 | .5 (.49) |
| Education (1-3 categories, lower to higher) | 1-3 | 1.94 (.65) |
| Age | 17-97 | 46 (17.7) |
| Gender | 0-1 | .4 (.49) |
| Wealth Index | 0-7 | 2.26 (2.1) |
| Settlement (rural, urban, metropolitan) | 1-3 | 1.8 (.74) |
| GDP growth[[2]](#footnote-2) | 3.1-34.5 | 8.25 (5.6) |

The wording of questions on economic assessments and support for incumbents are as follows: 1) “Please imagine a ten-step ladder where on the bottom, the first step, stand the poorest people and on the highest step, the tenth, stand the richest. On which step of the ten is your household today?”2) “On the whole, I am satisfied with the present state of the economy” 3) “To what extent do you trust the following institutions? The presidency”. The first item is measured on a 10-point scale, while the latter two on a five-point one, with higher values denoting greater satisfaction with economic assessments, and greater trust in the presidency. The primary dependent variable, measured at the individual level, is whether households have access to “help from relatives or friends living abroad, including alimonies”. We recoded responses into a dummy variable that takes the value of one if the respondents indicate that they have remittances and zero otherwise. The wealth index is constructed as the sum of households’ material possessions. Households are asked whether they own: a car (2.09\_1); a secondary residence (2.09\_2); a bank account (2.09\_3); a credit/debit card (2.09\_4); a mobile phone (2.09\_5); a computer (2.09\_6); access to internet at home (2.09\_7). The scale’s Cronbach alpha reliability coefficient is 0.8.

**Table A.2** Descriptive Statistics,Life in Kyrgyzstan Survey 2010-2013

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2010** | **2011** | **2012** | **2013** |
| Change in Trust in President t-(t-1)  (-3 to 3) | - | 0.10  (1.23) | 0.05  (1.23) | 0.17  (1.24) |
| Change in amount of remittances t-(t-1) | - | -0.07  (1.20) | 0.001  (1.72) | 0.71  (3.76) |
| Change in Frequency of Remittances t-(t-1)  (-4 to 5) | - | 0.27  (1.60) | 0.08  (1.36) | 0.26  (1.50) |
| Change in Remittances Index t-(t-1)  (-5 to 4) | - | 0.13  (1.77) | -0.13  (1.88) | 0.88  (1.94) |
| Reduction in Remittances (0-1) | - | 0.29  (0.46) | 0.29  (0.45) | 0.26  (0.44) |
| Agricultural Profit Loss (0-1) | 0.13  (0.34) | 0.14  (0.34) | 0.14  (0.34) | 0.11  (0.31) |
| Affected by Landslides (0-1) | 0.11  (0.31) | 0.13  (0.34) | 0.17  (0.38) | 0.05  (0.22) |
| Gender (0-1) | 0.44  (0.50) | 0.43  (0.50) | 0.44  (0.50) | 0.43  (0.50) |
| Age (18-106) | 41.00  (16.26) | 41.72  (16.40) | 42.36  (16.41) | 41.65  (16.68) |
| Marital Status (0-1) | 0.71  (0.45) | 0.71  (0.54) | 0.74  (0.44) | 0.70  (0.46) |
| Ethnicity (0-1) | 0.70  (0.46) | 0.71  (0.45) | 0.77  (0.42) | 0.79  (0.41) |
| Employed (0-1) | 0.24  (0.43) | 0.21  (0.41) | 0.18  (0.39) | 0.12  (0.32) |
| Intention to Migrate (0-1) | 0.08  (0.28) | 0.08  (0.27) | 0.06  (0.24) | 0.06  (0.24) |
| Illiterate (0-1) | 0.01  (0.10) | 0.01  (0.11) | 0.01  (0.12) | 0.01  (0.12) |
| Primary Education (0-1) | 0.13  (0.34) | 0.10  (0.30) | 0.09  (0.28) | 0.09  (0.29) |
| Secondary Education (0-1) | 0.74  (0.44) | 0.76  (0.43) | 0.80  (0.40) | 0.80  (0.40) |
| University Education (0-1) | 0.11  (0.32) | 0.12  (0.33) | 0.10  (0.30) | 0.09  (0.30) |
| Wealth Index (1-17) | 7.98  (3.97) | 9.73  (3.72) | 10.34  (3.89) | 8.02  (3.96) |
| Total Income | 100.35  (80.93) | 176.10  (112.77) | 217.34  (147.71) | 248.18  (213.31) |
| Risk Attitudes (0-10) | 3.77  (3.39) | 4.63  (2.72) | 4.85  (2.97) | 4.45  (2.63) |
| Life Satisfaction (0-10) | 5.57  (2.50) | 6.27  (2.12) | 6.45  (2.30) | 6.55  (1.81) |

**Table A.3** Question Wordings,Life in Kyrgyzstan Survey 2010-2013

|  |  |
| --- | --- |
|  | **Question Wording** |
| Trust in President | On a scale from 1 (trust not at all) to 4 (a lot of trust), how much do you generally trust the following?  President |
| Trust in Local Community Leaders | On a scale from 1 (trust not at all) to 4 (a lot of trust), how much do you generally trust the following?  Community Leaders |
| Remittances Received | During the last 12 months, did you receive any money from abroad sent by migrants who are members of this household? |
| Amount of Remittances Received | How much money did household migrants send over the last 12 months? |
| Frequency of Remittances Received | How many times within the last 12 months did migrants send/bring money? |
| Remittances Index | For more information on coding of variable see Table A.5 |
| Agricultural Profit Loss | During the last 12 months, has your household been affected by the following shocks?  Suffered agricultural loss: 0) no, 1) yes |
| Affected by Landslides | During the last 12 months, has your household been affected by the following shocks?  Landslides: 0) no, 1) yes |
| Gender | What is your sex?  0) female, 1) male |
| Age | What is your year of birth?  (We subtract year of survey from year of birth) |
| Marital Status | What is your marital status?  0) not married (divorced, living together, separated, widowed, single) 1) married |
| Ethnicity | What is your ethnicity?  0) Kyrgyz, 1) Uzbek/ Russian/ Dungan/ Uigur/ Tajik/ Kazak/ Other |
| Employed | During the past 7 days, have you worked for someone who is not a member of your household, e.g. an enterprise, company, farm, the government, or any other individual? |
| Intention to Migrate | Are you planning to move abroad within the following 12 months for more than 1 month? (excluding vacation, family visits, business trips) |
| Education Level | What is the highest certificate / diploma / degree you obtained so far? 1) illiterate, 2) primary or basic, 3) secondary general, primary/secondary technical, 4) university/candidate/doctor nauk |
| Wealth Index | Now I would like to ask you about the assets your household possesses, including additional housing, transport, home appliances and livestock.  The wealth index captures if respondents have the following: property/ vehicles (main dwelling, another house/ apartment/ garage/ bicycle/ motorcycle, scooter/ car, minbus, tractor, truck or other agricultural machine) domestic appliances, furniture (refrigerator, gas stove, electric stove, microwave, air conditioner, sewing machine, washing machine, vacuum cleaner, sofa, wardrobe, bed, kitchen furniture), media appliances (radio, music system, TV, video or DVD player, photo camera, digital photo camera, laptop, satellite dish), communication (mobile phone, landline phone, internet connection), livestock (cows and bulls, sheep, horses, donkeys, pigs, rabbits, check and poultry, bees). |
| Risk Attitudes | How do you see yourself, are you generally a person who is fully willing to take risks or do you avoid taking risks? Please rate from 0 (completely unwilling to take risks) to 10 (completely willing to take risks). |
| Life Satisfaction | How satisfied are you today with your household? Please rate from 0) completely dissatisfied to 10) completely satisfied.[[3]](#footnote-3) |

**Table A.4 Currency Exchange Rates Used**

In the LiK surveys, respondents were asked to report the amount of money received from migrants in the currency in which they received it, that is to say Kyrgyz Som, Russian Rubles, US Dollars, or Euros. In order to ensure that the magnitudes of changes in the amount of remitted income are comparable, we transferred all amounts into Kyrgyz Som by using the average exchange rate over the year reported in Table A.4. We then divided these changes by a factor of 100,000.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Exchange Rate with Som** | | | |
| **Currency** | **2010** | **2011** | **2012** | **2013** |
| **US Dollar** | 46 | 47 | 47 | 48 |
| **Ruble** | 1.5 | 1.6 | 1.5 | 1.5 |
| **Euro** | 60 | 64 | 60 | 65 |

Notes: The table shows soms per foreign currency.The annual average exchange rates come from the National Bank of the Kyrgyz Republic ((<http://www.nbkr.kg/index1.jsp?item=1562&lang=RUS>)

**Table A.5** Construction of Remittances Index, Life in Kyrgyzstan Survey 2010-2013

|  |  |  |
| --- | --- | --- |
| **Components** | **Questions Used** | **Coding** |
| **Substantial:**  **Amount of Remittances**  **Received** | How much money did household migrants send over the last 12 months? | We recoded the amounts in Som in three categories:   1. between minimum and mean value, 1-76000 Som 2. between mean value and 1 standard deviation above mean: 76800-250000 Som 3. value above 1 standard deviation value, 280000-4200000 Som |
| **Reliable:**  **Regularity of Remittances Received** | Did you receive the money sent by migrants always at the same point of time (is the receiving of money regular)? | We recoded original answer categories (1 yes, 2 no, 3 different for different senders) to   1. No 2. Different for different senders 3. Yes |
| **Combined: Additive Index** |  | Based on these two components we created an additive index ranging from minimum value of 1 and maximum value of 6. |

**Table A.6**: Descriptive Statistics, Life in Transition Survey 2010

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Question Wording** | **Range** | **Mean (SD)** |
| Government Approval | Please rate the overall performance of the national government | 1: Very Bad  5: Very Good | 2.83  (0.99) |
| Blame Attribution | Which of these do you think are responsible for the global economic crisis? | 1: Our Government  0: Not our government | 0.37  (0.48) |
| *Independent Variables* | | | |
| Remittances Reduced | How has the economic crisis affected you and your household in the past 2 years? | 1: Remittances Reduced  0: Remittances did not Reduce | 0.21  (0.41) |
| Employment status | Did you work for income in the past twelve months? | 1: Yes  0: No | 0.49 (0.49) |
| Age | How old are you? | 18-91 | 45.6  (17.4) |
| Gender | What is your gender? | 1: male 0: female | 0.38  (.48) |
| Marital status | What is your marital status? | 1: married/ cohabiting 0: Not | .60 (.49) |
| Education | What is the highest level of education you already completed? | 1: primary 2: secondary 3: higher | 2.23 (0.66) |
| Wealth Index | Sum of owning: car, secondary house, bank account, debit or credit card, mobile phone, computer and internet connection (Cronbach’s alpha: 0.76) | 1-8 | 3.15 (2.16) |
| Risk attitudes | Please rate your willingness to take risks in general, on a scale from 1 to 10. | 1-10 | 4.7 (2.6) |
| Life satisfaction | All things considered, I am satisfied with my life now | 1-5 | 3.08 (1.08) |
| GDP | OECD (2016), Gross Domestic Product (GDP) | -2.87 – 8.5 | 3.12 (2.9) |

