

## **SUPPLEMENTAL APPENDIX A: Definitions and construction of the variables used in the analyses**

### ***Explanatory variables:***

**Evaluation of democracy at home:** Respondents were asked to what extent they agree that each of a list of ten democratic institutions exists in their country, from free and fair elections and freedom of speech to protection of minority rights and freedom to travel abroad, on a scale from 1 to 5, where higher values represent higher levels of agreement. A factor analysis was initially run on these ten items, suggesting that they can be represented by one underlying dimension. The variable is the average of all ten items. Thus, higher values represent higher satisfaction with the functioning of democracy at home.

**Clout necessary:** Respondents were asked how important it is in their country to have the right kind of contacts to obtain favorable decisions in certain situations, such as getting into university, settling a dispute with a neighbor, obtaining papers or permits, and getting a job in the government or private sector. The variable is the average of all-above mentioned items.

**Success is not acquired honestly:** Respondents were asked which of the following factors is the most important to succeed in life in their country now: effort and hard work, intelligence and skills, political connections, breaking the law, or other. The dummy variable takes the value one for respondents who answered either political connections or breaking the law.

**Generalized trust:** Respondents were asked whether most people can be trusted on a scale from 1 to 5, where 1 represents complete distrust and 5 complete trust. The response to this question is used as a measure of individuals' generalized level of trust.

**Inequality is necessary:** Respondents were asked to indicate their position on inequality on a scale from 1 to 10, where 1 stands for 'incomes should be made more equal' and 10 stands for 'we need income differences as incentives for individual effort.' The response to this variable is used to measure individuals' pro-inequality attitudes.

**Competition is harmful:** Respondents were asked to indicate their position on competition on a scale from 1 to 10, where 1 stands for ‘competition is good; it stimulates people to work hard and develop new ideas’ and 10 stands for ‘competition is harmful; it brings the worst in people.’ The response is used to measure individuals’ anti-competition attitudes.

**Authorities deserve respect:** Respondents were asked to indicate their position on authority on a scale from 1 to 10, where 1 stands for ‘as citizens, we should be more active in questioning the actions of authorities’ and 10 stands for ‘in our country today we should show more respect for our authorities.’ The response is used to measure individuals’ pro-authority attitudes.

**Government ownership of business:** Respondents were asked to indicate their position on the government’s appropriate role on a scale from 1 to 10, where 1 stands for “private ownership of business and industry should be increased” and 10 stands for “government ownership of business and industry should be increased.” The response is used to measure individuals’ pro-big-government attitudes.

**Democracy best political system:** This variable takes the value one if the respondent agreed with the statement that “democracy is better than any other political system” and zero otherwise.

**Market-based economic system:** This variable takes the value one if the respondent agreed with the statement that “markets are better than any other economic system” and zero otherwise.

**Willingness to pay for public goods:** Respondents were asked whether they would be willing to give up part of their income or pay more for improving each of the following items: education, health care, climate change, and helping the needy. A scale from 0 to 4 is built for counting the number of public goods for which respondents are ready to give up some of their income.

**Trust in family and neighborhood:** Respondents were asked how much they trust various groups on a scale from 1 to 5, where higher values represent higher levels of trust. For this variable, trust in family members and neighbors is averaged.

**Trust in other religions or nationalities:** Respondents were asked how much they trust various groups on a scale from 1 to 5, where higher values represent higher levels of trust. For these variables trust in people with other religions and people with other nationalities is averaged.

**Cheating is unacceptable:** Respondents were asked how wrong they consider behaviors like paying cash to avoid taxes, making exaggerated insurance claims, buying a university degree one has not earned, etc. The variable averages the answers.

**Voting participation:** Respondents were asked whether they voted in the most recent local, parliamentary, and presidential elections. A scale between 0 and 3 was built, measuring the number of times the respondent voted (never voted, voted in one election, voted in all three elections).