**A3 Additional Descriptive Figures**

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**Figure A.1:** Percentage of households with remittances in LITS I (2006)

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**Figure A.2:** Percentage of households affected by the recession in LITS II (2010)

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**Figure A.3:** Percentage of respondents affected by the recession who report a decline in remittances in LITS II (2010)

**Section B: Full results for the Tables presented in the manuscript**

**Table B.1:** We present full results accompanying Table 1: Effect of Remittances on Economic Satisfaction and Trust in the President. LiTS I (2006)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COVARIATES** | **Pocketbook Assessments**  **Model (1)** | **Sociotropic Assessments**  **Model (2)** | **Trust in the President**  **Model (3)** | **Trust in the President**  **Model (4)** |
|  |  |  |  |  |
| Remittances | 0.135\*\*\* | 0.048\* | 0.070\*\* | 0.056\* |
|  | (0.041) | (0.027) | (0.032) | (0.031) |
| *Pocketbook* |  |  |  | 0.027\*\*\* |
|  |  |  |  | (0.005) |
| *Sociotropic* |  |  |  | 0.230\*\*\* |
|  |  |  |  | (0.008) |
| Employed | 0.122\*\*\* | -0.019 | 0.026 | 0.028 |
|  | (0.022) | (0.015) | (0.018) | (0.017) |
| Education | 0.289\*\*\* | 0.015 | 0.046\*\*\* | 0.035\*\*\* |
|  | (0.018) | (0.012) | (0.014) | (0.014) |
| Age | -0.005\*\*\* | -0.001 | 0.005\*\*\* | 0.005\*\*\* |
|  | (0.001) | (0.000) | (0.001) | (0.001) |
| Male | -0.024 | 0.010 | -0.041\*\*\* | -0.043\*\*\* |
|  | (0.020) | (0.013) | (0.016) | (0.016) |
| Wealth | 0.288\*\*\* | 0.065\*\*\* | 0.028\*\*\* | 0.005 |
|  | (0.007) | (0.004) | (0.005) | (0.005) |
| Rural | 0.026 | 0.039\*\*\* | 0.121\*\*\* | 0.112\*\*\* |
|  | (0.023) | (0.015) | (0.018) | (0.018) |
| Metropolitan | -0.042 | -0.095\*\*\* | -0.139\*\*\* | -0.116\*\*\* |
|  | (0.029) | (0.019) | (0.022) | (0.022) |
| Growth | -0.026\* | 0.027\* | 0.051\*\* | 0.046\*\* |
|  | (0.015) | (0.014) | (0.021) | (0.019) |
| Constant | 3.419\*\*\* | 2.243\*\*\* | 2.325\*\*\* | 1.718\*\*\* |
|  | (0.159) | (0.147) | (0.213) | (0.193) |
|  |  |  |  |  |
|  |  |  |  |  |
| Log Likelihood | -47618 | -36722 | -41312 | -40778 |
| AIC | 95259 | 73468 | 82649 | 81584.59 |
| BIC | 95357 | 73566 | 82747 | 81698.61 |
| Individuals | 25,438 | 25,438 | 25,438 | 25,438 |
| Countries | 26 | 26 | 26 | 26 |

*Notes*: The table reports coefficients from hierarchical linear models with standard errors in parentheses. The baseline category for settlement status is urban. \*\*\* significant at p≤0.01, \*\* p≤0.05, \* p≤0.10 level.

**Table B.1: Extended discussion:** Models 1 and 2 study the effect of remittances on satisfaction with household and national economic conditions. Models 3 and 4 explore whether remittances affect trust in the president. Model 4 replicates the analysis presented in Model 3, and also controls for the two ‘mediator’ variables: pocketbook and national economic assessments. If part of the effect of remittances on approval flows through the economic assessments channel, then we would expect the inclusion of the mediators to reduce the overall effect of remittances on approval.

Results are consistent with our theoretical expectations. Similar to Bravo’s (2012) results, we find that financial remittances increase satisfaction with household (Model 1) conditions. Holding all covariates at their empirical mean, we see that satisfaction with household economic conditions is 0.15 higher among remittance holders (95% CI: 0.05, 0.21). For both groups of respondents, however, satisfaction with pocketbook conditions is around 4 (i.e. it hoovers below the mean of the 10-point variable). Satisfaction with national economic conditions is also 0.05 higher among respondents with access to remittances. The effect of remittances on trust towards the country’s president in Model 3 is also positive, and statistically significant. Focusing on model 3, we see that holding all other covariates at their empirical means, support for the president is approximately 0.10 higher among remittance holders (95% CI: 0.01, 0.13). In Model 4, which controls for the two mediators, the difference in support for the president between the two groups of respondents is halved (~0.05). This implies that some of the overall effect of remittances on trust is mediated through the economic assessments channel. Albeit substantively reduced, however, the effect of remittances on support for the president remains robust, even after we control for economic satisfaction at the household, and national level.

Turning to the controls, these largely behave as anticipated. Employed respondents report greater satisfaction with household economic conditions than their counterparts who are either unemployed, or not part of the labor market. Better educated respondents also report greater satisfaction with household conditions, and trust in the presidency. Older respondents are less satisfied with their pocketbook conditions, yet also more likely to trust the incumbent. Households with access to a more robust portfolio of household assets report ameliorated assessments of pocketbook and national conditions, as well as trust in the president.

**Table B.2:** Full Results accompanying Figure 3: The effect of reductions in remittances on trust in the President, Life in Kyrgyzstan

|  |  |
| --- | --- |
|  | **Change in Trust in President t-(t-1)** |
| **COVARIATES** | **Model (1)** |
| Reduction in Remittances | -0.245\*\* |
|  | (0.106) |
| Agricultural Loss | -0.622\*\*\* |
|  | (0.194) |
| Affected by Landslides | -0.301\* |
|  | (0.176) |
|  |  |
| Primary Education | 0.288 |
|  | (0.410) |
| Secondary Education | 0.460 |
|  | (0.395) |
| University Education | 0.569 |
|  | (0.430) |
| Married | -0.071 |
|  | (0.110) |
| Gender | -0.035 |
|  | (0.073) |
| Age | 0.008\*\*\* |
|  | (0.003) |
| Ethnicity | 0.151 |
|  | (0.500) |
| Employed | -0.028 |
|  | (0.110) |
| Intent to Migrate | -0.116 |
|  | (0.174) |
| Wealth Index | 0.008 |
|  | (0.018) |
| Total Income | -0.001\*\* |
|  | (0.0003) |
| Life Satisfaction | 0.060\*\* |
|  | (0.024) |
| Risk Attitude | 0.026 |
|  | (0.018) |
| Constant | 0.071 |
|  | (1.061) |
| Individual Observations: | 1,287 |
| Groups: | 866 |
| R2 Between | 0.58 |

*Notes*: Model 1 presents regression coefficients with standard errors in parentheses based on a panel data GLS model that regresses changes in trust in the President on various household shocks (reduction in remittances, agricultural profit loss and being affected by landslides), includes household and survey wave fixed effects and random effects varying at the individual level with standard errors in parentheses. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: LIK Panel Survey, 2010-2013.

**Table B.3:** Full Results accompanying Figure 4: The effect of changes in remittances on trust in the President by political information, Kyrgyzstan panel data

|  |  |
| --- | --- |
| **COVARIATES** | **Change in Trust in President t-(t-1)**  **Model (1)** |
| Change in Amount of | 0.181\*\* |
| Remittances t-(t-1) | (0.087) |
|  |  |
| Political Information | -0.005 |
|  | (0.052) |
|  |  |
| Change in Remittances \* Political | -0.051\* |
| Information | (0.031) |
|  |  |
| Change in Frequency of Remittances t-(t-1) | 0.067\*\* |
|  | (0.032) |
| Primary Education | 0.245 |
|  | (0.410) |
| Secondary Education | 0.411 |
|  | (0.395) |
| University Education | 0.499 |
|  | (0.429) |
| Married | -0.051 |
|  | (0.110) |
| Gender | -0.030 |
|  | (0.074) |
| Age | 0.008\*\*\* |
|  | (0.003) |
| Ethnicity | 0.132 |
|  | (0.498) |
| Employed | -0.044 |
|  | (0.112) |
| Intent to Migrate | -0.059 |
|  | (0.173) |
| Wealth Index | -0.012 |
|  | (0.018) |
| Total Income | -0.001\* |
|  | (0.0003) |
| Life Satisfaction | 0.067\*\*\* |
|  | (0.025) |
| Risk Attitude | 0.021 |
|  | (0.019) |
| Constant | 0.290 |
|  | (1.068) |
| Observations (Indi- | 1,271 |
| viduals, Groups) | 862 |
| R2 Between | 0.59 |

*Notes*: Regression coefficients are based on a panel data GLS model that regresses changes in trust in the President on changes in remittances and political information. The analysis includes household and survey wave fixed effects and random effects varying at the individual level standard errors in parentheses. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤0.05, \* p≤0.10 level. LIK panel study survey data.

**Section C:** **Robustness Checks**

**Robustness checks for Table 1 in the manuscript ‘Remittances, economic assessments, and support for the president’, LiTS I (2006)**

* Table C.1 replicates the analysis presented in Table 1 while including Mongolia and Turkey in the sample of countries considered;
* Table C.2 probes the robustness of the results using Nearest Neighbor Matching;
* Table C.3 probes the robustness of the results using the LiK survey 2010.