**Political activism:** Respondents were asked to indicate whether they already have, are likely to, or would ever engage in each of the following activities: attend a lawful demonstration, participation in a strike, sign a petition, and join a political party. A factor analysis was initially run, suggesting that the four items represent one underlying dimension. A scale based on responses to these four items is created, where higher values represent higher political activism.

**Drive:** Respondents were asked whether they are willing to go for more opportunities for advancement accompanied with less security or for less opportunities for advancement and more security when choosing a job. This variable takes value one if the respondents prefer a job with more opportunities for advancements and less security.

**Optimism:** Respondents were asked to indicate their position in the country's income distribution today and the expected position in about four years. The variable is the subtraction between the expected and the present relative income, with positive values indicating an expectation of income improvement over time.

**Risk loving:** Respondents were asked to indicate their willingness to take risks (on a scale from 1 to 10), where higher values indicate more willingness to take risks.

**Self-determination:** Respondents were asked whether they believe people are in need because of laziness and lack of will power or for some other reasons such as social injustice or bad luck. The variable takes the value of one if respondents believe that poverty is due to laziness and lack of willpower and zero otherwise.

**Trust in governmental and non-governmental institutions:** Respondents were asked how much they trust each of a list of governmental and non-governmental institutions including national and local government, parliament, the police, courts, trade unions, NGOs, etc. A factor analysis was run on the 14 items representing trust in a specific institution. The analysis suggested two underlying dimensions. The first dimension (factor) reproduced trust in governmental institutions (the president, local government, regional government, parliament, courts, police, political parties, and armed forces), and the second dimension (factor) reproduced trust in non-governmental institutions (banks and the financial system, foreign investors, NGOs, trade unions, and religious institutions).

***Additional explanatory variables:***

**Ethnic prejudice:** Belief that other ethnic groups cause insecurity and increase unemployment.

**Political liberties before economic growth:** Prefers a country where political liberties are more important than economic growth.

**Evaluation of democracy at home (alternative):** Evaluation of free and fair elections, law and order, freedom of speech, peace and stability, independent press, strong political opposition, independent court system, minority rights, and freedom to travel abroad.

**Perceived corruption:** Frequency of occasions of unofficial payments or gifts in the county.

**Household yearly expenditure:** Annual average expenditures on food, utilities, transportation, as well as education health and durable goods.

**Own capital goods:** Ownership of car, secondary residence, bank account, debit/credit cards, mobile phone, computer, and internet at home.

***Control Variables:***

**Gender** is a dummy variable, which is coded 1 for male and 0 for female.

**Age** is an ordinal variable that classifies respondents into six age groups: 18-24, 25-34, 35-44, 45-54, and 55-64.

**Education** is an ordinal variable that classifies respondents based on their acquired level of education: no education, primary, lower secondary, secondary, post-secondary education, bachelor degree, master, or doctoral degree.

**Income** is an ordinal variable that captures respondents' perception on their position on a ten-step income ladder, where the first (tenth) step captures the country's poorest (richest) 10%.

**Married** is a dummy variable, which is equal to 1 for married respondents.

**Rural** is a dummy variable, which is equal to 1 if the respondent is settled in a rural area and 0 if in a city/town or a metropolitan area.

**Children** is a dummy variable, which is equal to 1 if respondent has at least one child.

**Employment** is a dummy variable that indicates whether the respondent worked for income in the past 12 months.

**Minority/Immigrant** is a dummy variable that is equal to 1 if respondent does not speak any official language of the country in which he/she currently resides. It is an indirect measure to find out whether the respondent belongs to a minority group in the country or is an immigrant.

**Migrants network** is a dummy variable that is equal to 1 if respondent's household experienced a crisis-related fall in remittances or a household member returned from abroad due to the global financial crisis. It is an indirect measure to find out whether respondents have family, friends or other type of connections abroad.

**Past experience abroad** is a dummy variable that is equal to 1 if respondent has ever done a job abroad. It is meant to indicate the respondent's past abroad experience.

## SUPPLEMENTAL APPENDIX B: Descriptive Statistics

*Table B1. Descriptive statistics per region (mean, std. deviation in parenthesis).*

|                                           | Eastern EU     | post-Soviet    | Southeast      | Western EU     |
|-------------------------------------------|----------------|----------------|----------------|----------------|
| Evaluation of democracy at home           | 3.25<br>(0.70) | 2.97<br>(0.77) | 3.11<br>(0.84) | 3.79<br>(0.73) |
| Clout necessary                           | 2.82<br>(0.85) | 2.78<br>(0.84) | 3.11<br>(0.90) | 2.48<br>(0.83) |
| Success is not acquired honestly          | 0.33<br>(0.47) | 0.20<br>(0.40) | 0.43<br>(0.50) | 0.11<br>(0.32) |
| Most people can be trusted                | 2.94<br>(0.93) | 2.94<br>(1.10) | 2.94<br>(0.99) | 3.13<br>(1.05) |
| Inequality is necessary                   | 4.53<br>(2.98) | 5.13<br>(3.07) | 4.11<br>(2.88) | 4.69<br>(2.29) |
| Competition is harmful                    | 3.62<br>(2.43) | 3.82<br>(2.66) | 3.66<br>(2.51) | 4.20<br>(2.31) |
| Authorities deserve respect               | 3.68<br>(2.48) | 3.72<br>(2.76) | 3.53<br>(2.56) | 4.49<br>(2.31) |
| Government ownership of business          | 5.10<br>(2.78) | 5.49<br>(2.96) | 5.50<br>(3.04) | 5.12<br>(2.09) |
| Democracy best political system           | 0.50<br>(0.50) | 0.55<br>(0.50) | 0.53<br>(0.50) | 0.80<br>(0.40) |
| Market based economic system              | 0.37<br>(0.48) | 0.45<br>(0.50) | 0.38<br>(0.49) | 0.36<br>(0.48) |
| Willingness to pay for public goods       | 1.65<br>(1.61) | 2.07<br>(1.64) | 2.36<br>(1.68) | 2.62<br>(1.42) |
| Trust in family and neighborhood          | 4.14<br>(0.64) | 4.33<br>(0.61) | 4.33<br>(0.62) | 4.29<br>(0.65) |
| Trust in other religions or nationalities | 3.09<br>(0.86) | 2.80<br>(1.09) | 3.21<br>(0.96) | 3.47<br>(0.88) |
| Cheating is unacceptable                  | 3.18<br>(0.57) | 3.03<br>(0.61) | 3.23<br>(0.56) | 3.33<br>(0.47) |
| Vote participation                        | 1.85<br>(1.31) | 1.95<br>(1.28) | 2.07<br>(1.17) | 2.12<br>(1.02) |
| Political activism                        | 2.43<br>(1.87) | 1.04<br>(1.59) | 2.53<br>(2.14) | 4.32<br>(1.92) |
| Drive                                     | 0.37<br>(0.48) | 0.32<br>(0.47) | 0.25<br>(0.43) | 0.43<br>(0.50) |
| Optimism                                  | 0.12<br>(1.41) | 0.97<br>(1.51) | 0.54<br>(1.57) | 0.12<br>(1.26) |
| Risk loving                               | 5.15<br>(2.44) | 4.91<br>(2.55) | 5.33<br>(2.56) | 5.42<br>(2.25) |
| Self determination                        | 0.22<br>(0.42) | 0.27<br>(0.45) | 0.18<br>(0.38) | 0.17<br>(0.37) |

**Note:** This tables presents the mean and standard deviation (in parenthesis) of the main explanatory variables by geopolitical regions. Column 1 considers Eastern European countries. Column 2 considers former Communist republics. Column 3 considers Southeastern European countries. Column 4 considers Western European countries. The purpose of this table is to show differences in cultural traits across those four regions.