**Table C.1:** Mongolia and Turkey included in the sample, LiTS I (2006)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COVARIATES** | **Pocketbook Assessments**  **Model (1)** | **Sociotropic Assessments**  **Model (2)** | **Trust in the President**  **Model (3)** | **Trust in the President**  **Model (4)** |
| Remittances | 0.134\*\*\* | 0.055\*\* | 0.068\*\* | 0.052\* |
|  | (0.040) | (0.026) | (0.032) | (0.031) |
| Employed | 0.112\*\*\* | -0.015 | 0.029\* | 0.029\* |
|  | (0.022) | (0.014) | (0.017) | (0.017) |
| Education | 0.287\*\*\* | 0.010 | 0.047\*\*\* | 0.036\*\*\* |
|  | (0.017) | (0.011) | (0.014) | (0.013) |
| Age | -0.004\*\*\* | -0.0004 | 0.005\*\*\* | 0.005\*\*\* |
|  | (0.001) | (0.0004) | (0.0005) | (0.001) |
| Male | -0.0391\*\* | 0.004 | -0.033\*\* | -0.033\*\* |
|  | (0.020) | (0.013) | (0.016) | (0.015) |
| Wealth Index | 0.298\*\*\* | 0.069\*\*\* | 0.026\*\*\* | 0.001 |
|  | (0.007) | (0.004) | (0.005) | (0.005) |
| Rural Status | 0.019 | 0.042\*\*\* | 0.133\*\*\* | 0.123\*\*\* |
|  | (0.023) | (0.015) | (0.018) | (0.017) |
| Metropolitan | -0.085\*\*\* | -0.092\*\*\* | -0.155\*\*\* | -0.132\*\*\* |
|  | (0.027) | (0.018) | (0.022) | (0.021) |
| Growth | -0.024\* | 0.027\* | 0.050\*\* | 0.045\*\* |
|  | (0.015) | (0.014) | (0.020) | (0.018) |
| Pocketbook |  |  |  | 0.030\*\*\* |
| Evaluations |  |  |  | (0.005) |
| Sociotropic |  |  |  | 0.223\*\*\* |
| Evaluations |  |  |  | (0.007) |
|  |  |  |  |  |
| Constant | 3.387\*\*\* | 2.243\*\*\* | 2.336\*\*\* | 1.734\*\*\* |
|  | (0.155) | (0.141) | (0.206) | (0.187) |
| AIC | 102578.6 | 79344.72 | 89690.22 | 88604.61 |
| BIC | 102677.2 | 79443.33 | 89788.83 | 88719.66 |
| Observations |  |  |  |  |
| (Individuals | 27,381 | 27,381 | 27,381 | 27,381 |
| Groups) | 28 | 28 | 28 | 28 |

*Notes*: Models 1-4 present coefficients from hierarchical linear models where individuals are nested in countries with standard errors in parentheses. The baseline category for settlement status is urban. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: 2006 Life in Transition Survey (LiTS).

**Table C.2:** Nearest Neighbor Matching Results

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Pocketbook Assessments** | | | **Sociotropic Assessments** | | **Trust in the**  **President** | | |
|  | **Coefficients** | | **Standard**  **Error** | **Coefficients** | **Standard**  **Error** | **Coefficients** | | **Standard**  **Error** |
| Remittances | 0.300 | | 0.056 | 0.103 | 0.038 | 0.089 | | 0.046 |
|  | **Means** | | | | | | | |
|  | **Raw** | **Matched** | | **Raw** | **Matched** | **Raw** | **Matched** | |
| Employed | 0.44 | 0.33 | | 0.44 | 0.33 | 0.44 | 0.33 | |
| Education | 1.94 | 1.92 | | 1.94 | 1.92 | 1.94 | 1.92 | |
| Age | 46.88 | 43.80 | | 46.88 | 43.80 | 46.88 | 43.80 | |
| Male | 0.417 | 0.371 | | 0.417 | 0.371 | 0.417 | 0.371 | |
| Wealth | 2.32 | 1.52 | | 2.32 | 1.52 | 2.32 | 1.52 | |
| Rural | 0.42 | 0.54 | | 0.42 | 0.54 | 0.42 | 0.54 | |
| Metropolitan | 0.22 | 0.20 | | 0.22 | 0.20 | 0.22 | 0.20 | |
| Growth | 8.312 | 7.447 | | 8.312 | 7.447 | 8.312 | 7.447 | |

Source: 2006 LiTS survey

**Table C.3**: Results from 2010 Wave of LiK Survey

|  |  |
| --- | --- |
|  | **Trust in President** |
| **COVARIATES** | **Model (1)** |
| Receives Remittances | 5.501\* |
|  | (2.994) |
|  |  |
| Primary Education | -0.102 |
|  | (0.263) |
| Secondary Education | -0.179 |
|  | (0.258) |
| University Education | -0.272 |
|  | (0.275) |
| Married | -0.044 |
|  | (0.073) |
| Gender | -0.078 |
|  | (0.052) |
| Age | -0.002 |
|  | (0.002) |
| Ethnicity | -0.204 |
|  | (0.378) |
| Employed | 0.031 |
|  | (0.079) |
| Intent to Migrate | 0.247\*\* |
|  | (0.113) |
| Wealth Index | -0.508 |
|  | (0.325) |
| Household Index | -0.010 |
|  | (0.009) |
| Life Satisfaction | -0.011 |
|  | (0.018) |
| Risk Attitude | -0.006 |
|  | (0.012) |
| Constant | 4.578\*\* |
|  | (1.914) |
|  |  |
| Observations | 829 |
|  |  |
| R2 | 0.74 |

*Notes*: Model 1 presents regression coefficients with standard errors in parentheses based on an OLS regression that regresses trust in the President on receiving remittances with household fixed effects. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010.

**Robustness checks for Table 2 in the manuscript ‘Changes in remittances and changes in trust in President’, Life in Kyrgyzstan panel data**

* Table C.4 replicates the analysis in Table 2 using hierarchical linear models, where individuals are nested by households\*wave observations;
* Table C.5 replicates the analysis in Table 2 controlling for respondents’ employment sector;
* Table C.6 probes the robustness of the results presented in Table 2 using Nearest Neighbor Matching using our dichotomous measure of *Reduction in Remittances*;
* Table C.7probes the robustness of the results presented in Table 2 using Nearest Neighbor Matching using our dichotomous measure of *Reduction in Remittances* and whilematching on other household income shocks.

**Table C.4:** Hierarchical Linear Model Results

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Change in Trust in President t-(t-1)** | | |
| **COVARIATES** | **Model (1)** | **Model (2)** | **Model (3)** |
| Change in Amount of |  |  |  |
| Remittances t-(t-1) | 0.033\*\* |  |  |
|  | (0.014) |  |  |
| Change in Frequency of |  | 0.067\*\*\* |  |
| Remittances t-(t-1) |  | (0.022) |  |
|  |  |  |  |
| Change in Remittances |  |  | 0.046\*\* |
| Index t-(t-1) |  |  | (0.017) |
|  |  |  |  |
| Primary Education | 0.123 | 0.191 | 0.111 |
|  | (0.323) | (0.322) | (0.323) |
| Secondary Education | 0.019 | 0.062 | 0.017 |
|  | (0.307) | (0.306) | (0.307) |
| University Education | 0.241 | 0.263 | 0.237 |
|  | (0.326) | (0.325) | (0.326) |
| Married | -0.080 | -0.091 | -0.090 |
|  | (0.084) | (0.084) | (0.084) |
| Gender | 0.034 | 0.027 | 0.028 |
|  | (0.068) | (0.068) | (0.068) |
| Age | 0.006\*\* | 0.006\*\* | 0.006\*\* |
|  | (0.002) | (0.002) | (0.002) |
| Ethnicity | -0.075 | -0.082 | -0.075 |
|  | (0.083) | (0.083) | (0.083) |
| Employed | 0.073 | 0.051 | 0.060 |
|  | (0.090) | (0.090) | (0.090) |
| Intention to Migrate | -0.109 | -0.115 | -0.125 |
|  | (0.146) | (0.146) | (0.146) |
| Wealth Index | -0.026\*\*\* | -0.021\*\* | -0.025\*\*\* |
|  | (0.009) | (0.009) | (0.009) |
| Household Income | -0.0004\*\* | -0.0004\* | -0.0004\* |
|  | (0.0002) | (0.0002) | (0.0002) |
| Life Satisfaction | 0.049\*\*\* | 0.051\*\*\* | 0.049\*\*\* |
|  | (0.016) | (0.016) | (0.016) |
| Risk Attitude | 0.018 | 0.016 | 0.020 |
|  | (0.013) | (0.013) | (0.013) |
| Constant | -0.150 | -0.247 | -0.165 |
|  | (0.357) | (0.356) | (0.357) |
|  |  |  |  |
| AIC/  BIC | 4114.911/  4202.632 | 4056.633/  4144.169 | 4113.596/  4201.317 |
| Observations | 1,287 | 1,273 | 1,287 |
| Number of groups | 346 | 344 | 346 |

*Notes*: Models 1-3 present regression coefficients with standard errors in parentheses based on a HLM where individuals are nested in household\*wave observations. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table C.5:** Controlling for Employment Sector