## SUPPLEMENTAL APPENDIX C: Correlation of explanatory variables

Table C1. The pairwise correlations between the main explanatory variables (the levels of significance indicated in the parentheses).

|    |                                          | 1                      | 2                      | 3                      | 4                      | 5                      | 6                      | 7                      | 8                      | 9                     | 10                    | 11                    | 12                     | 13                    | 14                    | 15                    |
|----|------------------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|
| 1  | Evaluation of democracy at home          | <b>1.00</b>            |                        |                        |                        |                        |                        |                        |                        |                       |                       |                       |                        |                       |                       |                       |
| 2  | Clout necessary                          | <b>-0.17</b><br>(0.00) | <b>1.00</b>            |                        |                        |                        |                        |                        |                        |                       |                       |                       |                        |                       |                       |                       |
| 3  | Success is not acquired honestly         | <b>-0.21</b><br>(0.00) | <b>0.18</b><br>(0.00)  | <b>1.00</b>            |                        |                        |                        |                        |                        |                       |                       |                       |                        |                       |                       |                       |
| 4  | Most people can be trusted               | <b>0.18</b><br>(0.00)  | <b>-0.09</b><br>(0.00) | <b>-0.07</b><br>(0.00) | <b>1.00</b>            |                        |                        |                        |                        |                       |                       |                       |                        |                       |                       |                       |
| 5  | Inequality is necessary                  | <b>0.02</b><br>(0.00)  | <b>-0.03</b><br>(0.00) | <b>-0.08</b><br>(0.00) | <b>0.03</b><br>(0.00)  | <b>1.00</b>            |                        |                        |                        |                       |                       |                       |                        |                       |                       |                       |
| 6  | Competition is harmful                   | <b>-0.02</b><br>(0.00) | <b>0.07</b><br>(0.00)  | <b>0.01</b><br>(0.03)  | <b>-0.01</b><br>(0.11) | <b>0.08</b><br>(0.00)  | <b>1.00</b>            |                        |                        |                       |                       |                       |                        |                       |                       |                       |
| 7  | Authorities deserve respect              | <b>0.12</b><br>(0.00)  | <b>-0.00</b><br>(0.55) | <b>-0.09</b><br>(0.00) | <b>0.03</b><br>(0.00)  | <b>0.15</b><br>(0.00)  | <b>0.32</b><br>(0.00)  | <b>1.00</b>            |                        |                       |                       |                       |                        |                       |                       |                       |
| 8  | Government ownership of business         | <b>-0.05</b><br>(0.00) | <b>0.05</b><br>(0.00)  | <b>0.05</b><br>(0.00)  | <b>-0.02</b><br>(0.00) | <b>0.06</b><br>(0.00)  | <b>0.26</b><br>(0.00)  | <b>0.13</b><br>(0.00)  | <b>1.00</b>            |                       |                       |                       |                        |                       |                       |                       |
| 9  | Democracy best political system          | <b>0.16</b><br>(0.00)  | <b>-0.11</b><br>(0.00) | <b>-0.08</b><br>(0.00) | <b>0.08</b><br>(0.00)  | <b>0.06</b><br>(0.00)  | <b>-0.12</b><br>(0.00) | <b>-0.02</b><br>(0.00) | <b>-0.08</b><br>(0.00) | <b>1.00</b>           |                       |                       |                        |                       |                       |                       |
| 10 | Market based economic system             | <b>0.09</b><br>(0.00)  | <b>-0.06</b><br>(0.00) | <b>-0.09</b><br>(0.00) | <b>0.06</b><br>(0.00)  | <b>0.07</b><br>(0.00)  | <b>-0.09</b><br>(0.00) | <b>-0.01</b><br>(0.16) | <b>-0.11</b><br>(0.00) | <b>0.44</b><br>(0.00) | <b>1.00</b>           |                       |                        |                       |                       |                       |
| 11 | Willingness to pay for public goods      | <b>0.04</b><br>(0.00)  | <b>-0.02</b><br>(0.00) | <b>-0.06</b><br>(0.00) | <b>0.06</b><br>(0.00)  | <b>0.07</b><br>(0.00)  | <b>-0.06</b><br>(0.00) | <b>-0.01</b><br>(0.17) | <b>0.02</b><br>(0.00)  | <b>0.11</b><br>(0.00) | <b>0.06</b><br>(0.00) | <b>1.00</b>           |                        |                       |                       |                       |
| 12 | Trust in family and neighborhood         | <b>0.12</b><br>(0.00)  | <b>-0.06</b><br>(0.00) | <b>-0.07</b><br>(0.00) | <b>0.20</b><br>(0.00)  | <b>0.02</b><br>(0.00)  | <b>-0.06</b><br>(0.00) | <b>0.01</b><br>(0.18)  | <b>0.02</b><br>(0.01)  | <b>0.08</b><br>(0.00) | <b>0.08</b><br>(0.00) | <b>0.12</b><br>(0.00) | <b>1.00</b>            |                       |                       |                       |
| 13 | Trust (other religions or nationalities) | <b>0.19</b><br>(0.00)  | <b>-0.08</b><br>(0.00) | <b>-0.01</b><br>(0.27) | <b>0.27</b><br>(0.00)  | <b>-0.01</b><br>(0.31) | <b>-0.05</b><br>(0.00) | <b>-0.03</b><br>(0.00) | <b>-0.01</b><br>(0.28) | <b>0.09</b><br>(0.00) | <b>0.04</b><br>(0.00) | <b>0.08</b><br>(0.00) | <b>0.23</b><br>(0.00)  | <b>1.00</b>           |                       |                       |
| 14 | Cheating is unacceptable                 | <b>0.10</b><br>(0.00)  | <b>-0.03</b><br>(0.00) | <b>-0.00</b><br>(0.56) | <b>0.02</b><br>(0.01)  | <b>-0.02</b><br>(0.00) | <b>-0.08</b><br>(0.00) | <b>-0.05</b><br>(0.00) | <b>0.02</b><br>(0.00)  | <b>0.10</b><br>(0.00) | <b>0.05</b><br>(0.00) | <b>0.05</b><br>(0.00) | <b>0.08</b><br>(0.00)  | <b>0.08</b><br>(0.00) | <b>1.00</b>           |                       |
| 15 | Vote participation                       | <b>0.07</b><br>(0.00)  | <b>-0.03</b><br>(0.00) | <b>-0.01</b><br>(0.04) | <b>0.02</b><br>(0.00)  | <b>-0.01</b><br>(0.37) | <b>-0.05</b><br>(0.00) | <b>0.01</b><br>(0.29)  | <b>0.02</b><br>(0.00)  | <b>0.07</b><br>(0.00) | <b>0.03</b><br>(0.00) | <b>0.06</b><br>(0.00) | <b>0.12</b><br>(0.00)  | <b>0.03</b><br>(0.00) | <b>0.09</b><br>(0.00) | <b>1.00</b>           |
| 16 | Political activism                       | <b>0.04</b><br>(0.00)  | <b>-0.01</b><br>(0.03) | <b>0.10</b><br>(0.00)  | <b>0.07</b><br>(0.00)  | <b>-0.04</b><br>(0.00) | <b>-0.05</b><br>(0.00) | <b>-0.06</b><br>(0.00) | <b>-0.04</b><br>(0.00) | <b>0.14</b><br>(0.00) | <b>0.05</b><br>(0.00) | <b>0.13</b><br>(0.00) | <b>-0.02</b><br>(0.00) | <b>0.15</b><br>(0.00) | <b>0.05</b><br>(0.00) | <b>0.05</b><br>(0.00) |

**Note:** The table presents the pairwise correlations between the main explanatory variables (the significance levels indicated in parentheses).