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Change in Trust in President t-(t-1)** | | | |
| **COVARIATES** | | **Model (1)** | **Model (2)** | | **Model (3)** |
| Change in Amount of | 0.047\*\* | | |  |  |
| Remittances t-(t-1) | (0.019) | | |  |  |
|  |  | | |  |  |
| Change in Frequency of |  | | | 0.072\*\* |  |
| Remittances t-(t-1) |  | | | (0.032) |  |
|  |  | | |  |  |
| Change in Remittances |  | | |  | 0.065\*\*\* |
| Index t-(t-1) |  | | |  | (0.023) |
|  | |  |  | |  |
| Agricultural Sector | | -0.292 | -0.337 | | -0.369 |
|  | | (0.316) | (0.315) | | (0.316) |
| Manufacturing Sector | | 0.052 | -0.207 | | 0.061 |
|  | | (0.331) | (0.335) | | (0.330) |
| Construction Sector | | 0.207 | 0.209 | | 0.178 |
|  | | (0.351) | (0.363) | | (0.351) |
| Trade Sector | | -0.119 | -0.149 | | -0.156 |
|  | | (0.385) | (0.383) | | (0.384) |
| Transport Sector | | 0.527 | 0.488 | | 0.476 |
|  | | (0.418) | (0.416) | | (0.418) |
| Education Sector | | -0.038 | -0.042 | | -0.047 |
|  | | (0.201) | (0.202) | | (0.201) |
| Social Work Sector | | 0.057 | 0.061 | | 0.051 |
|  | | (0.277) | (0.276) | | (0.277) |
| Other Sector | | -0.061 | -0.117 | | -0.063 |
|  | | (0.198) | (0.197) | | (0.197) |
| Primary Education | | 0.260 | 0.297 | | 0.249 |
|  | | (0.413) | (0.412) | | (0.413) |
| Secondary Education | | 0.418 | 0.422 | | 0.419 |
|  | | (0.399) | (0.397) | | (0.398) |
| University Education | | 0.523 | 0.522 | | 0.530 |
|  | | (0.435) | (0.434) | | (0.435) |
| Married | | -0.046 | -0.071 | | -0.064 |
|  | | (0.111) | (0.111) | | (0.111) |
| Gender | | -0.034 | -0.024 | | -0.032 |
|  | | (0.076) | (0.076) | | (0.076) |
| Age | | 0.008\*\*\* | 0.008\*\*\* | | 0.008\*\*\* |
|  | | (0.003) | (0.003) | | (0.003) |
| Ethnicity | | 0.131 | 0.150 | | 0.160 |
|  | | (0.503) | (0.501) | | (0.503) |
| Intent to Migrate | | -0.050 | -0.079 | | -0.089 |
|  | | (0.175) | (0.174) | | (0.175) |
| Wealth Index | | -0.012 | -0.008 | | -0.011 |
|  | | (0.018) | (0.018) | | (0.018) |
| Household Income | | -0.0006\* | -0.0004 | | -0.0005 |
|  | | (0.0003) | (0.000) | | (0.000) |
| Life Satisfaction | | 0.067\*\*\* | 0.0631\*\* | | 0.065\*\*\* |
|  | | (0.025) | (0.025) | | (0.025) |
| Risk Attitude | | 0.023 | 0.019 | | 0.026 |
|  | | (0.018) | (0.018) | | (0.018) |
| Constant | | 0.299 | 0.242 | | 0.263 |
|  | | (1.072) | (1.067) | | (1.071) |
|  | |  |  | |  |
| Observations (Indi- | | 1,287 | 1,273 | | 1,287 |
| viduals, Groups) | | 866 | 864 | | 866 |
| R2 Between | | 0.59 | 0.58 | | 0.59 |

Notes: Models 1 to 3 present regression coefficients with standard errors in parentheses based on a panel data GLS model that regresses changes in trust in the President on changes in the remittances received, includes household and survey wave fixed effects and accounts for random effects varying at the individual level with standard errors in parentheses. Being illiterate is the reference category for education, and either being unemployed or not part of the labor force is the reference category for employment sector. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table C.6:** Nearest Neighbor Matching Results

|  |  |  |
| --- | --- | --- |
|  | **Change in Trust in President t-(t-1)** | |
|  | **Coefficient** | **Standard error** | |
| Reduction in Remittances | -0.150 | 0.085 | |
|  | **Means** | | |
|  | **Raw** | **Matched** | |
| Agricultural Sector | 0.02 | 0.02 | |
| Manufacturing Sector | 0.2 | 0.01 | |
| Construction Sector | 0.02 | 0.01 | |
| Trade Sector | 0.01 | 0.01 | |
| Transport Sector | 0.01 | 0.01 | |
| Education Sector | 0.05 | 0.05 | |
| Social Work Sector | 0.03 | 0.02 | |
| Other Sector | 0.05 | 0.03 | |
| Primary Education | 0.08 | 0.08 | |
| Secondary Education | 0.80 | 0.80 | |
| University Education | 0.10 | 0.11 | |
| Married | 0.77 | 0.78 | |
| Gender | 0.43 | 0.44 | |
| Age | 44.61 | 44.16 | |
| Ethnicity | 0.77 | 0.67 | |
| Intent to Migrate | 0.06 | 0.06 | |
| Wealth Index | 10.00 | 9.43 | |
| Household Income | 232.89 | 189.62 | |
| Life Satisfaction | 6.54 | 6.35 | |
| Risk Attitude | 4.85 | 4.20 | |

Notes: Being illiterate is the reference category for education, and either being unemployed or not part of the labor force is the reference category for employment sector. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table C.7:** Nearest Neighbor Matching Results Including Matching on Other Household Income Shocks

|  |  |  |
| --- | --- | --- |
|  | **Change in Trust in President t-(t-1)** | |
|  | **Coefficient** | **Standard error** | |
| Reduction in Remittances | -0.155 | 0.086 | |
|  | **Means** | | |
|  | **Raw** | **Matched** | |
| Agricultural Loss | 0.16 | 0.09 | |
| Affected by Landslides | 0.13 | 0.11 | |
| Agricultural Sector | 0.02 | 0.02 | |
| Manufacturing Sector | 0.2 | 0.01 | |
| Construction Sector | 0.02 | 0.01 | |
| Trade Sector | 0.01 | 0.01 | |
| Transport Sector | 0.01 | 0.01 | |
| Education Sector | 0.05 | 0.05 | |
| Social Work Sector | 0.03 | 0.02 | |
| Other Sector | 0.05 | 0.03 | |
| Primary Education | 0.08 | 0.08 | |
| Secondary Education | 0.80 | 0.80 | |
| University Education | 0.10 | 0.11 | |
| Married | 0.77 | 0.78 | |
| Gender | 0.43 | 0.44 | |
| Age | 44.61 | 44.16 | |
| Ethnicity | 0.77 | 0.67 | |
| Intent to Migrate | 0.06 | 0.06 | |
| Wealth Index | 10.00 | 9.43 | |
| Household Income | 232.89 | 189.62 | |
| Life Satisfaction | 6.54 | 6.35 | |
| Risk Attitude | 4.85 | 4.20 | |
| Wave 12 | 0.40 | 0.37 | |
| Wave 13 | 0.27 | 0.29 | |

Notes: Being illiterate is the reference category for education, and either being unemployed or not part of the labor force is the reference category for employment sector. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Robustness checks for Table B2 in the SI (Figure 3 in the manuscript - ‘The effect of household shocks on trust in the president’), Life in Kyrgyzstan panel data**

* Table C.8 replicates the analysis presented in Table B.2 of the SI using hierarchical linear models, where individuals are nested by households\*wave observations;
* Table C.9 replicates the analysis presented in Table B.2 of the SI controlling for employment sector;
* Table C.10 probes the robustness of the results using Nearest Neighbor Matching.

**Table C.8:** Hierarchical Linear Model Results

|  |  |
| --- | --- |
|  | **Change in Trust in President t-(t-1)** |
| **COVARIATES** | **Model (1)** |
| Reduction in Remittances | -0.141\* |
|  | (0.075) |
| Agricultural Loss | -0.349\*\*\* |
|  | (0.102) |
| Affected by Landslides | -0.223\*\* |
|  | (0.105) |
|  |  |
| Primary Education | 0.078 |
|  | (0.322) |
| Secondary Education | 0.007 |
|  | (0.306) |
| University Education | 0.213 |
|  | (0.325) |
| Married | -0.093 |
|  | (0.083) |
| Gender | 0.024 |
|  | (0.068) |
| Age | 0.006\*\*\* |
|  | (0.002) |
| Ethnicity | -0.054 |
|  | (0.083) |
| Employed | 0.044 |
|  | (0.090) |
| Intent to Migrate | -0.135 |
|  | (0.146) |
| Wealth Index | -0.017\* |
|  | (0.009) |
| Total Income | -0.0004\*\* |
|  | (0.0002) |
| Life Satisfaction | 0.049\*\*\* |
|  | (0.016) |
| Risk Attitude | 0.020 |
|  | (0.013) |
| Constant | -0.113 |
|  | (0.357) |
|  |  |
| AIC/  BIC | 4106.398/  4204.439 |
| Observations (Indi- | 1,287 |
| viduals, Groups) | 346 |

*Notes*: Model 1 presents regression coefficients with standard errors in parentheses based on a HLM that regresses changes in trust in the President on various household shocks (reduction in remittances, agricultural profit loss and being affected by landslides), while nesting individuals in household\*wave observations. Being Illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table C.9:** Controlling for Employment Sector

|  |  |
| --- | --- |
|  | **Change in Trust in President t-(t-1)** |
| **COVARIATES** | **Model (1)** |
| Reduction in Remittances | -0.250\*\* |
|  | (0.107) |
| Agricultural Loss | -0.625\*\*\* |
|  | (0.195) |
| Affected by Landslides | -0.306\* |
|  | (0.177) |
|  |  |
| Agricultural Sector | -0.348 |
|  | (0.315) |
| Manufacturing Sector | -0.083 |
|  | (0.329) |
| Construction Sector | 0.214 |
|  | (0.350) |
| Trade Sector | -0.120 |
|  | (0.383) |
| Transport Sector | 0.508 |
|  | (0.416) |
| Education Sector | -0.015 |
|  | (0.201) |
| Social Work Sector | 0.069 |
|  | (0.276) |
| Other Sector | -0.077 |
|  | (0.197) |
| Primary Education | 0.293 |
|  | (0.411) |
| Secondary Education | 0.454 |
|  | (0.397) |
| University Education | 0.569 |
|  | (0.433) |
| Married | -0.070 |
|  | (0.111) |
| Gender | -0.033 |
|  | (0.076) |
| Age | 0.008\*\*\* |
|  | (0.003) |
| Ethnicity | 0.163 |
|  | (0.501) |
| Intent to Migrate | -0.119 |
|  | (0.175) |
| Wealth Index | 0.009 |
|  | (0.018) |
| Total Income | -0.001\* |
|  | (0.0002) |
| Life Satisfaction | 0.058\*\* |
|  | (0.025) |
| Risk Attitude | 0.026 |
|  | (0.018) |
| Constant | 0.088 |
|  | (1.068) |
|  |  |
| Observations (Indi- | 1,287 |
| viduals, Groups) | 866 |
| R2 Between | 0.58 |