*Table C2. Multicollinearity diagnostics.*

| Variable                                  | VIF  | SQRT<br>VIF | Tolerance | R-<br>Squared |
|-------------------------------------------|------|-------------|-----------|---------------|
| Evaluation of democracy at home           | 1.18 | 1.09        | 0.8465    | 0.1535        |
| Clout necessary                           | 1.08 | 1.04        | 0.9273    | 0.0727        |
| Success is not acquired honestly          | 1.14 | 1.07        | 0.8807    | 0.1193        |
| Most people can be trusted                | 1.15 | 1.07        | 0.8667    | 0.1333        |
| Inequality is necessary                   | 1.08 | 1.04        | 0.9228    | 0.0772        |
| Competition is harmful                    | 1.24 | 1.11        | 0.805     | 0.195         |
| Authorities deserve respect               | 1.22 | 1.1         | 0.8195    | 0.1805        |
| Government ownership of business          | 1.11 | 1.05        | 0.9028    | 0.0972        |
| Democracy best political system           | 1.28 | 1.13        | 0.7797    | 0.2203        |
| Market based economic system              | 1.23 | 1.11        | 0.8118    | 0.1882        |
| Willingness to pay for public goods       | 1.08 | 1.04        | 0.9223    | 0.0777        |
| Trust in family and neighborhood          | 1.14 | 1.07        | 0.8798    | 0.1202        |
| Trust in other religions or nationalities | 1.18 | 1.09        | 0.84746   | 0.152         |
| Cheating is unacceptable                  | 1.07 | 1.04        | 0.9307    | 0.0693        |
| Voting participation                      | 1.12 | 1.06        | 0.8933    | 0.1067        |
| Political activism                        | 1.16 | 1.07        | 0.8656    | 0.1344        |
| Drive                                     | 1.1  | 1.05        | 0.9125    | 0.0875        |
| Optimism                                  | 1.09 | 1.05        | 0.9152    | 0.0848        |
| Risk                                      | 1.14 | 1.07        | 0.8799    | 0.1201        |
| Self determination                        | 1.07 | 1.03        | 0.9389    | 0.0611        |
| Gender                                    | 1.06 | 1.03        | 0.9441    | 0.0559        |
| Age                                       | 1.26 | 1.12        | 0.7938    | 0.2062        |
| Education                                 | 1.23 | 1.11        | 0.8134    | 0.1866        |
| Income                                    | 1.21 | 1.1         | 0.8267    | 0.1733        |
| Married                                   | 1.21 | 1.1         | 0.8273    | 0.1727        |
| Rural                                     | 1.05 | 1.03        | 0.9502    | 0.0498        |
| Children                                  | 1.15 | 1.07        | 0.8713    | 0.1287        |
| Employment                                | 1.16 | 1.08        | 0.8634    | 0.1366        |
| Minority/Immigrant                        | 1.03 | 1.01        | 0.9725    | 0.0275        |
| Migrants networks                         | 1.03 | 1.01        | 0.9718    | 0.0282        |
| Past experience abroad                    | 1.01 | 1           | 0.9906    | 0.0094        |
| Mean VIF                                  | 1.14 |             |           |               |

**Note:** The table presents the multicollinearity analyses. VIF (variance inflation factor) indicators are less than the usual rule of thumb, which is 10, for all independent variables.

## SUPPLEMENTAL APPENDIX D: Theoretical Framework

This section provides a simple theoretical framework to illustrate the effect of certain values and attitudes on emigration decisions. We draw upon Dustman and Okatenko (2014), who analyze the effects of wealth and contentment with local amenities on the decision to migrate. We extend their model by including social capital in the utility maximization problem. Destination-specific social capital is assumed to depend on individual networks and cultural traits. The effects of personality traits such as optimism and risk aversion can also be analyzed within this framework. We abstract from the role played by credit constraints in the migration decision, as these effects are well understood from a theoretical point of view (e.g. Dustman and Okatenko, 2014; McKenzie and Rapoport, 2007).