*Notes*: Model 1 presents regression coefficients with standard errors in parentheses based on a panel data GLS model that regresses changes in trust in the President on various household shocks (reduction in remittances, agricultural profit loss and being affected by landslides), includes household and survey wave fixed effects and random effects varying at the individual level with standard errors in parentheses. Being illiterate is the reference category for education, and either being unemployed or not part of the labor force for sector employment. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table C.10:** Nearest Neighbor Matching Results

|  |  |  |
| --- | --- | --- |
|  | **Change in Trust in President t-(t-1)** | |
|  | **Coefficient** | **Standard error** | |
| Reduction in Remittances | -0.155 | 0.086 | |
|  | **Means** | | |
|  | **Raw** | **Matched** | |
| Agricultural Loss | 0.16 | 0.09 | |
| Affected by Landslides | 0.13 | 0.11 | |
| Agriculture Sector | 0.02 | 0.02 | |
| Manufacturing Sector | 0.02 | 0.01 | |
| Construction Sector | 0.02 | 0.01 | |
| Trade Sector | 0.01 | 0.01 | |
| Transport Sector | 0.01 | 0.01 | |
| Education Sector | 0.05 | 0.05 | |
| Social Work Sector | 0.03 | 0.02 | |
| Other Sector | 0.05 | 0.03 | |
| Primary Education | 0.08 | 0.08 | |
| Secondary Education | 0.80 | 0.80 | |
| University Education | 0.10 | 0.11 | |
| Married | 0.77 | 0.78 | |
| Gender | 0.43 | 0.44 | |
| Age | 44.61 | 44.16 | |
| Ethnicity | 0.77 | 0.67 | |
| Intent to Migrate | 0.06 | 0.06 | |
| Wealth Index | 10.00 | 9.43 | |
| Household Income | 232.89 | 189.62 | |
| Life Satisfaction | 6.54 | 6.34 | |
| Risk Attitude | 4.85 | 4.20 | |
| Wave 12 | 0.40 | 0.37 | |
| Wave 13 | 0.27 | 0.29 | |

Notes: Being illiterate is the reference category for education, and either being unemployed or not part of the labor force is the reference category for employment sector. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Robustness checks for Table 3 in the manuscript ‘Changes in remittances and concern about personal economic situation, Life in Kyrgyzstan panel data**

* Table C.11 replicates the analysis presented in Table 3 of the manuscript using a hierarchical linear model, where individuals are nested by households\*wave observations;
* Table C.12 replicates the analysis presented in Table 3 of the manuscript controlling for employment sector;
* Table C.13 probes the robustness of the results using Nearest Neighbor Matching.

**Table C.11:** Hierarchical Linear Model Results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Change in Economic Concern t-(t-1)** | | | |
| **COVARIATES** | | **Model (1)** | **Model (2)** | | **Model (3)** |
| Change in Amount of | -0.063\* | | |  |  |
| Remittances t-(t-1) | (0.034) | | |  |  |
|  |  | | |  |  |
| Change in Frequency of |  | | | -0.209\*\*\* |  |
| Remittances t-(t-1) |  | | | (0.056) |  |
|  |  | | |  |  |
| Change in Remittances |  | | |  | -0.035 |
| Index t-(t-1) |  | | |  | (0.043) |
|  | |  |  | |  |
| Primary Education | | 0.114 | -0.060 | | 0.109 |
|  | | (0.788) | (0.788) | | (0.789) |
| Secondary Education | | 0.223 | 0.133 | | 0.210 |
|  | | (0.752) | (0.752) | | (0.752) |
| University Education | | -0.380 | -0.425 | | -0.409 |
|  | | (0.802) | (0.802) | | (0.802) |
| Married | | -0.131 | -0.119 | | -0.117 |
|  | | (0.206) | (0.206) | | (0.206) |
| Gender | | -0.109 | -0.100 | | -0.100 |
|  | | (0.166) | (0.166) | | (0.166) |
| Age | | -0.007 | -0.007 | | -0.008 |
|  | | (0.006) | (0.006) | | (0.006) |
| Ethnicity | | 0.083 | 0.142 | | 0.081 |
|  | | (0.222) | (0.225) | | (0.221) |
| Employed | | 0.170 | 0.232 | | 0.194 |
|  | | (0.224) | (0.225) | | (0.224) |
| Intent to Migrate | | -0.836\*\* | -0.817\*\* | | -0.820\*\* |
|  | | (0.362) | (0.361) | | (0.362) |
| Wealth Index | | -0.039\* | -0.055\*\* | | -0.041\* |
|  | | (0.024) | (0.024) | | (0.024) |
| Household Income | | 0.0002 | 0.0001 | | 0.0001 |
|  | | (0.0005) | (0.001) | | (0.0005) |
| Life Satisfaction | | 0.073\* | 0.068\* | | 0.076\* |
|  | | (0.041) | (0.041) | | (0.041) |
| Risk Attitude | | 0.008 | 0.013 | | 0.004 |
|  | | (0.032) | (0.032) | | (0.032) |
| Constant | | -0.108 | 0.128 | | -0.067 |
|  | | (0.886) | (0.888) | | (0.886) |
|  | |  |  | |  |
| Observations (Indi- | | 1297 | 1283 | | 1297 |
| viduals, Groups) | | 352 | 350 | | 352 |
| AIC/  BIC | | 6492.524/  6580.377 | 6413.626/  6501.295 | | 6495.243/  6583.096 |

*Notes*: Model 1 through 3 present regression coefficients with standard errors in parentheses based on a HLM that regresses changes in economic concerns on changes in remittances, while nesting individuals in household observations. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013 waves.

**Table C.12:** Controlling for Employment Sector

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Change in Economic Concern t-(t-1)** | | | |
| **COVARIATES** | | **Model (1)** | **Model (2)** | | **Model (3)** |
| Change in Amount of | -0.164\*\*\* | | |  |  |
| Remittances t-(t-1) | (0.045) | | |  |  |
|  |  | | |  |  |
| Change in Frequency of |  | | | -0.242\*\*\* |  |
| Remittances t-(t-1) |  | | | (0.078) |  |
|  |  | | |  |  |
| Change in Remittances |  | | |  | -0.144\*\*\* |
| Index t-(t-1) |  | | |  | (0.056) |
|  | |  |  | |  |
| Agricultural Sector | | 0.097 | 0.238 | | 0.279 |
|  | | (0.758) | (0.756) | | (0.762) |
| Manufacturing Sector | | -0.187 | 0.316 | | -0.123 |
|  | | (0.793) | (0.803) | | (0.796) |
| Construction Sector | | 0.374 | 0.039 | | 0.433 |
|  | | (0.807) | (0.831) | | (0.810) |
| Trade Sector | | -0.370 | -0.329 | | -0.297 |
|  | | (0.867) | (0.864) | | (0.871) |
| Transport Sector | | 0.756 | 0.828 | | 0.852 |
|  | | (0.975) | (0.971) | | (0.978) |
| Education Sector | | 0.464 | 0.474 | | 0.501 |
|  | | (0.485) | (0.488) | | (0.487) |
| Social Work Sector | | 0.711 | 0.697 | | 0.712 |
|  | | (0.667) | (0.664) | | (0.669) |
| Other Sector | | 0.196 | 0.312 | | 0.209 |
|  | | (0.474) | (0.474) | | (0.476) |
| Primary Education | | 0.700 | 0.706 | | 0.705 |
|  | | (0.989) | (0.986) | | (0.992) |
| Secondary Education | | 0.395 | 0.407 | | 0.377 |
|  | | (0.957) | (0.954) | | (0.960) |
| University Education | | -0.087 | -0.080 | | -0.151 |
|  | | (1.044) | (1.041) | | (1.047) |
| Married | | 0.199 | 0.285 | | 0.245 |
|  | | (0.265) | (0.265) | | (0.266) |
| Gender | | 0.062 | 0.064 | | 0.059 |
|  | | (0.182) | (0.182) | | (0.183) |
| Age | | -0.009 | -0.011 | | -0.009 |
|  | | (0.007) | (0.007) | | (0.007) |
| Ethnicity | | -0.172 | -0.250 | | -0.226 |
|  | | (1.208) | (1.203) | | (1.212) |
| Intent to Migrate | | -0.747\* | -0.640 | | -0.653 |
|  | | (0.417) | (0.416) | | (0.419) |
| Wealth Index | | 0.051 | 0.017 | | 0.042 |
|  | | (0.043) | (0.043) | | (0.043) |
| Household Income | | -0.0004 | -0.001 | | -0.001 |
|  | | (0.001) | (0.001) | | (0.001) |
| Life Satisfaction | | -0.050 | -0.037 | | -0.036 |
|  | | (0.060) | (0.060) | | (0.060) |
| Risk Attitude | | 0.028 | 0.025 | | 0.020 |
|  | | (0.044) | (0.044) | | (0.045) |
| Constant | | -3.067 | -2.685 | | -2.953 |
|  | | (2.572) | (2.563) | | (2.581) |
|  | |  |  | |  |
| Observations (Indi- | | 1,297 | 1,283 | | 1,297 |
| viduals, Groups) | | 877 | 875 | | 877 |
| R2 Between | | 0.65 | 0.64 | | 0.64 |

*Notes*: Model 1 through 3 present regression coefficients with standard errors in parentheses based on a panel data GLS model that regresses changes in trust in Economic Concerns changes in the remittances received, includes household and survey wave fixed effects and random effects varying at the individual level with standard errors in parentheses. Being illiterate is the reference category for education, and either being unemployed or not part of the labor force for sector employment. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table C.13:** Nearest Neighbor Matching Analysis

|  |  |  |
| --- | --- | --- |
|  | **Change in Economic Concern t-(t-1)** | |
|  | **Coefficient** | **Standard error** | |
| Reduction in Remittances | 0.372 | 0.208 | |
|  | **Means** | | |
|  | **Raw** | **Matched** | |
| Agricultural Loss | 0.15 | 0.09 | |
| Affected by Landslides | 0.12 | 0.11 | |
| Primary Education | 0.08 | 0.09 | |
| Secondary Education | 0.80 | 0.78 | |
| University Education | 0.10 | 0.11 | |
| Married | 0.77 | 0.77 | |
| Gender | 0.43 | 0.44 | |
| Age | 44.74 | 44.28 | |
| Ethnicity | 0.78 | 0.68 | |
| Employed | 0.20 | 0.15 | |
| Intent to Migrate | 0.06 | 0.06 | |
| Wealth Index | 9.92 | 9.41 | |
| Household Income | 229.94 | 188.67 | |
| Life Satisfaction | 6.52 | 6.39 | |
| Risk Attitude | 4.88 | 4.19 | |
| Wave 12 | 0.39 | 0.36 | |
| Wave 13 | 0.28 | 0.29 | |

*Notes:* Being illiterate is the reference category for education, and either being unemployed or not part of the labor force is the reference category for employment sector. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table C.14:** Nearest Neighbor Matching Analysis

|  |  |  |
| --- | --- | --- |
|  | **Change in Economic Concern t-(t-1)** | |
|  | **Coefficient** | **Standard error** | |
| Reduction in Remittances | 0.359 | 0.203 | |
|  | **Means** | | |
|  | **Raw** | **Matched** | |
| Agricultural Loss | 0.15 | 0.09 | |
| Affected by Landslides | 0.12 | 0.11 | |
| Agriculture Sector | 0.02 | 0.02 | |
| Manufacturing Sector | 0.02 | 0.01 | |
| Construction Sector | 0.02 | 0.01 | |
| Trade Sector | 0.01 | 0.01 | |
| Transport Sector | 0.01 | 0.01 | |
| Education Sector | 0.05 | 0.05 | |
| Social Work Sector | 0.03 | 0.02 | |
| Other Sector | 0.05 | 0.03 | |
| Primary Education | 0.08 | 0.09 | |
| Secondary Education | 0.80 | 0.78 | |
| University Education | 0.10 | 0.11 | |
| Married | 0.77 | 0.77 | |
| Gender | 0.43 | 0.44 | |
| Age | 44.74 | 44.28 | |
| Ethnicity | 0.78 | 0.68 | |
| Intent to Migrate | 0.06 | 0.06 | |
| Wealth Index | 9.92 | 9.41 | |
| Household Income | 229.94 | 188.67 | |
| Life Satisfaction | 6.52 | 6.39 | |
| Risk Attitude | 4.88 | 4.19 | |
| Wave 12 | 0.39 | 0.36 | |
| Wave 13 | 0.28 | 0.29 | |

*Notes:* Being illiterate is the reference category for education, and either being unemployed or not part of the labor force is the reference category for employment sector. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Robustness checks for Table 4 in the manuscript ‘A reduction in remittances on government approval and economic blame attribution’, LiTS II, 2010 data**

Table C.15: We probe the robustness of the results using Nearest Neighbor Matching.

**Table C.15:** Nearest Neighbor Matching Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Government**  **Approval** | | **Economic Blame**  **Attribution** | |
|  | **Coefficient** | **Standard Error** | **Coefficient** | **Standard Error** |
| Remittances Reduced | -0.024 | 0.022 | 0.027 | 0.010 |
|  | **Means** | | | |
|  | **Raw** | **Matched** | **Raw** | **Matched** |
| Worked for Income | 0.54 | 0.41 | 0.54 | 0.41 |
| Education | 2.28 | 2.07 | 2.28 | 2.07 |
| Age | 44.13 | 47.49 | 44.13 | 47.49 |
| Co-habiting | 0.61 | 0.60 | 0.61 | 0.60 |
| Male | 0.39 | 0.40 | 0.39 | 0.40 |
| Wealth Index | 3.48 | 3.14 | 3.48 | 3.14 |
| Life Satisfaction | 3.02 | 2.83 | 3.02 | 2.83 |
| Risk Attitudes | 4.76 | 4.56 | 4.76 | 4.56 |

Source: 2010 LiTS survey.

**Robustness Checks for Table B3 in the SI (Figure 4 in the manuscript)**

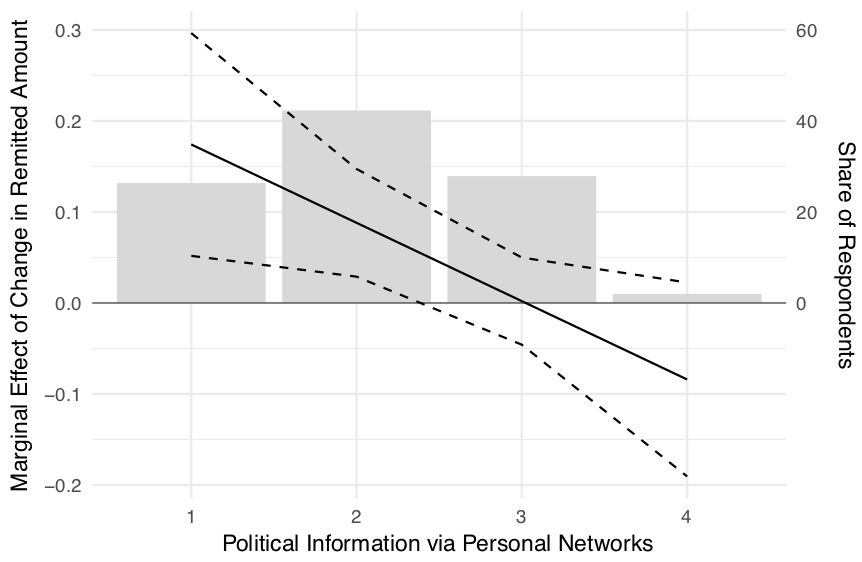
* Table C.16 examines the effect of changes in remittances on trust in the President by political information via personal networks, Kyrgyzstan panel data;
* Figure C.1 presents the graphical presentation of the interaction effect based on the results presented in Table C.15.

**Table C.16:** Examining the effect of changes in remittances on trust in the President by political information via personal networks, Kyrgyzstan panel data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Change in Trust in President t-(t-1)** | | | |
| **COVARIATES** | **Model (1)** | | | |
| Change in Amount of | | | | 0.172\*\*\* |
| Remittances t-(t-1) | | | | (0.061) |
|  | | | |  |
| Political Information via | | | | 0.063 |
| Personal Networks | | | | (0.065) |
|  | | | |  |
| Change Amount Remittances \* Personal Networks | | | | -0.079\*\*  (0.036) |
|  | | | |  |
|  | | | |  |
| Change in Frequency of | | | | 0.070\*\* |
| Remittances t-(t-1) | | | | (0.032) |
| Primary Education | | | 0.264 | |
|  | | | (0.410) | |
| Secondary Education | | | 0.421 | |
|  | | | (0.394) | |
| University Education | | | 0.512 | |
|  | | | (0.429) | |
| Age | | | 0.008\*\*\* | |
|  | | | (0.003) | |
| Gender | | | -0.035 | |
|  | | | (0.074) | |
| Married | | -0.046 | | |
|  | | (0.110) | | |
| Employed | | -0.058 | | |
|  | | | | (0.111) |
| Ethnicity | | | | 0.144 |
|  | | | | (0.497) |
| Intent to Migrate | | | | -0.055 |
|  | | | | (0.173) |
| Wealth Index | | | | -0.013 |
|  | | | | (0.018) |
| Household Income | | | | -0.001\* |
|  | | | | (0.0003) |
| Life Satisfaction | | | 0.064\*\*\* | |
|  | | | (0.025) | |
| Risk Attitude | | | 0.020 | |
|  | | | (0.018) | |
|  | | |  | |
| Household Fixed Effects | | ✓ | | |
|  | | |  | |
| Wave Fixed Effects | | | | ✓ |
|  | | | |  |
| Constant | | | | 0.195 |
|  | | | | (1.060) |
|  | | | |  |
| Observations (Individuals, groups) | | | | 1,271  862 |
| R2 between | | | | 0.59 |

*Notes*: Model 1 presents regression coefficients with standard errors in parentheses based on a dynamic panel data model that regresses changes in trust in the President changes in the amount of remittances interacted with political information, includes household and survey wave fixed effects and accounts for repeated observations per individual with standard errors in parentheses. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Figure C.1**: Examining the effect of changes in remittances on trust in the President by political information via personal networks, Kyrgyzstan panel data



Notes: The figure presents the marginal effect of changes in the amount of remittances on changes in trust in the President at different levels of access to political information via personal networks with 95 per cent confidence intervals based on a panel GLS estimation with random effects varying across individuals and household and wave fixed effects based on Table C.15. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Section D: Additional Analysis**

**D1: Instrumental Variable Regressions**

The findings reported in the manuscript suggest that fluctuations in remittances influence incumbent approval. In limiting the analysis to remittance recipients only, we are able to address concerns regarding unobserved differences between households with and without remittances. This is an advantage of our work, as remittance-recipient households differ in significant ways from households that do not receive remittances. Moreover, the empirical approach we adopt in the manuscript looks at how changes in remittances affect changes in support for the president (we regress the first differences of political trust on the first differences of the amount of remittances households receive from abroad), while controlling for levels of income, household wealth, education, and ethnicity. These controls help us isolate the effect of remittances on the outcomes of interests.

In addition, models use household and survey wave (year) fixed effects and random effects varying at the individual level. Household fixed effects help isolate the effect of omitted variables that are constant over time, but which vary across households. Survey wave (or year) fixed effects help isolate the effect of omitted variables that are constant across households but vary over time (such as economic performance in Kyrgyzstan, or in immigrant host economies for example). Household dummies take out all between-household variation, just like year dummies take out all between-year variation.

Yet, we may still be concerned that the amount of remittances households receive is correlated with broader economic conditions in Kyrgyzstan, that are simultaneously affecting support for the president. Existing research suggests that remittances respond to (random) income shocks in immigrant sending economies (Yang and Choi, 2007; Singer 2010; Kapur 2004; Agarwal and Horowitz 2002; Mahopatra et al. 2009; Page and Plaza 2006). If positive performance in immigrant sending economies, however, were the cause of lower remittances, we could anticipate declines in remittances to be associated with higher, and not lower support for the President. Moreover, and as already noted, time, or wave fixed effects, help us control for variables that evolve over time, such as economic performance in immigrant sending economies.

To further address endogeneity concerns, we also employ an instrumental variable (IV) regression. As an instrument, we use year-to-year changes in unemployment in Russia – the major destination country for Kyrgyz immigrants - interacted with (or weighted by) the share of females in the household. Because of the lack of affordable child and elderly care, women in Kyrgyzstan have a lower probability of finding a job than men. For years, women in the country have had longer unemployment spells, higher unemployment rates and lower participation in the labor market.[[4]](#footnote-4) We thus assume that immigrants in households with a larger share of women will remit more than immigrants with a lower share of women. To estimate the ratio of women in the household, we divide the total number of women in any household by the total number of household members. This instrument is correlated with the amount of remittances households receive and is only expected to affect support for the government in the Kyrgyz case through its effect on remittances. Data on unemployment come from the Russian Economic Report published by the World Bank in 2015.[[5]](#footnote-5) While we expect changes in unemployment levels in Russia to be highly correlated with the amount of remitted income into Kyrgyzstan, we are less certain about the expected sign. Increases in unemployment could decrease the amount of remitted income, but also increase it, as during periods of economic contraction, labor may be displaced to the informal sector, or the shadow economy. It is particularly telling that during the recent period of economic decline in Russia (between 2015 and 2016 growth in Russia was -2.8 and -.2 respectively) the informal sector in the country grew to record levels. This is important as several Kyrgyz migrants in Russia are employed in this shadow sector, or occupy multiple, short-term contracts, not always reported to the authorities. Immigrants can even be paid under the table, in legally registered companies. The Russian Federal Statistical Service also estimates that from 2010 to 2013, i.e. the period covered in our data the informal sector increased from 16.4 to 19.7 percent of the workforce in the country.[[6]](#footnote-6) While the instrument also incorporates the idea, common in previous studies, that growth in immigrants’ host country is likely to be a key driver of remittances (e.g. Singer, 2012, Acosta et al. 2008, Doyle 2015; Barajas et al. 2009), it is better adjusted to the individual-level panel data we employ for this analysis by weighting it by household characteristics.