Contrarily to standard migration models assuming independence between origin and destination country wages, our framework assumes a positive relationship between them. This assumption reflects the idea that wages in both locations depend on individual skills and, therefore, should be positively related. The wage premium obtained by migrating is assumed to depend on education and migrant networks. In this framework, the relationship between the individual wage in the origin country and the emigration probability is not necessarily negative, even in the absence of credit constraints.

Assume that individuals decide whether they are willing to migrate by comparing the expected utility of living in the home country with the expected utility of living in a different country, net of the migration cost. The origin and destination countries are referred with superscripts  $c = o$  and  $c = d$ , respectively. The utility of living in a particular country is assumed to depend on the expected wages  $w^c$ , the expected quality of public services and institutions  $p^c$ , and social capital  $s^c$ . In addition, observable individual factors such as marital status and age and unobservable factors such as language skills may affect the utility of living in country  $c$ . These other factors are included in the random variable  $\varepsilon^c$ . Assume that the expected utility  $u^c$  of living in country  $c$  takes the following functional form, where  $\alpha$ ,  $\beta$  and  $\gamma$  are positive parameters:

$$u^c = \alpha \ln(w^c) + \beta \ln(p^c) + \gamma \ln(s^c) + \varepsilon^c. \quad (1)$$

The expected wage in the destination country  $w^d$  is assumed to be equal to the wage in the origin country  $w^o$  multiplied by a migration premium. The premium depends on the level of education  $e$ , social networks in the destination country  $n^d$ , and individual characteristics  $\varepsilon^d$  :

$$w^d = w^o * p(e, n^d, \varepsilon^d). \quad (2)$$

It seems reasonable to assume that networks abroad increase the expected wage in the destination, for example by increasing the probability of finding a job. We therefore assume  $\partial p / \partial n^d > 0$ . Education's effect on the migration premium is less clear cut. On one hand, the skills premium may be higher in the destination country, implying a positive relationship between education and the migration premium. On the other hand, education and specialized skills may not be easily transferable abroad because of institutional, language, or other types of barriers. If so, educated migrants supply unskilled jobs in the destination country (the well-known brain-waste phenomenon), and the migration premium is lower for individuals with higher education. As both options are plausible, we do not make any assumption about the sign of  $\partial p / \partial e$ .

Since the information on labor-market opportunities in the destination country is imperfect, individuals form expectations about the wage premium. Personality traits such as optimism and drive may affect these expectations. More optimistic individuals should expect more positive outcomes; therefore, optimism should be associated with a higher migration premium.<sup>1</sup> If labor markets in the destination country compensate effort and ambition to a larger extent than in the origin country, individuals with higher levels of drive should also expect a higher migration premium.

The concept of social capital deserves some clarification, as its definition is less universal than those of wages or public services. The OECD defines social capital as 'networks, together with shared norms, values and understandings that facilitate co-operation within or among groups.' Social capital is thus related to the concept of networks, well-analyzed in migration research, but also is broader and explicitly refers to the idea of shared cultural traits. Schrivens and Smith (2013) mention shared values, civic engagement, trust, and reciprocity as different dimensions of social

---

<sup>1</sup> One may argue that more optimistic individuals should also expect higher future wages in the origin country. To the extent that uncertainty is higher as far as destination-country wages are concerned, optimism should be positively correlated with the migration premium.

capital. Based on this definition, we assume that the social capital which an individual can benefit from in country  $c$  is a function of networks  $n^c$  and individual cultural traits  $T$  such as generalized trust, civic activism, and various values, beliefs, and attitudes:

$$s^c = s^c(n^c, T), \quad (3)$$

Note that the relationship between cultural traits and social capital is assumed to be country specific. The same cultural traits may increase social capital in one country and decrease it in another country. In other words, the signs of  $\partial s^d(n^d, T)/\partial T$  and  $\partial s^o(n^o, T)/\partial T$  are allowed to differ. For example, conservative world views may increase an individual's social capital in a predominantly conservative society, while they may have the opposite effect in a predominantly liberal society.