We report the second-stage results from the IV regressions in Table D.1. The coefficient for the instrument from the first-stage regressions in Model 1 is positive and statistically significant [1.046, 95% CI (0.610, 1.482)]. The F-statistic for the instrument is approximately 22, well above the suggested threshold of 10 (e.g. Staiger and Stock 1997, Stock and Yogo 2005). The results presented in Model 1 in Table D.1 indicate that remittances have a significant positive effect on support for the president. The instrumented remittances variable is positively signed, and statistically significant. This increases confidence in the robustness of our main results.

It is also important to acknowledge that economic performance in Russia, which we proxy with unemployment in the country, may also have a direct impact on Kyrgyz politics, over and above any indirect impact they could have on remittance flows. Economic performance in Russia for example, is likely to be correlated with trade flows with Kyrgyzstan, which in turn would be expected to have an independent impact on presidential approval. To account for this, we replicate the IV analysis in Model 2 in Table D.1 controlling for trade-export generated income at the oblast level in Kyrgyzstan. Oblasts in Kyrgyzstan are the administrative equivalent of US states, or Russian regions. The assumption here is that regions more heavily dependent on exports would suffer more in the event of a downturn in the Russian Federation. Data on regional exports come from the National Statistics Committee of the Kyrgyz Republic and are available for download here: <http://www.stat.kg/ru/opendata/category/2/>. The results remain robust when we control for trade-export generated income at the oblast level in Kyrgyzstan, see Model 2 in Table D.1.

**Table D.1**: Results from Instrumental Variable Analysis, 2nd stage regressions

|  |  |  |
| --- | --- | --- |
|  | **Female-to-Male Ratio in Household Weighted by Annual Change in Russian Unemployment** | |
| **COVARIATES** | **Model (1)** | **Model (2)** |
| Instrumented Change in Amount of Remittances t-(t-1) | 0.281\*\*  (0.132) | 0.309\*\*  (0.138) |
| Primary Education | 0.159 | 0.103 |
|  | (0.445) | (0.450) |
| Secondary Education | 0.337  (0.428) | 0.291  (0.433) |
| University Education | 0.321  (0.476) | 0.251  (0.483) |
| Gender | -0.036  (0.079) | -0.067  (0.083) |
| Age | 0.005 | 0.006\* |
|  | (0.003) | (0.003) |
| Married | 0.017 | 0.056 |
|  | (0.123) | (0.128) |
| Ethnicity | 0.148 | 0.520 |
|  | (0.537) | (0.683) |
| Employed | 0.055 | 0.095 |
|  | (0.125) | (0.133) |
| Intention to Migrate | 0.034 | 0.078 |
|  | (0.192) | (0.205) |
| Wealth Index | -0.037\* | -0.037\* |
|  | (0.019) | (0.020) |
| Household Income | -0.001\*\*\* | -0.001\*\* |
|  | (0.0004) | (0.0004) |
| Risk Attitude | 0.017 | 0.029 |
|  | (0.020) | (0.021) |
| Life Satisfaction | 0.103\*\*\* | 0.097\*\*\* |
|  | (0.031) | (0.034) |
| Regional Exports |  | 0.003\* |
|  |  | (0.001) |
|  |  |  |
| F-Test | 22.14 | 19.52 |
|  |  |  |
| Observations | 1,239 | 1,153 |

*Notes*: Notes: Table entries are second-stage coefficients from an instrumental variable regression. We implement the analysis using the xtivreg2 package in Stata. Being illiterate is the reference category for education. Standard errors in parentheses, significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level.

**D2 Evaluating the Mechanism**

In our study we theoretically argued and empirically demonstrate that changes in remittances drive fluctuations in economic optimism and evaluations of the incumbent. We have also suggested that this relationship can be understood as a form of misattribution, in the sense that voters are rewarding or punishing incumbents for economic developments originating from elsewhere. While this behavior is rational, particularly in a context where economic performance is largely driven by exogenous shocks, it has implications for the economic vote as an instrument of accountability. There may be another mechanism at work here however, where households update their evaluations of incumbent competence, because they think the incumbent facilitates, or hinders remittance transfers. If that were the case, we would expect that fluctuations in remittances should exclusively influence support for the president. Yet, as we show in Table D.2 below, fluctuations in remittances also influence support for local community leaders. Arguably, it is unlikely that local community leaders could manipulate remittance inflows, or that voters would expect them to, as they lack authority to manipulate the official exchange rate or to introduce schemes to encourage migrants to remit more.

One could argue that households affected by a decline in remittances are holding incumbents accountable for either failing to prevent declines in remittances, and/or for failing to ‘treat’ the welfare consequences of the decline. As Ashworth, Bueno de Mesquita and Friedenberg (2018) have argued, even exogenous shocks provide an opportunity for voters to learn new information about an incumbent. Here the change in remittances would be such a shock, and the ability of the government to respond to this shock, or their preparedness to compensate its consequences could give voters new information about the incumbent (e.g. Acevedo 2016). As such, voters who experience a decline in remittances may disapprove of the incumbent not because of a mechanism underpinned by misattribution, but one rooted in an increased need for national public services. If this were the case, voters could be punishing governments for their response to the exogenous shock, rather than for the decline in remittances. This is what we call the *treatment responsibility* mechanism (Javeline 2003). Yet as shown in Tables D.3 and D.4, we find little empirical support for the argument that households that experience a decline in remittances increase their demand for public safety nets, in the form of welfare provision or public goods using the LiK panel data. Moreover, leveraging evidence from the 2010 LiTS Surveys, we show in Table D.5 that satisfaction with the provision of welfare benefits that does moderate responsibility attributions for the decline in remitted income households experience to the incumbent.

**Table D.2**: Fluctuations in remittances also influence support for local community leaders

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Change in Trust in Local Community Leaders t-(t-1)** | | |
| **COVARIATES** | **Model (1)** | **Model (2)** | **Model (3)** |
| Change in Amount of | 0.290\*\*\* |  |  |
| Remittances t-(t-1) | (0.075) |  |  |
|  |  |  |  |
| Change in Frequency of |  | 0.096\*\* |  |
| Remittances t-(t-1) |  | (0.038) |  |
|  |  |  |  |
| Change in Remittances |  |  | 0.085\*\*\* |
| Index t-(t-1) |  |  | (0.027) |
|  |  |  |  |
| Primary Education | 0.057 | 0.126 | 0.077 |
|  | (0.450) | (0.453) | (0.452) |
| Secondary Education | -0.002 | 0.016 | 0.028 |
|  | (0.435) | (0.438) | (0.437) |
| University Education | 0.149 | 0.191 | 0.199 |
|  | (0.467) | (0.470) | (0.469) |
| Gender | -0.078 | -0.062 | -0.074 |
|  | (0.077) | (0.077) | (0.077) |
| Age | -0.0004 | 0.001 | 0.0004 |
|  | (0.003) | (0.003) | (0.003) |
| Ethnicity | -0.262 | -0.219 | -0.200 |
|  | (0.461) | (0.464) | (0.463) |
| Married | 0.087 | 0.051 | 0.050 |
|  | (0.120) | (0.120) | (0.120) |
| Employed | -0.056 | -0.020 | -0.080 |
|  | (0.112) | (0.114) | (0.112) |
| Intention to Migrate | 0.253 | 0.206 | 0.189 |
|  | (0.177) | (0.178) | (0.177) |
| Wealth Index | -0.002 | 0.009 | 0.001 |
|  | (0.026) | (0.026) | (0.026) |
| Household Income | -0.002\*\*\* | -0.002\*\*\* | -0.002\*\*\* |
|  | (0.0004) | (0.001) | (0.0004) |
| Life Satisfaction | 0.053\*\*\* | 0.047\* | 0.057\*\* |
|  | (0.025) | (0.025) | (0.025) |
| Risk Attitude | -0.025 | -0.035\* | -0.029 |
|  | (0.020) | (0.020) | (0.020) |
| Constant | -0.051 | -0.247 | -0.175 |
|  | (0.983) | (0.989) | (0.986) |
|  |  |  |  |
| Fixed Effects | ✓ | ✓ | ✓ |
| Household | ✓ | ✓ | ✓ |
| Survey Wave |  |  |  |
| Observations (Individuals, | 882 | 877 | 882 |
| Groups) | 661 | 660 | 661 |
| R2  Between | 0.71 | 0.70 | 0.70 |

*Notes*: Models 1 through 3 present regression coefficients with standard errors in parentheses based on a dynamic panel data model that regresses changes in trust in local community leaders on changes in remittances, includes household and survey wave fixed effects and accounts for repeated observations per individual with standard errors in parentheses. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2010-2013.