The cost of migration  $c$  includes the financial cost of moving, as well as non-economic costs of leaving a familiar environment and adapting to a new life. We assume that education  $e$  and networks in the destination country  $n^d$  decrease the cost of migration. More educated individuals face lower administrative and social barriers to migration. Networks may reduce migration's emotional cost by reducing uncertainty, as well as its financial cost by providing support in the first stages of the migration process. We assume that risk aversion  $r$  increases migration's cost due to the emotional burden of experiencing higher uncertainty. The total migration cost is assumed to take the following functional form, where  $c_0$ ,  $\rho$ ,  $\delta$  and  $\sigma$  are positive parameters:

$$c = c_0 - \rho e - \delta n^d + \sigma r. \quad (4)$$

An individual will be willing to migrate if:

$$u^d - u^o > c. \quad (5)$$

After rearranging the terms, the condition for migration can be simplified to:

$$m(e, n^d, n^o, T, r, \varepsilon^d, \varepsilon^o) > c_0. \quad (6)$$

where  $m$  is defined as:

$$m = \alpha \ln(p(e, n^d, \varepsilon^d)) + \beta \ln\left(\frac{p^d}{p^o}\right) + \gamma \ln\left(\frac{s^d(n^d, T)}{s^o(n^o, T)}\right) + \rho e + \delta n^d - \sigma r + \varepsilon^d - \varepsilon^o. \quad (7)$$

The probability of migration for an individual is thus the probability that his/her observable and unobservable characteristics satisfy equation (6).

Equations (6) and (7) show that networks in the destination country have a strong positive effect on migration incentives. This effect is the result of three mechanisms through which networks affect the migration decision: they increase the expected wage premium in the destination country, they increase social capital in the destination, and they reduce the cost of migration. Lower-quality institutions in the origin country  $p^o$  are associated with higher probability of migration, as  $\partial m / \partial p^o > 0$ , while cultural traits  $T$  affect the probability of migration through their effect on social capital.

The effect of education on the migration probability depends on the effects of education on the migration premium. If  $\partial p / \partial e > 0$ , education unambiguously increases the probability of migration by increasing its pecuniary benefits and decreasing its cost. If  $\partial p / \partial e < 0$ , the net effect of education may be positive, negative, or nil. In this case more educated individuals face both lower migration benefits and lower migration costs.

Other individual factors, captured in the terms  $\varepsilon^o$  and  $\varepsilon^d$ , such as language skills and preferences for one particular location (non-observed) and personality traits (observed), affect the migration probability. Risk aversion reduces the migration probability by increasing migration's non-financial cost, while optimism increases the migration probability by increasing its expected benefit.

Note that wages in the origin and destination countries do not enter equation (6). This is due to the assumed proportional relationship between origin and destination country wages and the logarithmic form of the utility function. With a different utility function, for example a linear utility as in Dustmann and Okatenko (2014), migration's probability would be increasing in the origin-country wage. The intuition for this is that individuals with higher wages in the origin country expect proportionally higher wages in the destination country; thus, they have more pecuniary incentives to migrate.<sup>2</sup>

---

<sup>2</sup> This intuition relies on the assumption that wages in both countries depend on individual skills and abilities.

This simple theoretical model predicts a number of empirically testable hypotheses. Networks in the destination country should strongly increase the migration probability. Optimism should increase the migration probability, and risk aversion should decrease it. Individual cultural traits such as trust, civic activism, and moral values may affect the emigration probability due to their relationship with social capital in origin and destination countries. The effect of education may be positive, negative, or nil, depending on its effect on the migration wage premium.