**Table D.3**: Changes in remittances and satisfaction with public service provision, Kyrgyzstan panel data wave 2013

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Satisfaction with Public Services Provision** | | | | | | |
| **COVARIATES** | | **Model (1)** | | **Model (2)** | | **Model (3)** | | |
| Change in Amount of | | -0.586 | |  | |  |
| Remittances t-(t-1) | | (0.612) | |  | |  |
|  | |  | |  | |  |
| Change in Frequency of | |  | | -0.527 | |  |
| Remittances t-(t-1) | |  | | (0.570) | |  |
|  | |  | |  | |  |
| Change in Remittances | |  | |  | | -0.168 |
| Index t-(t-1) | |  | |  | | (0.176) |
|  | |  | |  | |  | | |
| Primary Education | | 0.385 | | 0.387 | | 0.385 | | |
|  | | (0.418) | | (0.419) | | (0.418) | | |
| Secondary Education | | 0.225 | | 0.221 | | 0.225 | | |
|  | | (0.408) | | (0.409) | | (0.408) | | |
| University Education | | 0.332 | | 0.376 | | 0.332 | | |
|  | | (0.454) | | (0.457) | | (0.454) | | |
| Married | | -0.039 | | -0.038 | | -0.039 | | |
|  | | (0.123) | | (0.123) | | (0.123) | | |
| Gender | | -0.019 | | -0.011 | | -0.019 | | |
|  | | (0.074) | | (0.075) | | (0.074) | | |
| Age | | 0.001 | | 0.0002 | | 0.001 | | |
|  | | (0.003) | | (0.003) | | (0.003) | | |
| Ethnicity | | -6.950 | | -11.430 | | -3.654 | | |
|  | | (7.339) | | (12.193) | | (4.480) | | |
| Employed | | 0.232 | | 0.232 | | 0.232 | | |
|  | | (0.141) | | (0.144) | | (0.141) | | |
| Intent to Migrate | | 0.149 | | 0.141 | | 0.149 | | |
|  | | (0.228) | | (0.229) | | (0.228) | | |
| Wealth Index | | 0.202 | | -0.247 | | 0.051 | | |
|  | | (0.197) | | (0.323) | | (0.106) | | |
| Household Income | | -0.018 | | -0.020 | | -0.006 | | |
|  | | (0.023) | | (0.025) | | (0.012) | | |
| Life Satisfaction | | -0.070 | | -0.068 | | -0.070 | | |
|  | | (0.042) | | (0.043) | | (0.042) | | |
| Risk Attitude | | -0.059\*\* | | -0.061\*\* | | -0.059\*\* | | |
|  | | (0.026) | | (0.026) | | (0.026) | | |
| Constant | | 10.022 | | 17.167 | | 6.947 | | |
|  | | (7.944) | | (15.482) | | (5.338) | | |
| Fixed Effects | |  | |  | |  | | |
| *Household* | | ✓ | | ✓ | | ✓ | | |
|  | |  | |  | |  | | |
| Observations | | 341 | | 334 | | 341 | | |
| Adjusted R2 | | 0.42 | | 0.42 | | 0.42 | | |

*Notes*: Models 1 through 3 present regression coefficients with standard errors in parentheses based on an ordinary least squares (OLS) estimation with household fixed effects. For full results see Table D.4 and for robustness checks, see Tables D.5 of the SI. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2012-2013.

**Table D.4**: We Replicate Table D.3 Using a Hierarchical Linear Model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Satisfaction with Public Services Provision** | | | |
| **COVARIATES** | | **Model (1)** | **Model (2)** | | **Model (3)** |
| Change in Amount of | 0.009 | | |  |  |
| Remittances t-(t-1) | (0.011) | | |  |  |
|  |  | | |  |  |
| Change in Frequency of |  | | | -0.038 |  |
| Remittances t-(t-1) |  | | | (0.031) |  |
|  |  | | |  |  |
| Change in Remittances |  | | |  | -0.022 |
| Index t-(t-1) |  | | |  | (0.024) |
|  | |  |  | |  |
| Primary Education | | 0.237 | 0.211 | | 0.234 |
|  | | (0.349) | (0.351) | | (0.349) |
| Secondary Education | | -0.041 | -0.079 | | -0.046 |
|  | | (0.334) | (0.336) | | (0.333) |
| University Education | | 0.065 | 0.054 | | 0.064 |
|  | | (0.364) | (0.368) | | (0.364) |
| Married | | 0.076 | 0.076 | | 0.073 |
|  | | (0.088) | (0.089) | | (0.088) |
| Gender | | -0.064 | -0.058 | | -0.066 |
|  | | (0.067) | (0.068) | | (0.067) |
| Age | | -0.001 | -0.002 | | -0.001 |
|  | | (0.002) | (0.002) | | (0.002) |
| Ethnicity | | -0.047 | -0.065 | | -0.049 |
|  | | (0.129) | (0.131) | | (0.129) |
| Employed | | 0.201\* | 0.192\* | | 0.192\* |
|  | | (0.107) | (0.110) | | (0.107) |
| Intent to Migrate | | 0.138 | 0.120 | | 0.133 |
|  | | (0.194) | (0.195) | | (0.194) |
| Wealth Index | | -0.025\* | -0.026\* | | -0.022\* |
|  | | (0.013) | (0.014) | | (0.013) |
| Household Income | | -0.0003 | -0.0002 | | -0.0003 |
|  | | (0.0002) | (0.0002) | | (0.0002) |
| Life Satisfaction | | 0.015 | 0.008 | | 0.007 |
|  | | (0.024) | (0.024) | | (0.024) |
| Risk Attitude | | -0.036\*\* | -0.036\*\* | | -0.036\*\* |
|  | | (0.016) | (0.016) | | (0.016) |
| Constant | | 3.214\*\*\* | 3.342\*\*\* | | 3.292\*\*\* |
|  | | (0.409) | (0.418) | | (0.414) |
|  | |  |  | |  |
| Observations (Indi- | | 341 | 334 | | 341 |
| viduals, Groups) | | 156 | 152 | | 156 |
| AIC/  BIC | | 726.2736/  791.4156 | 715.5939/  780.3833 | | 726.1124/  791.2544 |

*Notes*: Model 1 through 3 present regression coefficients with standard errors in parentheses based on a HLM that regresses satisfaction with public service provision in the wave of 2013 on changes in remittances between the waves in 2012 and 2013, while nesting individuals in household observations. Being illiterate is the reference category for education. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Kyrgyzstan Panel Survey, 2012-2013 waves

**Table D.5:** Reduction in remittances, satisfaction with public services and government approval, LiTS 2010

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Government Approval** | | | |
| **Type of Benefit**  **Covariates** | **Child**  **Model (1)** | **Housing**  **Model (2)** | **TSA**[[7]](#footnote-7)  **Model (3)** | **Unemployment**  **Model (4)** | |
| Remittances decline | 0.036 | -0.158 | -0.269 | 0.055 | |
|  | (0.171) | (0.336) | (0.244) | (0.208) | |
| Benefits satisfaction | 0.064 | -0.099 | 0.039 | 0.017 | |
|  | (0.045) | (0.095) | (0.074) | (0.057) | |
| Reduction X Satisfaction | -0.029  (0.025) | 0.155  (0.100) | 0.132  (0.113) | -0.013  (0.010) | |
| Age | 0.002 | 0.002 | 0.004 | 0.005\*\* | |
|  | (0.002) | (0.003) | (0.003) | (0.002) | |
| Gender | -0.068 | -0.046 | -0.179\*\* | -0.141\*\* | |
|  | (0.053) | (0.102) | (0.083) | (0.062) | |
| Married | 0.006 | -0.01 | -0.089 | 0.041 | |
|  | (0.054) | (0.10) | (0.080) | (0.064) | |
| Employed | -0.026 | 0.005 | 0.003 | -0.077 | |
|  | (0.053) | (0.109) | (0.085) | (0.064) | |
| Wealth Index | -0.012 | -0.017 | -0.002 | 0.007 | |
|  | (0.016) | (0.029) | (0.024) | (0.018) | |
| Education | 0.002 | -0.132\* | -0.018 | 0.039 | |
|  | (0.044) | (0.080) | (0.063) | (0.051) | |
| Life Satisfaction | 0.175\*\*\* | 0.127\*\* | 0.246\*\*\* | 0.201\*\*\* | |
|  | (0.024) | (0.051) | (0.038) | (0.030) | |
| Risk Attitude | 0.010 | -0.003 | 0.003 | 0.018 | |
|  | (0.010) | (0.020) | (0.015) | (0.013) | |
| GDP growth | 0.09\*\*\* | 0.085\* | 0.079\*\*\* | 0.064\*\* | |
|  | (0.021) | (0.045) | (0.03) | (0.026) | |
| Constant | 1.855\*\*\* | 2.506\*\*\* | 1.769\*\*\* | 1.608\*\*\* | |
|  | (0.192) | (0.358) | (0.272) | (0.217) | |
|  |  |  |  |  | |
| Log Likelihood | -1643.854 | -496.276 | -810.7982 | -1092.492 | |
| AIC | 3317.708 | 1022.552 | 1651.596 | 2214.984 | |
| BIC | 3395.086 | 1081.173 | 1717.6 | 2286.197 | |
|  |  |  |  |  | |
| Observations |  |  |  |  | |
| (Individuals | 1,285 | 368 | 602 | 852 | |
| Countries) | 28 | 23 | 28 | 26 | |

*Notes*: Models 1-4 present HLM regression coefficients with standard errors in parentheses where individuals are nested in countries. The satisfaction with benefits in model 1 refers to child support, in model 2 to housing support in model 3 to targeted social assistance, and in model 4 to unemployment benefit. The dependent variable across all models is government approval, the same item employed for the analysis reported in Table 4 of the manuscript. Significant at the \*\*\* p≤0.01, \*\* p≤.05, \* p≤0.10 level. Source: Life in Transition Survey, 2010. Results are robust when we use simple OLS models, with country fixed effects instead.

1. Life in Transition Executive Summary, p.8. Available to download here: <http://www.ebrd.com/downloads/research/economics/microdata/litsrepo.pdf> [↑](#footnote-ref-1)
2. Data on growth come from the World Bank World Development Indicators. [Data extracted on 22 Mar 2016 10:00 UTC (GMT) from UKDS.Stat](http://stats.ukdataservice.ac.uk/). The highest growth was observed in Azerbaijan. [↑](#footnote-ref-2)
3. All results presented in this supporting information document are robust against the exclusion of this item in the analysis. [↑](#footnote-ref-3)
4. World Bank Kyrgyz Republic poverty assessment (2007). The report can be accessed here: <http://siteresources.worldbank.org/ECAEXT/Resources/publications/454763-1191958320976/Poverty_assessment_Vol2.pdf> [↑](#footnote-ref-4)
5. The report can be accessed here: <http://www.worldbank.org/en/country/russia/publication/russia-economic-report-33> [↑](#footnote-ref-5)
6. See for example: ‘*Gde rabotaet armiya trodovix migrantov iz Kirgizii*; (Where the army of worker immigrants from Kyrgyzstan works’. (2016) *Vedomosti.* 31.08.2016. Available online: <https://www.vedomosti.ru/management/articles/2016/09/01/655211-migrantov-kirgizii> (in Russian). See also: ‘*Neformalnaya ekonomika v Rossii virosla do rekordnix razmerov’* (The informal economy in Russia grew to record levels’ (2017) RBK. Available online: <https://www.rbc.ru/economics/17/04/2017/58f4b8789a7947c1418ff1af> (in Russian). [↑](#footnote-ref-6)
7. Targeted social assistance (TSA) programmes were accessible to all households regardless of whether they had children or not, and whether members were previously employed. These provided a monthly subsidy to families below a welfare threshold. [↑](#footnote-ref-7)